

November 4, 2014

# State Innovation Models (SIM) Initiative Evaluation

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Model Test Base Year Annual Report

Prepared for

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# Table of Contents

Chapter	Page
<b>1. Introduction and Methods</b>	<b>1</b>
1.1 Background on the State Innovation Models Initiative	1
1.2 Overview of the Annual Report	1
1.3 Data and Methods	2
1.3.1 Site visits	2
1.3.2 Focus groups	2
1.3.3 Implementation activities	3
1.3.4 Baseline outcomes	3
<b>2. Cross-State Summary</b>	<b>9</b>
2.1 Summary of Models and Strategies	9
2.1.1 Delivery system models	9
2.1.2 Payment reform	12
2.1.3 Emerging models	12
2.1.4 Enabling strategies	13
2.2 Site Visit and Focus Group Cross-State Summary	17
2.2.1 Governance and project administration	17
2.2.2 Care coordination, care management, and primary care strategies	17
2.2.3 Payment reform	18
2.2.4 Stakeholder engagement	18
2.2.5 Health information technology and other investments	19
2.2.6 Population health	19
2.2.7 Successes, challenges, and lessons	20
2.3 Baseline Trends in Outcomes	21
2.3.1 Provider and payer participation	21
2.3.2 Populations reached	22
2.3.3 Care coordination	23
2.3.4 Quality of care	27
2.3.5 Utilization	31
2.3.6 Expenditures	34
<b>3. Arkansas</b>	<b>41</b>
3.1 Overview of Arkansas Model	41
3.2 Arkansas Site Visit and Focus Group Report	42
3.2.1 Overview of site visit and focus groups	42
3.2.2 Delivery system and payment models	42
3.2.3 Enabling strategies	47
3.2.4 Summary of findings	53
3.2.5 Population health	58
3.2.6 Successes, challenges, and lessons	59

3.3	Arkansas Baseline Outcomes.....	60
3.3.1	Provider and payer participation.....	61
3.3.2	Populations reached.....	61
3.3.3	Care coordination.....	62
3.3.4	Quality of care.....	64
3.3.5	Utilization.....	65
3.3.6	Expenditures.....	71
3.4	Arkansas Synthesis.....	78
<b>4.</b>	<b>Maine.....</b>	<b>81</b>
4.1	Overview of Maine Model.....	81
4.2	Maine Site Visit and Focus Group Report.....	82
4.2.1	Overview of site visit and focus groups.....	82
4.2.2	Delivery system and payment models.....	82
4.2.3	Enabling strategies.....	88
4.2.4	Summary of findings.....	92
4.2.5	Population health.....	95
4.2.6	Successes, challenges, and lessons.....	95
4.3	Maine Baseline Outcomes.....	99
4.3.1	Provider and payer participation.....	99
4.3.2	Populations reached.....	100
4.3.3	Care coordination.....	101
4.3.4	Quality of care.....	103
4.3.5	Utilization.....	104
4.3.6	Expenditures.....	110
4.4	Maine Synthesis.....	116
<b>5.</b>	<b>Massachusetts.....</b>	<b>119</b>
5.1	Overview of Massachusetts Model.....	119
5.2	Massachusetts Site Visit and Focus Group Report.....	120
5.2.1	Overview of site visit and focus groups.....	120
5.2.2	Delivery system and payment models.....	120
5.2.3	Enabling strategies.....	123
5.2.4	Summary of findings.....	124
5.2.5	Population health.....	128
5.2.6	Successes, challenges, and lessons.....	128
5.3	Massachusetts Baseline Outcomes.....	129
5.3.1	Provider and payer participation.....	130
5.3.2	Populations reached.....	130
5.3.3	Care coordination.....	130
5.3.4	Quality of care.....	133
5.3.5	Utilization.....	134
5.3.6	Expenditures.....	140
5.4	Massachusetts Synthesis.....	147

<b>6. Minnesota</b>	<b>149</b>
6.1 Overview of Minnesota Model	149
6.2 Minnesota Site Visit and Focus Group Report	149
6.2.1 Overview of site visit and focus groups	149
6.2.2 Delivery system and payment models	150
6.2.3 Enabling strategies	156
6.2.4 Summary of findings	157
6.2.5 Successes, challenges, and lessons	158
6.3 Minnesota Baseline Outcomes	159
6.3.1 Provider and payer participation	159
6.3.2 Populations reached	160
6.3.3 Care coordination	160
6.3.4 Quality of care	162
6.3.5 Utilization	164
6.3.6 Expenditures	169
6.4 Minnesota Synthesis	176
<b>7. Oregon</b>	<b>177</b>
7.1 Overview of Oregon Model	177
7.2 Oregon Site Visit and Focus Group Report	177
7.2.1 Overview of site visit and focus groups	177
7.2.2 Delivery system and payment models	178
7.2.3 Enabling strategies	181
7.2.4 Summary of findings	183
7.2.5 Population health	188
7.2.6 Successes, challenges, and lessons	188
7.3 Oregon Baseline Outcomes	192
7.3.1 Provider and payer participation	192
7.3.2 Populations reached	193
7.3.3 Care coordination	193
7.3.4 Quality of care	195
7.3.5 Utilization	197
7.3.6 Expenditures	203
7.4 Oregon Synthesis	209
<b>8. Vermont</b>	<b>211</b>
8.1 Overview of Vermont Model	211
8.2 Vermont Site Visit and Focus Group Report	211
8.2.1 Overview of site visit and focus groups	211
8.2.2 Delivery system and payment models	212
8.2.3 Enabling strategies	218
8.2.4 Summary of findings	220
8.2.5 Population health	224
8.2.6 Successes, challenges, and lessons	225
8.3 Vermont Baseline Outcomes	227



8.3.1	Provider and payer participation.....	228
8.3.2	Populations reached.....	228
8.3.3	Care coordination.....	228
8.3.4	Quality of care.....	230
8.3.5	Utilization.....	232
8.3.6	Expenditures.....	238
8.4	Vermont Synthesis.....	244

## Appendices

A:	Qualitative Data and Methods.....	A-1
B:	Quantitative Outcomes Data and Measures.....	B-1
C:	Comparison Group Methods.....	C-1
D:	State Models and Strategies.....	D-1
E:	Detailed Cross-State Tables of Outcomes.....	E-1
F:	Maine’s SIM Initiative Strategic Framework.....	F-1

## List of Figures

Number	Page
3-1. All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Arkansas and comparison group .....	66
3-2. All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Arkansas and comparison group .....	67
3-3. Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Arkansas and comparison group.....	67
3-4. Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Arkansas and comparison group.....	68
3-5. All-cause hospital admissions per 1,000 Medicare beneficiaries, Arkansas and comparison group.....	69
3-6. All-cause emergency room visits per 1,000 Medicare beneficiaries, Arkansas and comparison group.....	69
3-7. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Arkansas and comparison group .....	70
3-8. Readmissions per 1,000 discharges for Medicare beneficiaries, Arkansas and comparison group.....	70
3-9. Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group .....	72
3-10. Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group .....	73
3-11. Other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group .....	74
3-12. Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group .....	74
3-13. Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group .....	75
3-14. Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group .....	76
3-15. Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group .....	76
3-16. Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group .....	77

3-17.	Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group .....	77
4-1.	All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Maine and comparison group .....	104
4-2.	All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Maine and comparison group .....	105
4-3.	Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Maine and comparison group.....	106
4-4.	Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Maine and comparison group .....	106
4-5.	All-cause hospital admissions per 1,000 Medicare beneficiaries, Maine and comparison group.....	107
4-6.	All-cause emergency room visits per 1,000 Medicare beneficiaries, Maine and comparison group.....	108
4-7.	Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Maine and comparison group .....	108
4-8.	Readmissions per 1,000 discharges for Medicare beneficiaries, Maine and comparison group.....	109
4-9.	Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group .....	110
4-10.	Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group .....	111
4-11.	Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group .....	112
4-12.	Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group .....	112
4-13.	Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group .....	113
4-14.	Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group .....	114
4-15.	Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group .....	114
4-16.	Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group .....	115
4-17.	Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group .....	115
5-1.	All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Massachusetts and comparison group .....	135
5-2.	All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Massachusetts and comparison group .....	136

5-3.	Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Massachusetts and comparison group.....	136
5-4.	Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Massachusetts and comparison group .....	137
5-5.	All-cause hospital admissions per 1,000 Medicare beneficiaries, Massachusetts and comparison group.....	138
5-6.	All-cause emergency room visits per 1,000 Medicare beneficiaries, Massachusetts and comparison group.....	138
5-7.	Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Massachusetts and comparison group .....	139
5-8.	Readmissions per 1,000 discharges for Medicare beneficiaries, Massachusetts and comparison group.....	139
5-9.	Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group .....	141
5-10.	Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group .....	142
5-11.	Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group .....	143
5-12.	Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group .....	143
5-13.	Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group.....	144
5-14.	Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group .....	145
5-15.	Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group .....	145
5-16.	Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group .....	146
5-17.	Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group .....	146
6-1.	All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Minnesota and comparison group .....	164
6-2.	All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Minnesota and comparison group .....	165
6-3.	Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Minnesota and comparison group.....	166

6-4.	Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Minnesota and comparison group.....	166
6-5.	All-cause hospital admissions per 1,000 Medicare beneficiaries, Minnesota and comparison group.....	167
6-6.	All-cause emergency room visits per 1,000 Medicare beneficiaries, Minnesota and comparison group.....	167
6-7.	Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Minnesota and comparison group .....	168
6-8.	Readmissions per 1,000 discharges for Medicare beneficiaries, Minnesota and comparison group.....	168
6-9.	Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group .....	170
6-10.	Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group .....	170
6-11.	Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group .....	171
6-12.	Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group .....	171
6-13.	Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group .....	172
6-14.	Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group .....	173
6-15.	Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group .....	174
6-16.	Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group .....	174
6-17.	Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group .....	175
7-1.	All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Oregon and comparison group .....	197
7-2.	All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Oregon and comparison group .....	198
7-3.	Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Oregon and comparison group.....	198
7-4.	Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Oregon and comparison group .....	199
7-5.	All-cause hospital admissions per 1,000 Medicare beneficiaries, Oregon and comparison group.....	200
7-6.	All-cause emergency room visits per 1,000 Medicare beneficiaries, Oregon and comparison group.....	201

7-7.	Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Oregon and comparison group .....	201
7-8.	Readmissions per 1,000 discharges for Medicare beneficiaries, Oregon and comparison group.....	202
7-9.	Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group .....	203
7-10.	Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group .....	204
7-11.	Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group .....	204
7-12.	Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group .....	205
7-13.	Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group .....	205
7-14.	Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group .....	207
7-15.	Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group .....	207
7-16.	Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group .....	208
7-17.	Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group .....	208
8-1.	All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Vermont and comparison group .....	232
8-2.	All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Vermont and comparison group .....	233
8-3.	Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Vermont and comparison group.....	234
8-4.	Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Vermont and comparison group .....	234
8-5.	All-cause hospital admissions per 1,000 Medicare beneficiaries, Vermont and comparison group.....	235
8-6.	All-cause emergency room visits per 1,000 Medicare beneficiaries, Vermont and comparison group.....	236
8-7.	Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Vermont and comparison group .....	236
8-8.	Readmissions per 1,000 discharges for Medicare beneficiaries, Vermont and comparison group.....	237
8-9.	Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group .....	238

8-10.	Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group .....	239
8-11.	Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group .....	240
8-12.	Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group .....	240
8-13.	Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group .....	241
8-14.	Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group .....	242
8-15.	Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group .....	242
8-16.	Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group .....	243
8-17.	Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group .....	243

## List of Tables

Number		Page
2-1.	SIM Initiative Round 1 Test states health care delivery system models .....	9
2-2.	Care coordination measures for the commercially insured population in MarketScan .....	25
2-3.	Care coordination measures for Medicare beneficiaries.....	26
2-4.	Rates of hospitalization for composite Agency for Healthcare Research and Quality Prevention Quality Indicator (PQI) clinical conditions for the MarketScan adult population (18 years and over) (per 100,000 covered persons) .....	28
2-5.	Percentage of commercially insured children in MarketScan aged 15 months who have no and six or more well-child visits during their first 15 months of life.....	29
2-6.	Rates of hospitalization for composite Agency for Healthcare Research and Quality Prevention Quality Indicator (PQI) clinical conditions for the Medicare population (per 100,000 beneficiaries) .....	30
2-7.	Utilization measures for the commercially insured population in MarketScan.....	32
2-8.	Utilization measures for Medicare beneficiaries .....	33
2-9.	Average per member per month (PMPM) payment (\$) by type of service for the commercially insured population in MarketScan .....	35
2-10.	Average per member per month (PMPM) payment (\$) by type of service for Medicare beneficiaries .....	38
3-1.	Arkansas episodes of care—status of implementation .....	45
3-2.	Care coordination measures for the commercially insured population in MarketScan by age group, Arkansas and comparison group.....	62
3-3.	Care coordination measures for Medicare beneficiaries by dual Medicare- Medicaid eligibility status, Arkansas and comparison group .....	63
3-4.	Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Arkansas and comparison group .....	64
3-5.	Utilization measures for the commercially insured population in MarketScan by age group, Arkansas and comparison group .....	66
3-6.	Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Arkansas and comparison group .....	71
3-7.	Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Arkansas and comparison group.....	72
3-8.	Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Arkansas and comparison group.....	78
4-1.	Care coordination measures for the commercially insured population in MarketScan by age group, Maine and comparison group .....	102
4-2.	Care coordination measures for Medicare beneficiaries by dual Medicare- Medicaid eligibility status, Maine and comparison group.....	102
4-3.	Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Maine and comparison group.....	103



4-4.	Utilization measures for the commercially insured population in MarketScan by age group, Maine and comparison group.....	105
4-5.	Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Maine and comparison group.....	109
4-6.	Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Maine and comparison group.....	111
4-7.	Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Maine and comparison group.....	116
5-1.	Care coordination measures for the commercially insured population in MarketScan by age group, Massachusetts and comparison group .....	131
5-2.	Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Massachusetts and comparison group.....	132
5-3.	Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Massachusetts and comparison group .....	133
5-4.	Utilization measures for the commercially insured population in MarketScan by age group, Massachusetts and comparison group.....	135
5-5.	Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Massachusetts and comparison group.....	140
5-6.	Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Massachusetts and comparison group.....	141
5-7.	Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Massachusetts and comparison group.....	147
6-1.	Care coordination measures for the commercially insured population in MarketScan by age group, Minnesota and comparison group.....	161
6-2.	Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Minnesota and comparison group .....	162
6-3.	Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Minnesota and comparison group .....	163
6-4.	Utilization measures for the commercially insured population in MarketScan by age group, Minnesota and comparison group.....	165
6-5.	Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Minnesota and comparison group .....	169
6-6.	Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Minnesota and comparison group.....	172
6-7.	Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Minnesota and comparison group.....	175
7-1.	Care coordination measures for the commercially insured population in MarketScan by age group, Oregon and comparison group.....	194
7-2.	Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Oregon and comparison group.....	195

7-3.	Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Oregon and comparison states.....	196
7-4.	Utilization measures for the commercially insured population in MarketScan by age group, Oregon and comparison group.....	199
7-5.	Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Oregon and comparison group.....	202
7-6.	Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Oregon and comparison group.....	206
7-7.	Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Oregon and comparison group.....	209
8-1.	Care coordination measures for the commercially insured population in MarketScan by age group, Vermont and comparison group.....	229
8-2.	Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Vermont and comparison group.....	230
8-3.	Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Vermont and comparison group.....	231
8-4.	Utilization measures for the commercially insured population in MarketScan by age group, Vermont and comparison group.....	233
8-5.	Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Vermont and comparison group.....	237
8-6.	Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Vermont and comparison group.....	239
8-7.	Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Vermont and comparison group.....	244

# 1. Introduction and Methods

## 1.1 Background on the State Innovation Models Initiative

The State Innovation Model (SIM) Initiative within the Center for Medicare and Medicaid Innovation (the Innovation Center) is testing the ability of state government to accelerate statewide health care transformation with the goal of achieving higher quality health care, lower health care costs, and improved health. By establishing these requirements for SIM awardees, the Innovation Center calls on states to use policy and regulatory levers, engage a broad range of stakeholders, and build on existing efforts. The SIM Initiative recognizes the unique role states can play—as purchasers and regulators—to bring about or hasten health care transformation. If this concept performs as envisioned, the SIM Initiative could overcome certain obstacles to previous reform models by aligning public and private efforts. Such efforts, when uncoordinated, can send conflicting signals and offer competing incentives to plans and providers.

In the first round of SIM Initiative funding, which began April 1, 2013, the Innovation Center awarded Model Testing cooperative agreements to six states—Arkansas, Maine, Massachusetts, Minnesota, Oregon, and Vermont. These Round 1 Test states are designing and implementing statewide health care innovation plans to accelerate transformation, including testing innovative, multi-payer health care delivery system and payment models.

The Innovation Center subsequently contracted with the team of RTI International, The Urban Institute, and the National Academy for State Health Policy to conduct an independent evaluation of the SIM Initiative. The evaluation contract includes quarterly and annual reporting to the Innovation Center on the Round 1 Test states' implementation activities and interim findings. The quarterly reports provide updates on the status of the state initiatives and descriptions of any changes planned or under way, challenges faced, and lessons learned. The reports also describe trends in major cost and utilization outcomes over time, both by state and across all six Round 1 Test states. The annual reports include information from additional data sources—including site visits, consumer and provider focus groups, and consumer and provider surveys. These reports also include findings on an expanded set of outcome measures, including care coordination, quality of care, and population health.

## 1.2 Overview of the Annual Report

This is the first, or base year, annual report of the SIM Evaluation Contract. In this report, we present the results of the first site visits to all six Round 1 Test states, including stakeholder interview and consumer and provider focus group results. We also provide baseline measures of care coordination, quality of care, health care utilization, and health care expenditures for Medicare beneficiaries and commercially insured populations represented in the

MarketScan database. Future annual reports will include data from consumer and provider surveys and Medicaid claims, which were not available at this writing.

The remainder of this chapter (*Section 1.3*) provides a brief overview of the data and methods for conducting the site visits and focus groups, computing baseline outcome measures, and identifying comparison groups. The technical appendixes provide additional details on our approach. *Chapter 2* provides a cross-state summary of the models and strategies being tested by the Round 1 Test states, findings from the site visits and focus groups, and baseline measures of different outcomes. We report expanded results for each of the six Round 1 Test states in *Chapters 3* through *8*.

## 1.3 Data and Methods

### 1.3.1 Site visits

Between January and March 2014, we conducted on-site interviews with key informants in Round 1 Test states. These site visits are the first of three annual rounds of site visits conducted under the federal evaluation. This first round of interviews focused on states' health care innovation plan implementation. Discussion topics included issues related to the application and start-up period, progress toward full implementation, challenges faced by the state SIM teams, and indications of what was working well and not so well during the early phase of the SIM Initiative.

The key informants interviewed included the state's core SIM Initiative team, other state officials, commercial payers, providers, consumer representatives, and health infrastructure personnel. The state teams conducted 142 interviews in all, with a range of 19 to 29 interviews per state. Consistent with our focus on implementation issues during this first round, the majority of interviews were with state officials.

All interviews were conducted by at least two evaluation team members. The interview leader used discussion guides to structure each interview session, and designated note takers recorded the feedback from each session. The interviews were interactive; each participant was encouraged to share feedback most relevant to their particular role in the SIM Initiative.

*Appendix A* provides additional information on the site visit methods.

### 1.3.2 Focus groups

We are also conducting three annual rounds of focus groups with consumers and providers in each Test state. Baseline focus groups for Arkansas, Maine, Massachusetts, and Oregon were conducted in spring 2014 and for Minnesota and Vermont in summer 2014. The intent of these first-round focus groups was to collect baseline information on: (1) consumers' and providers' perspectives and (2) experience with care coordination and care management practices.

We recruited focus group participants from provider and consumer populations most likely to be impacted by the state’s delivery system models being tested under the SIM Initiative. Focus groups were held in two to three different locations in each state. We conducted 23 provider focus groups and 19 consumer focus groups in all—3 to 5 provider focus groups and 2 to 4 consumer focus groups per state. From 4 to 11 providers participated in each provider focus group, and from 3 to 10 consumers participated in each consumer focus group—for a total of 168 providers and 141 consumers.

Most providers were primary care providers. But two focus groups in Arkansas included providers of developmental disabilities services, behavioral health services, and long-term services and supports (LTSS); and two focus groups in Oregon consisted of LTSS providers. In all states, we conducted consumer focus groups with Medicaid beneficiaries. In five of the Test states, these beneficiaries were from the general Medicaid-enrolled population; in Oregon, they were Medicare-Medicaid enrollees who use LTSS. In Massachusetts and Oregon, we also conducted consumer focus groups with state employees. Focus group facilitators used discussion guides to structure the discussions, which were audio-recorded. *Appendix A* provides additional information on the focus group methods.

### **1.3.3 Implementation activities**

We also collected and analyzed a range of other qualitative data to gather information on state implementation of the models and strategies in their SIM plans. This included periodically participating in check-in calls with the states’ Centers for Medicare & Medicaid Services (CMS) Project Officers; reviewing state documents, including the states’ quarterly and annual reports, operational plans, advisory committee and work group reports, and driver diagrams; searching reform-oriented Web sites maintained by some of the states; and holding a monthly evaluation call with the states. At the monthly evaluation calls, we reviewed interim evaluation findings with the states (when available); discussed outstanding data or other materials needed for the evaluation; and discussed state implementation and self-evaluation updates, including accomplishments and challenges, lessons learned, and technical assistance needs.

### **1.3.4 Baseline outcomes**

In this document, we report on six major types of baseline outcomes: (1) provider and payer participation in the SIM Initiative, (2) populations reached through the SIM Initiative, (3) care coordination, (4) quality of care, (5) health care utilization, and (6) health care expenditures. Information on provider and payer participation and populations reached under the SIM Initiative were obtained from site visit interviews and other contacts and documents from the states. Data for the other outcomes come from claims data.

We provide a brief summary of the data sources and computation methods below. Justifications for the measures used can be found in the respective cross-state analysis section in

*Chapter 2. Appendix B* provides detailed specifications of the approach we took to compute the outcome measures.

### **Data sources**

Many of the delivery system and payment models being tested under the SIM Initiative change the manner in which providers practice (e.g., increased use of health information exchange, increased care coordination) and the monetary incentives they receive for providing care. In most Round 1 Test states, these models are being implemented first in Medicaid and selected commercial populations. However, patients with different types of insurance often receive care from the same providers and health systems. This creates the potential for short-run spillover effects on care received by Medicare beneficiaries and individuals insured under employer self-funded health plans.<sup>1</sup> To capture these effects, we report outcomes for not only Medicaid beneficiaries and the commercially insured, but also Medicare beneficiaries.

In this report, we present outcome data for only commercially insured individuals represented in the MarketScan data and Medicare beneficiaries. Future reports will also include outcomes for the Medicaid-covered population and other commercially insured populations. Data for these populations were not available to the RTI evaluation team at this writing.

**MarketScan.** We used data from Truven Health’s MarketScan® Research Databases for 2010 through 2012 to calculate outcomes for the commercially insured population. The MarketScan commercial claims are a convenience sample constructed from data contributed by 279 employers and 26 health plans, representing more than 345 unique carriers. Enrollees are covered under plan types that include fee-for-service (FFS), fully and partially capitated plans (approximately 10 percent of the sample), and various other plan models, including preferred provider organizations. Because the data over-represent large employers, the database is not necessarily representative of commercially insured populations in each state. Further, the MarketScan data do not contain the same benefit design for everyone included in the sample; in particular, drug claims and mental health/substance abuse claims are not submitted and/or covered for everyone in the sample.

**Medicare.** We used Medicare claims and enrollment data for 2010 through 2012 from CMS’ Chronic Conditions Data Warehouse. The data include: (1) denominator information that indicates the number of beneficiaries alive and enrolled in Medicare during the period; (2) enrollment information that indicates the number of days beneficiaries were enrolled in Medicare during the period; and (3) the claims experience for each beneficiary—including inpatient,

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<sup>1</sup> For a description of potential spillover effects and a summary of evidence of these effects from previous delivery system and payment changes, see <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/downloads/spillovereffects.pdf>.

hospital outpatient, physician, skilled nursing facility, home health agency, hospice, and durable medical equipment claims.

### **Comparison groups**

The SIM Initiative is being evaluated using a pre-post comparison group design. In this design, the comparison group provides an estimate of what would have happened in the SIM Initiative Test state in the absence of the intervention. The difference in changes from the pre-test period to the test period between the Test state and comparison groups provides an estimate of the impact of the SIM Initiative. Comparison groups should be similar to the Test states on all relevant dimensions (e.g., demographic, socioeconomic, political, regulatory, and health and health systems), except for the policy change being tested.

For each state, we used a two-stage procedure to identify comparison groups: (1) we identified up to three states that resemble the target Test state on key characteristics; and (2) then, for each payer database (MarketScan and Medicare), we weighted individuals within the comparison states so population characteristics of the comparison states were similar to those in the target Test state. For the weights, we computed propensity scores from logistic regression of the probability of residing in the Test state. Appendix C details the procedures we took to select the comparison states and compute the person-level weights.

### **Methods**

This report is based on the entire FFS population included in MarketScan for the Test and comparison group states. The MarketScan sample included commercially insured individuals identified as enrolled at any point during the year in an FFS plan with no capitated payments in the database. We restricted the Medicare sample to beneficiaries who were alive at the beginning of the year, had at least 1 month of both Part A and Part B enrollment, had no months of Part A only or Part B only, and had no months of Medicare managed care enrollment. We used propensity score weights to create a pooled, weighted comparison group from the three comparison states for each target Test state and data source.

Because infants, children, and adults have different patterns of health care use, we report annual results for the overall population and by age group for the MarketScan sample: infant (0-1 year of age), child (2–18 years of age), and adult (over 18 years of age). For Medicare, we report annual results for the overall population and by whether the beneficiary was dually eligible for Medicaid, because those who are dually eligible (Medicare-Medicaid enrollees) have different health care needs and utilization patterns than other Medicare enrollees.

To adjust for partial year enrollment, we calculated an eligibility fraction for each individual. The eligibility fraction for each period is defined as the total number of months enrolled divided by the total number of months in the period. For example, an individual who is enrolled 6 months of a year has an eligibility fraction of 0.5 for that 12-month period. The eligibility fraction inflates and annualizes expenditure and utilization data for individuals who

are not enrolled for an entire period. The eligibility fractions are also used as weights in calculating weighted average outcomes—an approach that prevents individuals with limited enrollment but extreme outcomes from strongly influencing the results.

Because health care use fluctuates substantially by season, we use a moving 12-month average for the quarterly outcomes. Each quarterly data point is a 12-month average, where the last 3 months of the period is the quarter of interest.

### **Measures**

We present baseline estimates from the claims databases for four domains of performance: (1) care coordination, (2) quality of care, (3) expenditures, and (4) health care utilization. The measures used for each domain are briefly described below. *Appendix B* provides more detailed specifications.

**Care coordination.** To evaluate the Round 1 Test states' baseline level of care coordination, we report the following measures:

- Number of visits to a primary care provider (per 100 covered persons)
- Number of visits to a specialty provider (per 100 covered persons)
- Percentage of acute inpatient hospital discharges with a follow-up visit within 14 days

We define visits to a primary care or specialty provider using provider type and Current Procedural Terminology codes as specified in *Appendix B*. Visits are included in a given year if the service or discharge date falls in that year. We did not include number of visits to a primary care or specialty provider for the commercial population in Maine, because Maine's MarketScan data had significant coding differences in the provider specialty type variable as compared to other states.

**Quality of Care.** For the MarketScan sample, we include two baseline measures of quality of care:

- Rate (per 1,000 covered persons of hospitalizations based on ambulatory care sensitive conditions defined by the Agency for Healthcare Research and Quality's Prevention Quality Indicators (PQIs)
  - overall PQI composite
  - acute PQI composite
  - chronic PQI composite
- Well-child visits in the first 15 months of life
  - percentage of 15-month-olds with no well-child visits



- percentage of 15-month-olds with six or more well-child visits

Because the quality-of-care measures do not include expenditure data—and will not, therefore, be impacted by missing payment information—the entire MarketScan population is included.

**Utilization.** Utilization measures are calculated as rates per 1,000 covered persons (or discharges for readmissions). Claims are included in a period’s total if the discharge or service date on the claim was during the period. We report the following rates of utilization:

- Rate (per 1,000 covered persons) of all-cause acute inpatient hospitalizations
- Rate (per 1,000 covered persons) of all-cause emergency room (ER) visits
- Rate (per 1,000 covered persons) of ER visits that did not result in an inpatient hospital admission
- Rate (per 1,000 discharges) of 30-day readmissions

**Expenditures.** Expenditures are defined as payments made by Medicaid, Medicare, or the commercial health plan. Enrollee cost-sharing is not included. Weighted average payments are calculated per member per month (PMPM). For each individual, the PMPM payments are estimated to be one-twelfth of their annual payments. All individuals enrolled in the relevant period are included in calculating the averages, so the figures also reflect the presence of individuals with zero medical costs. The payments are not risk-adjusted or price-standardized across geographic areas.

Although including outliers can provide a more reliable measure of the true costs of health programs, high-cost outliers can sometimes skew analytic results, especially when sample size is limited. For this reason, we reviewed the distribution of expenditure measures and conducted a sensitivity analysis on truncated payments. Based on the distribution, we truncated total payments for MarketScan and Medicare data to \$50,000 and \$100,000, respectively. For the overall population, truncated total payments were approximately 17 percent lower than non-truncated total payments. For infants in MarketScan, the difference was greater, with truncated payments 32 percent lower than non-truncated payments. For the main results, we report the non-truncated expenditure values in the following categories:

- Total payments
- Inpatient hospital facility payments
- Other facility payments
- Professional payments

- Pharmaceutical payments (for MarketScan sample only)

## 2. Cross-State Summary

### 2.1 Summary of Models and Strategies

A common aim among the six SIM Round 1 Test states is to shift the state’s health system from encounter-based service delivery to care coordination, and from volume-based to value-based payment mechanisms. The underlying belief is that better coordinated and more accountable health care leads to higher quality care at lower total cost, and ultimately, to improved population health. However, the Test states are taking different approaches with their SIM awards to achieve this transformation. To varying degrees, states are focusing their state models on primary care practice transformation to patient-centered, coordinated care; integration of primary care providers and providers of acute care, behavioral health services, or long-term services and supports (LTSS); integration between health and social services; payment reform; and statewide alignment of transformation efforts. All Test states are also using a variety of enabling strategies to facilitate, promote, and sustain the health system transformation envisioned in the chosen models.

#### 2.1.1 Delivery system models

All Round 1 Test states are testing one or more of four major delivery system and payment models (*Table 2-1*): (1) patient-centered medical homes (PCMHs), (2) health homes for medically complex populations, (3) integrated or accountable care systems, and (4) episodes-of-care payment models.

**Table 2-1. SIM Initiative Round 1 Test states health care delivery system models**

State	Primary care patient-centered medical homes	Health homes for medically complex populations	Integrated care models	Episode-of-care payment models
Arkansas	X	X	—	X
Maine	<sup>a</sup>	X	X	—
Massachusetts	<sup>b</sup>	—	X	—
Minnesota	X	X	X	—
Oregon	X	—	X	—
Vermont	X	X	X	X

<sup>a</sup> Maine’s involvement with patient-centered medical homes under the SIM Initiative is limited to learning collaboratives.

<sup>b</sup> Massachusetts is using its SIM funds to test a new Primary Care Payment Reform (PCPR) model in its Medicaid program.

### ***Patient-centered medical homes***

Primary care reform, typically in the form of PCMHs, are at the center of delivery system transformation in four Round 1 Test states' SIM plans. PCMH is a primary care model that emphasizes care coordination and communication and under which either: (1) providers are paid a per member per month (PMPM) fee for the care coordination and financial incentives for achieving performance or quality targets; or (2) alternative payment methods are used to encourage provision of efficient and high-quality care, such as comprehensive primary care payment with shared savings or shared loss; or (3) both.

All Round 1 Test states currently have primary care practices participating in PCMH initiatives and demonstration programs through Medicaid, Medicare, or commercial health plans. Most Test states are using SIM funds to expand these existing PCMH models to other practices within the state; and to coordinate or align financial incentives, quality metrics, provider education, information sharing, health information technology (health IT) and data systems, and data analysis and reporting across PCMH practices and programs.

Arkansas is initially focusing expansion of PCMHs on their Medicaid-covered populations, whereas the other four are taking a multi-payer approach to PCMH expansion from the outset. Arkansas is planning to roll out its PCMHs to the commercially insured population in early 2015.

Maine's involvement with PCMHs under the SIM Initiative is limited to learning collaboratives, and Massachusetts is using its SIM funds to test a new Primary Care Payment Reform (PCPR) model in its Medicaid program.

### ***Health homes for medically complex populations***

Four Test states are developing different types of medical homes to better serve the special health needs of particular populations. Maine has expanded its MaineCare Health Homes Initiative, which uses community care teams linked to primary care providers to serve the needs of Medicaid beneficiaries with chronic conditions, and is launching a learning collaborative for these expanded health homes.

Four states—Arkansas, Maine, Minnesota, and Vermont—are developing behavioral health homes, which are PCMHs tailored for populations with serious mental and substance abuse health care needs. Arkansas, Maine, and Minnesota are also targeting Medicaid beneficiaries for these homes, whereas Vermont is expanding the current Medicaid “Hub and Spoke” program for opioid abuse to other payers.

Arkansas is also developing health home models tailored to Medicaid beneficiaries with developmental disabilities and those with LTSS needs. Other Test states note that they will use SIM funds to improve coordination between existing PCMHs and behavioral health and LTSS providers.

### *Integrated care models*

All Test states, except Arkansas and Massachusetts, are using the SIM awards to accelerate expansion of integrated care models, such as accountable care organizations (ACOs). These models typically identify a provider-led organization to take responsibility for the quality and costs of care across the delivery system for a particular population—in return for a global payment with some combination of threshold quality-based targets, quality performance incentive payments, and shared-saving or shared-risk arrangements. Oregon’s Coordinated Care Model (CCM) applies principles of the Coordinated Care Organizations (CCOs) serving Medicaid beneficiaries in the state. CCOs have some characteristics of ACOs, although they largely grew out of Medicaid managed care organizations (MCOs).

All six states are building on existing Medicare and Medicaid ACO demonstration projects for the expansion to other populations. Maine, Minnesota, and Vermont are all starting with an expansion of these models to their Medicaid populations. Most of the six are expecting a more modest spread of the models or model principles to commercial markets. Oregon hopes to incorporate the new models into state employee plans, state educator plans, and health plans offered through the state-based health insurance exchanges during the SIM Initiative performance period.

### *Episode-of-care models*

Only two states are testing episodes-of-care models. Arkansas is implementing a retrospective episode-based payment system to realign incentives for certain acute, post-acute, and complex conditions managed by specialists for its Medicaid-covered population. In this model, a principal accountable provider oversees the quality and costs of care associated with assigned episodes-of-care patients and receives risk-adjusted shared savings and losses. As of March 2014, the first performance period had ended for five conditions (upper respiratory infections, attention deficit hyperactivity disorder, perinatal, congestive heart failure, hip and knee joint replacement) and the performance period will end for three more at the end of 2014 (colonoscopy, cholecystectomy, and tonsillectomy). Arkansas will also implement an assessment-based episode model for Medicaid-covered populations with special needs (e.g., behavioral health, developmental disabilities, LTSS). These episodes will use individual assessments to identify a beneficiary’s level of need and associated care requirements. Payment for the episode will be tied to the expected cost to administer the required services.

Vermont will expand an existing Medicare episodes-of-care (bundled payment) model to Medicaid and commercially insured populations—the Center for Medicare and Medicaid Innovation’s (the Innovation Center’s) Bundled Payment for Care Improvement Program—under which providers from eight organizations in the Rutland region are coordinating care for congestive heart failure patients.

### **2.1.2 Payment reform**

Within these care models, many of the Round 1 Test states will be developing new alternative payment models. In Massachusetts, SIM funds will be used to implement the PCPR initiative, which aims to improve access, patient experience, and patient care quality and efficiency through primary care clinician (PCC) groups. The PCC group may be a group practice, a hospital-licensed health center, a hospital outpatient department, or a community health center; it may be embedded in an ACO or other integrated delivery system. The PCPR payment methodology includes a comprehensive primary care payment, a quality incentive payment, and a shared-savings/risk payment. PCPR is expected to be implemented across MassHealth's managed care programs, including both the Primary Care Clinician Plan and the state's contracted MCOs.

Minnesota plans to use SIM funds to evolve from shared savings to shared risk and global payments. Under the SIM-supported Integrated Health Partnership (IHP) initiative (also known in Minnesota as Medicaid ACOs), care will be provided to qualifying Medicaid participants attributed through a risk-adjusted total cost of care global targeted payment. Under this approach, the total cost of care target will be calculated using risk-adjusted Medicaid FFS claims and encounter claims submitted by MCOs under contract with the state. IHP financial incentive payments under this expanded model will be contingent on performance regarding quality and patient experience outcomes. All shared savings and shared loss payments under the models described will be calculated and disbursed annually via a reconciliation process.

In Oregon, most CCOs are paying PCMHs enhanced, tiered payments, in which the tiers are delineated by achievement of different standards set by the state's patient-centered primary care home (PCPCH) program. However, a variety of additional alternative payment methodologies are being developed in response to characteristics of the regional delivery systems. In particular, some CCOs are seeking to expand capitated payments for mental health services to include substance abuse providers and services. In addition, the state is incentivizing alternative payment methodologies in the 2015 Public Employees Benefit Board (PEBB) plan offerings, and the Oregon Association of Hospitals and Health Systems proposed a 1 percent quality incentive pool in Medicaid diagnosis-related groups for hospitals.

The SIM Payment Models work group in Vermont is working on a value-based purchasing plan (pay for performance) for its Medicaid program. The program is expected to launch in early 2015, with retroactive payments made to physicians on the basis of quality.

### **2.1.3 Emerging models**

In addition to these more established delivery system and payment models, some states are testing new models, such as community-based care models. These models are based on the tenet that transformation to patient-centered care requires broadening the focus of health

professionals and health care institutions, beyond treating illness to helping people lead healthy lives. Consequently, states are finding ways to integrate community-based services, such as shelter, food, and other services that—although not traditionally considered health care—clearly impact the health of individuals. For example, through its Accountable Communities for Health program, Minnesota will test different models for how local constituencies (e.g., ACOs, public health, social services) may come together to influence health outcomes at the local level.

Other Test states are also establishing mechanisms and models to integrate community-based care. Oregon, through its CCM, requires each CCO to have a substantial “community” contingent on its governing board: at least two members must be drawn from the community at large and one from a community advisory council. The community advisory councils, composed of health plan consumers and representatives of county government, are charged with development of a community health assessment and health improvement plan, including preventive care practices to be used by the CCO.

Maine will pilot a community health worker (CHW) model designed to leverage existing community connections to address the population health needs of underserved populations. Massachusetts will enhance its e-Referral program, which links primary care systems to a wide variety of community resources offering health education, physical activity opportunities, nutrition consultation, or other health-related services that take place outside the health care setting. The commonwealth will also develop provider and consumer portals through Community Links to better link providers, social services, and consumers with timely information related to LTSS.

#### **2.1.4 Enabling strategies**

Much of the SIM Round 1 Test awards are being used for a variety of transformation facilitation efforts, workforce development, health IT investment, data analytic capacity building, and consumer education and engagement efforts. Because the states are at different stages of adoption of the transformation models and have different health care needs and resources, however, the activities under each area are quite varied.

##### ***Transformation facilitation***

Most Test states are setting up one or more learning collaboratives or holding other training activities for providers, community organizations, or other stakeholders. In Maine, through an expanded contract with MaineCare, Maine Quality Counts will provide various continuous improvement education activities—including: (1) the Institute for HealthCare Improvement model learning collaboratives for providers transitioning to Primary Care Medical Home status and (2) patient engagement learning opportunities through Maine Quality Counts’ Better Health, Better Maine campaign.

In Massachusetts, MassHealth will collaborate with Commonwealth Medicine, a branch of the University of Massachusetts Medical School, to establish a provider-oriented learning collaborative focused on supporting providers through key elements of PCMH.

As part of its SIM Initiative, Oregon launched a Transformation Center in April 2013. The Center serves as the state's hub or integrator for health care innovation and improvement, and it helps spread the CCM across all payers. The Center holds learning collaboratives, conferences, and workshops for CCOs and other payers and stakeholders; and it provides technical assistance to connect CCOs and other payers adopting elements of the CCM. Other Center functions include, but are not limited to, disseminating clinical standards and supports, establishing a Council of Clinical Innovators, developing strategies to engage community stakeholders, working with Oregon Health Authority's (OHA's) Office of Equity to promote policies to support health equity and address social determinants of health, and using data and statistics supplied by OHA's Office of Health Analytics to provide timely data to improve targeting and the delivery of health care services. For some of these activities, the Center partners with outside groups such as the PCPCH Institute, a public-private partnership that provides practice-level technical assistance to help Oregon providers adopt the PCPCH model.

Vermont will expand on the care transformation support and training provided by the Blueprint for Health and activities provided by the Vermont Program for Quality in Health Care, the Vermont Child Health Improvement Project, and other state agency- and provider-based quality improvement initiatives.

### ***Workforce development***

Round 1 Test states are also investing in traditional and nontraditional health personnel with SIM funds. Arkansas hopes to bolster team-based care and encourage individuals to work at the top of their licenses to provide needed care. Minnesota is using SIM funds to support integration of new providers—such as CHWs, community paramedics, and advanced dental therapists—into clinical practices through two initiatives. A central feature of Oregon's SIM plan is the hiring of long-term care innovator agents to facilitate shared accountability between CCOs and long-term care agencies and providers. The state will also certify 150 health care interpreters by 2016, to assist CCOs in making services linguistically and culturally accessible. In Vermont, the SIM Initiative is funding an additional two full-time equivalent (FTE) practice facilitators to join the existing three FTEs. Since each FTE can support 8–10 practices, this increase supports up to 50 practices.

### ***Health information technology infrastructure***

Investment in health IT is another strategy being used by the Round 1 Test states to support health system transformation. The types of technology projects the states are investing in vary markedly, ranging from changing the Medicaid Management Information System



(MMIS) to enable the use of quality data for provider payment to developing and piloting an electronic referral system for community services.

For example, Maine is testing the impact of sharing real-time clinical data with payers, building up the behavioral health clinical data infrastructure to parallel that of physical health, and implementing the BlueButton pilot program that gives patients access to their own clinical data in the health information exchange (HIE). In Massachusetts, the SIM award is supporting HIE technical assistance to behavioral health and LTSS providers and building HIE functionality for quality reporting by upgrading the MMIS and offering technical assistance. Oregon's health IT investments have focused on developing data-sharing capacity and interoperability among providers in CCOs, to facilitate care coordination and performance monitoring. Vermont is expanding the capacity to transmit high-quality clinical data from electronic health records (EHRs) and other sources to the Vermont Health Information Exchange and central clinical registry. The state is also developing an integrated data platform.

Arkansas' HIE, the State Health Alliance for Records Exchange (SHARE), was conceptualized as an integral part of the Arkansas Payment Improvement Initiative (APII); all PCMHs are required to connect to SHARE to obtain hospitalization information. However, no SIM funds were earmarked for SHARE personnel or additional implementation activities. Arkansas is leveraging existing health IT infrastructure, primarily Blue Cross and Blue Shield's Health Information Network provider portal, to support transformation activities.

### ***Data aggregation and analytics***

Complementing health IT strategies, the SIM Initiative in many Test states also includes a data aggregation and analytics strategy. These include development or enhancement of systems to maintain clinical, utilization, and expenditure data—such as all-payer claims databases (APCDs), and data aggregation and analytic capabilities; production of population-level quality and cost information; and public reporting of these data.

Maine is aligning quality measures across providers and payers and improving public reporting of cost and quality data under its SIM award. The state has contracted with the Maine Health Management Coalition (MHMC) to help develop portals for providers to access claims and outcomes data, increase the number of quality metrics publicly reported, and identify performance metrics for assessing new care models, specifically ACOs and behavioral health homes. The MHMC is also convening a work group to track health care costs across the state and identify strategies to bring costs down.

Minnesota is devoting \$9.5 million of its SIM award to data analytic support for its IHPs to use health IT to better coordinate care and improve care quality for Medicaid beneficiaries. A range of initiatives are planned and under way, including funding to support e-health grants. Minnesota recently awarded \$3.8 million in e-grants to help 12 community collaboratives

leverage e-health to improve care coordination. The Minnesota e-health grants will help a range of community, social service, and clinical providers across different health care settings use health IT to improve health care. In Oregon, SIM funds are being used to support the all-payer all-claims database and its use in interactive dashboards. Vermont's SIM funds are being used to contract for support to move the state toward a Learning Health System using advanced analytics and predictive modeling.

### ***Public health approaches***

Public health strategies are typically delivered outside the health care delivery system to the general population. Often, a non-health care provider is responsible for promoting public health strategies, and in some cases is the backbone organization to a defined coalition for health or accountable community for health. Common goals of public health strategies are to improve heart health, promote tobacco cessation, and reduce obesity. These strategies include community-based activities or closer relationships between clinical health care providers and non-health care organizations—such as social services, schools, community development organizations, transportation, parks and recreation agencies, and civic groups. In addition to the CHW pilots described above, Maine will pilot the National Diabetes Prevention Program (NDPP) in the state. Oregon is developing a new version of its public health assessment tool and has funded four CCOs and local public health consortia under its SIM Initiative Community Prevention Program.

### ***Consumer engagement***

Consumer engagement strategies are activities intended to change consumer/patient behavior directly. These include promoting patient-centered communication; changing the clinical setting to activate patients in their own care, including access to their own health information; and promoting choice architecture within insurance plans to help consumers choose the highest-value health care services (e.g., value-based insurance design [VBID]).

As mentioned, Maine's SIM award will fund a BlueButton pilot, which allows patients to download a summary of their HIE records. The state will also develop and implement a VBID and payment reform media campaign and provide free training for advocates, navigators, free care providers, and other key consumer stakeholders regarding the benefits of VBID and other forms of payment reform.

In recognition of the need for consumer engagement to facilitate the spread of CCM, Oregon is conducting a series of listening sessions with members of the PEBB. These meetings are intended to disabuse PEBB members of the notion that the CCM is a Medicaid product and to assuage fears that their benefits would be restricted under the new model. Oregon plans to transition state employees to the CCM in January 2015. PEBB will use premium share incentives to encourage members to pick plans that include more CCM elements.

## **2.2 Site Visit and Focus Group Cross-State Summary**

In this section, we present a cross-state summary of the findings from the site visit interviews and focus groups. The perspectives presented represent common themes noted in multiple states. Individual state-specific summaries are presented in later chapters of this report. Note that we report the feedback we received from stakeholders without any effort to verify the information given. The findings are organized by the protocol topics, including governance and project administration, stakeholder participation, specifics of care coordination, payment reform, health IT, population health activities, and successes and challenges to date. Information on the methods used in conducting the site visits and focus groups can be found in Appendix A.

### **2.2.1 Governance and project administration**

State officials we spoke with in the six Round 1 Test states described the SIM cooperative agreements as administratively complex, in some cases even more complex than had been anticipated. Officials from three states (Maine, Massachusetts, and Minnesota) specifically described the need to hire additional administrative staff to manage the project. In most of the six, SIM is administered out of a health or human services agency within the state. The Vermont SIM Initiative is based in the Agency of Administration in the Executive branch, with the Secretary of the agency being the Principal Administrative Aide to the Governor. All states described involvement and collaboration of multiple state agencies and offices. Based on our site visits, use of advisory panels and work groups are common features of project administration. Although state Governors were described as influential and supportive of the SIM Initiative, findings from our site visit discussions suggested that most Governors' offices are not involved in day-to-day administration of the SIM awards and implementation of SIM activities. One state (Arkansas) reported hiring a consultant to support the SIM implementation effort.

### **2.2.2 Care coordination, care management, and primary care strategies**

Stakeholders in all Test states agreed that a focus on care coordination, care management, and other primary care strategies was an important part of the SIM Initiative. Perspectives regarding best practices varied by state. State SIM Initiatives tend to organize these strategies around one of the common reform care models, including variants of PCMHs (particularly in Vermont, Arkansas, Maine, and Oregon) and/or ACOs (Massachusetts and Minnesota), though most states incorporated elements of both models into their initiatives. Some aspect of community care was also cited as an important care strategy in Maine, Minnesota, Massachusetts, and Vermont.

Stakeholders in different Test states also described varying degrees of emphasis on care coordination and care management for special populations, particularly those with behavioral health needs. Arkansas appeared to place the greatest emphasis on these specialized care models. Provider interviewees expressed some concern about how care coordination and case

management would be implemented. Primary care physicians in Massachusetts were concerned that care management would fall solely on them, and that specialists would not be involved.

Health IT was often cited as an important tool for care coordination, and the enhancements being made under the SIM awards were noted as needed. However, stakeholders in several states mentioned that patient confidentiality issues could be a major obstacle in actually using the HIE systems for data sharing, particularly between behavioral health and other providers. Furthermore, although half the Medicaid beneficiaries and Group Insurance Commission (GIC) plan enrollees participating in the focus groups in Massachusetts reported having access to a patient portal, few reported actually using it to connect with their primary care providers.

Finally, among focus group participants, we heard providers express some concern regarding the costs of implementing care coordination and management strategies, and consumers noted varying degrees of exposure to/experience with these strategies.

### **2.2.3 Payment reform**

Some version of payment reform centered on performance- and/or value-based reimbursement as an element of all Test states, though the emphasis we heard from stakeholders varied. One frequent comment related to the role of the SIM Initiative in containing costs and “bending the cost curve.” Individuals we spoke with in Maine described major payment reform efforts for Medicaid and commercial groups. Stakeholders in Arkansas described payment reform based on retrospective episode-based payments, risk-adjusted PMPM payments, and shared savings. Massachusetts is implementing a primary care payment reform that includes a comprehensive primary care payment, a quality incentive payment, and a shared savings/risk payment. Vermont is testing alternative payment strategies for ACO models that focus on upside risk, and utilizing pay-for-performance and bundled payments/episode-based payments. Oregon plans to use PMPM strategies tied to patient-centered care tiers and a 3.4 percent global cap on public employee premium payments. While payment reform is a general goal in Minnesota, no one discussed details with our team.

### **2.2.4 Stakeholder engagement**

Our discussions with stakeholders across all six Test states suggested that interactions and engagement with relevant state stakeholders was a focus of SIM implementation. The most common engagement strategies among the Test states included learning collaboratives, advisory and work groups, and technical assistance grants and programs. While our discussions with stakeholders yielded general satisfaction with the level and types of stakeholder engagement, there appeared to be some room for improvement. Providers in some states (Arkansas and Minnesota) were unclear about expectations for their involvement in the SIM Initiative and

expressed some confusion about how the Initiative might impact and/or involve them. Provider fatigue with all the transformation strategies and demands was cited in Maine.

### **2.2.5 Health information technology and other investments**

Health IT investments were cited as a key element of SIM initiatives in most Test states. Minnesota is making significant SIM-funded health IT investments in the form of support for patient data sharing exchanges, support for data analytics in IHPs, and grants for health information roadmaps. Maine is making investments in clinical data exchanges and measurement systems, with a particular focus on supporting access to and use of more real-time clinical data. Maine is also investing in behavioral health clinical data infrastructures and its “BlueButton” pilot program to give patients access to their own clinical data. In Arkansas, contractors have been instrumental in providing data support, and Arkansas is emphasizing data sharing among health care providers. Vermont has been making substantial investments in connecting health care practices and hospitals through DocSite and other systems and has a goal to achieve 100 percent EHR adoption within the state. Oregon is helping develop data-sharing capacity and interoperability among providers to facilitate care coordination and performance monitoring, and developing data analytic capabilities at the state level. Massachusetts will leverage its SIM award to support new technology interventions or provide technical assistance. We did hear from some stakeholders that health IT presented challenges for their SIM Initiative—including reservations about the relative investment in health IT compared to other needs, as well as references to different data sources, infrastructures, or measurement systems within a state competing against one another for prominence in state reform efforts.

### **2.2.6 Population health**

Improved population health, a primary goal of the SIM Initiative, is being addressed in varying ways by the Test states. Some are implementing interventions or activities to address population health. For example, Maine is using its SIM award to fund pilots of its CHW model and the NDPP; Oregon is funding four CCOs and local public health consortia under the SIM Community Prevention Program; and Massachusetts’ e-Referral system is being integrated with the existing population health management initiative. Several states noted increased efforts to monitor population health, including Arkansas, Massachusetts, Oregon and Vermont. Massachusetts has posted a request for proposals (RFP) for a vendor to provide technical assistance to, among other things, use electronic medical records for population health management; Oregon is fielding a Medicaid Behavioral Risk Factor Surveillance System in 2014; and Vermont is working on integrating population health metrics into its evaluation of ACOs. In addition, Vermont’s Blueprint for Health and Department of Vermont Health Access are working together to redesign the entire population health and care management infrastructure. State officials in Maine, Oregon, and Vermont noted that improved population health will likely be impacted by the delivery system and payment models being implemented

under the SIM Initiative. However, as an Oregon official noted, these impacts are likely to occur “more upstream” than the 3-year SIM window.

### **2.2.7 Successes, challenges, and lessons**

In general, stakeholders in the Test states were positive about their overall experiences with the SIM Initiative. Successes were framed as developing relationships between state agencies or between different providers in the medical system (e.g., primary care and LTSS providers), engaging stakeholders, and in some states, meeting or exceeding participation targets.

Most state officials cited administrative and project management challenges, including devoting greater resources than anticipated to administering the cooperative agreement. Specific common challenges included meeting CMS timelines, reporting requirements, data availability, and infrastructure. Some states (including Massachusetts and Minnesota) cited challenges related to staffing the administrative requirements of SIM undertakings. Arkansas, for example, reported reliance on contractors to meet these administrative requirements, but most others expanded internal staffing with additional hiring.

Although most Test states were grateful for their SIM funding and believed in the ability of those resources to make significant improvements in reform progress, it was commonly acknowledged that SIM funding was not able to support all that needed to be accomplished.

Stakeholders in Massachusetts, Minnesota, Oregon, and Maine reported challenges in fully engaging the health care provider and/or consumer community. Buy-in for payment reform was cited as limited, particularly for payment models with downside risk. Stakeholders from more than one state noted concerns about provider fatigue with the pace of change, the amount of work, and many concurrent initiatives. In such states such as Maine, Massachusetts, and Vermont, coordinating care in a way that encourages proliferation of care coordination through different avenues was noted as a particular challenge.

The ability of the states to improve data systems and data-sharing infrastructure with SIM funds was noted as critical for success of the SIM Initiative. In some states (Massachusetts, Minnesota, and Vermont) regulatory and policy issues regarding data sharing seems of heightened concern, suggesting that issues of patient confidentiality could be an obstacle for greater data sharing.

The common lessons learned involved the importance of communication and flexibility. In particular, timely communication with payers, providers, and consumers to ensure they understand the need for change was viewed as essential. Stakeholders also noted the need for the state to be flexible—that state agencies may need to reorganize and adapt to the specific and changing realities of the innovation models, and that states must work collaboratively with providers and payers.

## 2.3 Baseline Trends in Outcomes

### 2.3.1 Provider and payer participation

As the Round 1 Test states implement their respective SIM plans, providers and payers continued to be integrated into initiatives, with some Test states making noted progress during first quarter 2014.

- In Arkansas, 111 practices voluntarily enrolled in the Medicaid PCMH program, which officially began in January 2014; they join the practices already enrolled in the Comprehensive Primary Care Initiative (CPCI). A total of 637 primary care physicians in 179 practices participated in the Medicaid PCMH component of APII in first quarter 2014. APII is a multi-payer strategy that includes two commercial payers at the current time: Arkansas Blue Cross and Blue Shield and QualChoice. These commercial payers plan to roll out the PCMH model to additional practices not already enrolled in CPCI beginning in 2015. Arkansas Medicaid is also implementing all episodes of care, although commercial insurers are participating in only those episodes appropriate for their members.
- Maine had about 83 primary care practices, with about 508 providers, participating in MaineCare's Health Homes Stage A initiative as of the end of 2013. At the same time, about 74 primary care practices, with about 567 providers, participated in the PCMH Pilot, which was extended by the Multi-Payer Advanced Primary Care Practice demonstration and is all-payer. Altogether, Maine's medical home initiatives account for more than one-third of the state's primary care practices.
- Massachusetts launched its PCPR program (capitated payment model) with 30 PCC provider groups administered by MassHealth. Provider participants represent hospital-licensed health centers (10), community health centers (19), and a group practice (1). No MCOs, which serve about 37 percent of the MassHealth population, opted to participate in PCPR during first quarter 2014. The state remains in discussions with the MCOs.
- Minnesota added three new providers to participate in its Medicaid-focused IHP program: Hennepin Health Care System, the Mayo Clinic, and Southern Prairie Community Care. The state now has nine IHPs covering more than 145,000 recipients. An RFP for the next round of IHP contracts was posted in February 2014, with proposals due in June 2014.
- In Oregon, OHA and PEBB received and evaluated many responses to the RFP for health plans that incorporate the coordinated care model, and began negotiations with several successful bidders.
- Vermont has 126 certified PCMHs as of first quarter 2014, with 627 unique providers. Building on existing ACO Medicare Shared Savings Program experience, the Department of Vermont Health Access (DVHA) signed contracts with two ACOs

(OneCare Vermont and Community Health Accountable Care) for participation in the Vermont Medicaid Shared Savings ACO programs. DVHA also reached participation agreements with Blue Cross and Blue Shield of Vermont and MVP Health Care—two commercial payers in Vermont’s small group and individual markets—as part of the Commercial Shared Savings Program. Blue Cross and Blue Shield has agreements with each of the three ACOs operating in Vermont, and MVP Health Care has an agreement with the OneCare ACO. Provider counts are not yet available for the ACO programs.

SIM encourages adoption of transformative Medicare payment models such as Medicare Shared Savings and Bundled Payment programs. Furthermore, participation in these programs counts toward the goal of transforming 80 percent of a state’s health care payment systems into value-based models. However, none of the Test states has a formal arrangement with Medicare as a participating payer in their SIM plans. Maine and Oregon are working to obtain Medicare data, which Maine expects in July 2014. Minnesota’s SIM Initiative does not focus on Medicare’s involvement, but the other states anticipate Medicare joining in some scope in the future.

### 2.3.2 Populations reached

Round 1 Test states ultimately aim to reach substantial percentages, if not all, of their populations through statewide rollout of their SIM Initiatives. Some Test states have begun to report specific progress on reaching target populations. Others have defined their target populations but have yet to begin reporting specific progress on actual populations reached by the SIM Initiative.

- Arkansas state officials estimate that more than 70 percent of Arkansas Medicaid beneficiaries were enrolled in PCMHs as of January 2014, exceeding targets.
- Maine projected that the total population covered under SIM in 2014 would be 931,874 (71 percent),<sup>2</sup> which includes 627,800 (48 percent) for medical homes, and 304,074 (23 percent) for ACOs. Note that included in Maine’s 2014 projection for medical homes is 160,000 (12 percent) for MaineCare Chronic Conditions Health Homes Stage A. The 2013 projection was 160,000 as well, although as of the end of 2013 only 48,000 were enrolled.
- Massachusetts’ PCPR covers 22 percent of PCC group participants, or approximately 84,000 covered lives, with no MCOs opting to participate at this time. The state had projected a goal of covering 25 percent (226,276 beneficiaries) of the 905,106

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<sup>2</sup> Fox, K., Gray, C., Rosingana, K., and Thayer, D. March 18, 2014. MaineCare Stage A Health Homes Year 1 Report: Implementation Findings and Baseline Analysis. Submitted to MaineCare by U. of Southern Maine. Accessed on September 4, 2014, at [http://www.maine.gov/dhhs/oms/pdfs\\_doc/vbp/HH/Stage%20A/HHReport\\_Yr1\\_Stage%20A\\_FINAL%20\(2\).pdf](http://www.maine.gov/dhhs/oms/pdfs_doc/vbp/HH/Stage%20A/HHReport_Yr1_Stage%20A_FINAL%20(2).pdf).



managed care enrollees (MCO and PCC) during first quarter 2014, but fell well below its target.

- Minnesota will use SIM funds to expand and accelerate its Medicaid-focused IHP program. As of mid-2014, the state reported that 145,000 Medicaid enrollees were participating in an IHP.
- Oregon’s vision for its SIM award is to further support acceleration of health care transformation and the spread of its recently implemented Medicaid delivery and payment model to new populations—state employees, public educators, and qualified health plan enrollees. Building on the Medicaid experience with CCOs, which enrolled nearly 900,000 Medicaid beneficiaries, Oregon will transition state employees into health plans that incorporate CCM in January 2015.
- As of first quarter 2014, the 126 participating Vermont PCMH practices covered 511,557 people, representing 82 percent of the state’s population. Complete population counts are not yet available for the ACO programs.

### 2.3.3 Care coordination

A common aim among the six Round 1 Test states is to shift the state’s health system from encounter-based service delivery to care coordination. Care coordination requires a team-based approach in which all participants in the patient’s care—including patient, primary care provider, specialists, and other health care providers—work together to meet the patient’s care needs and preferences, providing access to comprehensive, quality, and safe care. Claims-based measures that provide evidence on the level and trends in care coordination include: (1) percentage of inpatient discharges that had a follow-up visit within 14 days of discharge, (2) number of visits to primary care providers per 100 covered lives, and (3) number of visits to specialists per 100 covered lives.

We expect better or improved care coordination to have higher rates of follow-up and primary care visits. Although an increase in primary care visits does not, by itself, constitute better care coordination, it is often a first step for many populations. We expect an initial increase in primary care visits, in particular for Medicaid beneficiaries who often receive care at emergency rooms (ERs) and urgent care facilities. Because the Round 1 Test states are focused totally or in part on getting the Medicaid and other groups under care of ACOs, medical homes, or other primary care-oriented models, an increasing number of primary care visits would confirm that not only are those models functioning in each state but that the first step of matching patients with primary care providers is indeed happening. An initial increase in specialist visits may also be indicative of better coordination as the unmet needs of these populations are addressed.

### **Commercially insured**

**Table 2-2** shows these visit measures for the six Round 1 Test states and their comparison groups in each year of the pre-test (baseline) period for the commercially insured population represented in the MarketScan database. Relative to each state's comparison group, the Test states generally had equivalent or slightly higher percentages of inpatient discharges with follow-up visits within 14 days, but lower rates of visits to primary care providers and visits to specialists. The exceptions are Vermont and Maine, which had relatively more primary care visits than their comparison groups. In general, the Test states appear to have had a stronger primary care system and better care coordination for their commercially insured populations than their comparison groups in the pre-test period.

No consistent trend toward improved care coordination is evident over the pre-test period among the Test states. The percentage of inpatient discharges that had a follow-up visit within 14 days of discharge was virtually unchanged from 2010 to 2012 in four of the Test states, with slight increases evident in Maine and Minnesota; this measure was unchanged in all comparison groups over the same period. In contrast, both the number of primary care visits and the number of specialists declined from 2010 to 2012 in both most Test states and their comparison states. Declining rates of primary care visits are evident in all Test states except Arkansas and Maine, with declining rates of specialist visits evident in all Test states except Maine and Vermont. The rates of primary care and specialist visits generally declined during the pre-test period for the comparison groups as well. Analysis of findings by age group noted similar trends, with primary care visits per 100 being highest for infants relative to children and adults (*Appendix Tables E-1* and *E-2*).

### **Medicare**

Care coordination measures were also analyzed for Medicare beneficiaries (**Table 2-3**). The percent of inpatient discharges that had a follow-up visit within 14 days increased among all Test states during the baseline period. The follow-up percentage was highest in Minnesota (reaching 61 percent by 2012) and lowest in Massachusetts (at 50 percent in 2012). The number of visits to primary care providers increased in three states (Arkansas, Maine, and Massachusetts), and decreased in two others (Oregon and Vermont); visits in Minnesota essentially remained constant during the baseline period. The number of specialist visits per 100 among the Medicare population was relatively stable for four of the states (Arkansas, Maine, Massachusetts, and Minnesota), though such visits decreased in Oregon and Vermont. Analysis of these measures among the dual Medicare-Medicaid enrollee and other Medicare enrollee populations yielded similar results (*Appendix Tables E-3* and *E-4*).

**Table 2-2. Care coordination measures for the commercially insured population in MarketScan**

<b>SIM Test state</b>		<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>	<b>Number of visits to primary care providers per 100 members</b>	<b>Number of visits to specialists per 100 members</b>
Comparison group	Year			
<b>Arkansas</b>	<b>2010</b>	<b>31</b>	<b>280</b>	<b>185</b>
	<b>2011</b>	<b>31</b>	<b>276</b>	<b>177</b>
	<b>2012</b>	<b>30</b>	<b>279</b>	<b>180</b>
Comparison group	2010	30	288	233
	2011	29	296	217
	2012	30	310	225
<b>Maine<sup>a</sup></b>	<b>2010</b>	<b>37</b>	—	—
	<b>2011</b>	<b>40</b>	—	—
	<b>2012</b>	<b>41</b>	—	—
Comparison group	2010	33	—	—
	2011	34	—	—
	2012	34	—	—
<b>Massachusetts</b>	<b>2010</b>	<b>36</b>	<b>329</b>	<b>247</b>
	<b>2011</b>	<b>36</b>	<b>321</b>	<b>244</b>
	<b>2012</b>	<b>35</b>	<b>317</b>	<b>228</b>
Comparison group	2010	36	383	251
	2011	36	375	246
	2012	36	397	228
<b>Minnesota</b>	<b>2010</b>	<b>32</b>	<b>284</b>	<b>141</b>
	<b>2011</b>	<b>33</b>	<b>281</b>	<b>140</b>
	<b>2012</b>	<b>34</b>	<b>275</b>	<b>134</b>
Comparison group	2010	33	319	224
	2011	34	320	213
	2012	33	324	196
<b>Oregon</b>	<b>2010</b>	<b>35</b>	<b>264</b>	<b>206</b>
	<b>2011</b>	<b>36</b>	<b>253</b>	<b>193</b>
	<b>2012</b>	<b>36</b>	<b>243</b>	<b>188</b>
Comparison group	2010	33	303	225
	2011	33	298	221
	2012	33	314	205
<b>Vermont</b>	<b>2010</b>	<b>36</b>	<b>391</b>	<b>124</b>
	<b>2011</b>	<b>37</b>	<b>371</b>	<b>122</b>
	<b>2012</b>	<b>37</b>	<b>350</b>	<b>127</b>
Comparison group	2010	32	367	228
	2011	33	348	216
	2012	33	344	209

<sup>a</sup> The number of visits to primary care/specialist providers for Maine are dramatically different than any of the other Test states or comparison groups, suggesting a significant coding difference in the provider specialty type variable; therefore, these data were dropped from the analysis.

**Table 2-3. Care coordination measures for Medicare beneficiaries**

<b>SIM Test state</b>		<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>	<b>Number of visits to primary care providers per 100 members</b>	<b>Number of visits to specialists per 100 members</b>	
Comparison group	Year				
<b>Arkansas</b>	<b>2010</b>	<b>36</b>	<b>379</b>	<b>341</b>	
	<b>2011</b>	<b>50</b>	<b>375</b>	<b>336</b>	
	<b>2012</b>	<b>58</b>	<b>384</b>	<b>340</b>	
	Comparison group	2010	40	419	353
		2011	35	414	351
		2012	39	423	353
<b>Maine</b>	<b>2010</b>	<b>40</b>	<b>368</b>	<b>363</b>	
	<b>2011</b>	<b>42</b>	<b>381</b>	<b>370</b>	
	<b>2012</b>	<b>56</b>	<b>381</b>	<b>366</b>	
	Comparison group	2010	34	443	384
		2011	39	441	382
		2012	49	439	384
<b>Massachusetts</b>	<b>2010</b>	<b>32</b>	<b>456</b>	<b>390</b>	
	<b>2011</b>	<b>39</b>	<b>469</b>	<b>390</b>	
	<b>2012</b>	<b>50</b>	<b>472</b>	<b>396</b>	
	Comparison group	2010	36	455	447
		2011	41	459	443
		2012	51	460	447
<b>Minnesota</b>	<b>2010</b>	<b>45</b>	<b>401</b>	<b>325</b>	
	<b>2011</b>	<b>49</b>	<b>393</b>	<b>326</b>	
	<b>2012</b>	<b>61</b>	<b>400</b>	<b>327</b>	
	Comparison group	2010	36	385	371
		2011	41	385	371
		2012	51	382	369
<b>Oregon</b>	<b>2010</b>	<b>41</b>	<b>363</b>	<b>357</b>	
	<b>2011</b>	<b>48</b>	<b>356</b>	<b>351</b>	
	<b>2012</b>	<b>56</b>	<b>346</b>	<b>346</b>	
	Comparison group	2010	29	436	361
		2011	36	437	356
		2012	47	433	357
<b>Vermont</b>	<b>2010</b>	<b>36</b>	<b>343</b>	<b>416</b>	
	<b>2011</b>	<b>47</b>	<b>337</b>	<b>403</b>	
	<b>2012</b>	<b>59</b>	<b>338</b>	<b>402</b>	
	Comparison group	2010	38	432	401
		2011	42	431	400
		2012	52	430	399

### 2.3.4 Quality of care

One of the three overarching aims of the SIM Initiative is to transform the health care system to deliver better quality care. The Institute of Medicine has defined quality of care as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. Quality-of-care metrics typically show discrepancies between the current standards of care and actual practice.

To measure quality of care for adults (age 18 years and over), we report Prevention Quality Indicators (PQIs), a set of measures that identify quality of care for ambulatory care sensitive conditions (ACSCs). The idea behind PQIs or ACSCs is that certain hospitalizations may be avoided with adequate access to patient-centered, high quality primary care services. We present three PQIs—overall composite, acute condition composite, and chronic condition composite indicators.

To measure the quality of care for young children, we report the percentage of infants who had no well-child visits and those who had six or more well-child visits by the time they turned 15 months—by which age the American Academy of Pediatrics and the Centers for Disease Control and Prevention recommend up to eight well-child check-ups. Because we need 15 months of data on each infant, we are not able to present this measure for 2010. Also, the small number of infants in the database precluded estimation of reliable propensity scores; therefore, we present unweighted percentages for the comparison groups. In future reports, we will include well-child visit measures for older children and additional disease-specific measures for children and adults.

#### ***Commercially insured***

No consistent trends over the baseline period are evident in the PQI composite scores for the commercially insured populations in the six Round 1 Test states and their comparison groups (**Table 2-4**). Based on these PQI measures, Arkansas had the highest rates of preventable hospitalizations, which are more than twice the rates for Oregon—the Test state with the lowest rates. In 2012, Arkansas had an overall composite rate of 680 and acute and chronic composites of 310 and 380, respectively. In contrast, Oregon had overall, acute, and chronic composite rates of 270, 120, and 160, respectively. The composite rates for Maine, Minnesota, and Oregon were consistently higher than the rates of their comparison groups.

**Table 2-4. Rates of hospitalization for composite Agency for Healthcare Research and Quality Prevention Quality Indicator (PQI) clinical conditions for the MarketScan adult population (18 years and over) (per 100,000 covered persons)**

<b>SIM Test state</b>		<b>PQI overall composite</b>	<b>PQI acute composite</b>	<b>PQI chronic composite</b>	
Comparison group	Year				
<b>Arkansas</b>	<b>2010</b>	<b>720</b>	<b>340</b>	<b>390</b>	
	<b>2011</b>	<b>680</b>	<b>330</b>	<b>360</b>	
	<b>2012</b>	<b>680</b>	<b>310</b>	<b>380</b>	
	Comparison group	2010	650	320	340
		2011	630	300	340
		2012	630	300	330
<b>Maine</b>	<b>2010</b>	<b>410</b>	<b>190</b>	<b>220</b>	
	<b>2011</b>	<b>430</b>	<b>210</b>	<b>220</b>	
	<b>2012</b>	<b>390</b>	<b>150</b>	<b>240</b>	
	Comparison group	2010	550	250	320
		2011	590	270	320
		2012	530	240	300
<b>Massachusetts</b>	<b>2010</b>	<b>520</b>	<b>260</b>	<b>270</b>	
	<b>2011</b>	<b>520</b>	<b>250</b>	<b>280</b>	
	<b>2012</b>	<b>420</b>	<b>190</b>	<b>240</b>	
	Comparison group	2010	450	210	240
		2011	470	230	240
		2012	430	190	240
<b>Minnesota</b>	<b>2010</b>	<b>320</b>	<b>160</b>	<b>170</b>	
	<b>2011</b>	<b>340</b>	<b>180</b>	<b>170</b>	
	<b>2012</b>	<b>310</b>	<b>150</b>	<b>170</b>	
	Comparison group	2010	400	200	200
		2011	400	200	200
		2012	360	170	190
<b>Oregon</b>	<b>2010</b>	<b>310</b>	<b>160</b>	<b>150</b>	
	<b>2011</b>	<b>300</b>	<b>140</b>	<b>160</b>	
	<b>2012</b>	<b>270</b>	<b>120</b>	<b>160</b>	
	Comparison group	2010	490	210	290
		2011	470	210	270
		2012	420	180	240
<b>Vermont</b>	<b>2010</b>	<b>540</b>	<b>260</b>	<b>290</b>	
	<b>2011</b>	<b>430</b>	<b>170</b>	<b>260</b>	
	<b>2012</b>	<b>550</b>	<b>260</b>	<b>310</b>	
	Comparison group	2010	510	230	290
		2011	530	240	290
		2012	490	220	280

The percentage of children with well-child visits varied substantially across the six Round 1 Test states during the pre-test period (*Table 2-5*). In 2012, only 1 percent of infants in Maine had no well-child visits by the time they turned 15 months, whereas 11 percent of infants in Arkansas had no well-child visit at 15 months. Similarly, only 42 percent of infants in Arkansas had six or more well-child visits by 15 months, whereas 64 percent of infants in Massachusetts had as many visits. These percentages for Test states were variously higher or lower than those for their comparison groups; however, the Test states with the lowest percentages tended to have comparison groups with the lowest percentages and the Test states with the highest percentages tended to have comparison groups with the highest percentages, validating the appropriateness of the comparison group selection procedures. Only slight improvement in these measures is evident from 2011 to 2012; all Test states have considerable room for future improvement in these measures.

**Table 2-5. Percentage of commercially insured children in MarketScan aged 15 months who have no and six or more well-child visits during their first 15 months of life**

<b>SIM Test state</b>			<b>Six or more well-child</b>	
Comparison group <sup>a</sup>	<b>Year</b>	<b>No well-child visits</b>	<b>visits</b>	
<b>Arkansas</b>	<b>2011</b>	<b>13</b>	<b>39</b>	
	<b>2012</b>	<b>11</b>	<b>42</b>	
	Comparison group	2011	9	44
		2012	5	49
<b>Maine</b>	<b>2011</b>	<b>2</b>	<b>57</b>	
	<b>2012</b>	<b>1</b>	<b>58</b>	
	Comparison group	2011	3	61
		2012	3	64
<b>Massachusetts</b>	<b>2011</b>	<b>1</b>	<b>65</b>	
	<b>2012</b>	<b>2</b>	<b>64</b>	
	Comparison group	2011	2	56
		2012	2	61
<b>Minnesota</b>	<b>2011</b>	<b>3</b>	<b>50</b>	
	<b>2012</b>	<b>3</b>	<b>56</b>	
	Comparison group	2011	5	46
		2012	5	49
<b>Oregon</b>	<b>2011</b>	<b>4</b>	<b>54</b>	
	<b>2012</b>	<b>5</b>	<b>50</b>	
	Comparison group	2011	4	53
		2012	5	56
<b>Vermont</b>	<b>2011</b>	<b>4</b>	<b>55</b>	
	<b>2012</b>	<b>5</b>	<b>57</b>	
	Comparison group	2011	4	59
		2012	3	63

<sup>a</sup> Due to the small sample size of children who turned 15 months in a given year, we were unable to apply propensity score weights to the comparison group for the well-child visit measure. We report the unweighted values for the three comparison states combined.

## Medicare

Medicare beneficiaries had significantly higher rates of ACSCs than the commercially insured population (**Table 2-6**). Like the commercially insured population though, we see no consistent trends over the baseline period. For Medicare beneficiaries in the Test states, the composite hospitalization PQIs were slightly lower than or equivalent to the composite PQIs for their comparison groups. Arkansas again had the highest and Oregon the lowest rates of ACSCs among the Test states, but the differences are not nearly as great. In 2012, the acute composite PQI was 41 percent higher in Arkansas compared to Oregon (1,040 versus 740), the chronic composite PQI 26 percent higher (1,070 versus 850), and the overall composite PQI 32 percent higher (1,990 versus 1,510).

**Table 2-6. Rates of hospitalization for composite Agency for Healthcare Research and Quality Prevention Quality Indicator (PQI) clinical conditions for the Medicare population (per 100,000 beneficiaries)**

SIM Test state	Year	PQI overall composite	PQI acute composite	PQI chronic composite
Arkansas	Comparison group			
	2010	2,150	1,100	1,200
	2011	2,150	1,090	1,210
	2012	2,110	1,080	1,180
	2010	2,010	1,070	1,090
	2011	2,040	1,080	1,090
Maine	Comparison group			
	2010	2,000	950	1,180
	2011	2,030	980	1,180
	2012	1,930	920	1,130
	2010	1,800	870	1,050
	2011	1,910	960	1,070
Massachusetts	Comparison group			
	2010	1,900	960	1,050
	2011	1,930	990	1,040
	2012	1,860	930	1,030
	2010	1,980	1,000	1,100
	2011	1,960	1,000	1,080
Minnesota	Comparison group			
	2010	1,710	910	890
	2011	1,710	910	890
	2012	1,640	850	870
	2010	1,640	850	880
	2011	1,690	870	910
Oregon	Comparison Group			
	2010	1,730	840	990
	2011	1,720	840	970
	2012	1,640	780	940
	2010	1,600	800	880
	2011	1,580	800	860
Vermont	Comparison group			
	2010	1,980	1,000	1,110
	2011	2,010	1,030	1,110
	2012	1,920	960	1,070
	2010	1,870	1,020	960
	2011	1,900	1,060	960



### 2.3.5 Utilization

As incentives and other mechanisms to improve the efficiency and quality of care are implemented, another expected outcome of the SIM Initiative is an impact on utilization rates for certain health care services, such as hospital admissions and ER visits. We present here initial baseline utilization measures for the commercially insured population in MarketScan and Medicare beneficiaries, for both the Round 1 Test states and their comparison groups.

#### *Commercially insured*

As health care systems attempt to emphasize preventive and coordinated care, rates of all-cause acute care hospitalizations per 1,000 covered persons should fall. We found evidence of decreasing hospitalization rates in both Test and comparison states during the baseline period. Baseline assessment among the Round 1 Test states indicates that all six states exhibited declining all-cause rates of hospital admissions from 2010 to 2012 (*Table 2-7*). During this period, Vermont had the lowest absolute rates of admissions, at 44 per 1,000 in 2010 and dropping to 43 per 1,000 in 2012. Arkansas had the highest initial absolute rates, at 64 per 1,000 in 2010 and dropping to 62 per 1,000 in 2012. Minnesota rates and the change over the baseline period were similar. Maine and Oregon exhibited the steepest rate of decrease among the Test group, with rates that declined from 51 per 1,000 in 2010 to 47 per 1,000 in 2012 in Maine and from 55 to 51 per 1,000 in Oregon. Rates and trends were similar in Massachusetts.

As primary care and care management improve at the state level, use of ERs as a source of care may decrease more rapidly. The baseline analysis of the rate of all-cause ER visits per 1,000 from 2010 to 2012 suggests that some, but not all, Test states had already begun this shift in care (*Table 2-7*). Rates of all-cause ER visits declined in Maine, Massachusetts, and Oregon. Rates were relatively stable in Vermont and exhibited a modest increase in Minnesota. But in Arkansas, rates of all-cause ER visits increased substantially, growing from 216 per 1,000 in 2010 to 244 per 1,000 by 2012. The number of ER visits per 1,000 covered persons not resulting in a hospitalization showed minor variation from 2010 to 2012 (*Table 2-7*). In Oregon, rates were relatively constant, beginning at 147 per 1,000 and ending the baseline period at 143 per 1,000 covered persons. An increase in ER visits not resulting in a hospitalization is evident in Arkansas, Minnesota, and Vermont during the baseline period. Maine and Oregon exhibited slight decreases in rates.

Round 1 Test states also emphasized improved quality of care and care coordination. With improved quality of care and care coordination, we expect hospital readmissions to decrease over time, potentially accelerating trends we observe in this baseline period. Our baseline analysis suggests mixed findings for the six Test states on this measure (*Table 2-7*). In Massachusetts and Minnesota, readmission rates were relatively stable. Maine and Vermont achieved more substantial decreases. Rates increased by modest levels in Oregon and substantially in Arkansas (from 112 to 126 per 1,000 discharges) from 2010 to 2012.

**Table 2-7. Utilization measures for the commercially insured population in MarketScan**

<b>SIM Test state</b>		<b>All-cause hospital admissions per 1,000 members</b>	<b>All-cause emergency room visits per 1,000 members</b>	<b>Emergency room visits that did not lead to hospitalization per 1,000 members</b>	<b>Readmissions per 1,000 discharges</b>
<b>Comparison group</b>	<b>Year</b>				
<b>Arkansas</b>	<b>2010</b>	<b>64</b>	<b>216</b>	<b>194</b>	<b>112</b>
	<b>2011</b>	<b>64</b>	<b>232</b>	<b>210</b>	<b>131</b>
	<b>2012</b>	<b>62</b>	<b>244</b>	<b>222</b>	<b>126</b>
Comparison group	2010	51	187	170	101
	2011	51	200	182	105
	2012	51	210	191	102
<b>Maine</b>	<b>2010</b>	<b>51</b>	<b>261</b>	<b>241</b>	<b>111</b>
	<b>2011</b>	<b>48</b>	<b>257</b>	<b>238</b>	<b>111</b>
	<b>2012</b>	<b>47</b>	<b>249</b>	<b>231</b>	<b>103</b>
Comparison group	2010	66	258	232	113
	2011	65	265	238	114
	2012	62	264	238	114
<b>Massachusetts</b>	<b>2010</b>	<b>61</b>	<b>225</b>	<b>202</b>	<b>119</b>
	<b>2011</b>	<b>60</b>	<b>226</b>	<b>203</b>	<b>114</b>
	<b>2012</b>	<b>57</b>	<b>216</b>	<b>195</b>	<b>120</b>
Comparison group	2010	56	210	189	131
	2011	53	215	194	137
	2012	48	210	191	123
<b>Minnesota</b>	<b>2010</b>	<b>63</b>	<b>161</b>	<b>142</b>	<b>130</b>
	<b>2011</b>	<b>63</b>	<b>169</b>	<b>150</b>	<b>137</b>
	<b>2012</b>	<b>62</b>	<b>172</b>	<b>153</b>	<b>131</b>
Comparison group	2010	57	184	166	106
	2011	56	191	172	116
	2012	51	176	158	112
<b>Oregon</b>	<b>2010</b>	<b>55</b>	<b>162</b>	<b>147</b>	<b>95</b>
	<b>2011</b>	<b>54</b>	<b>161</b>	<b>146</b>	<b>95</b>
	<b>2012</b>	<b>51</b>	<b>158</b>	<b>143</b>	<b>102</b>
Comparison group	2010	58	192	173	121
	2011	55	188	169	113
	2012	50	177	159	115
<b>Vermont</b>	<b>2010</b>	<b>44</b>	<b>218</b>	<b>202</b>	<b>142</b>
	<b>2011</b>	<b>47</b>	<b>221</b>	<b>204</b>	<b>149</b>
	<b>2012</b>	<b>43</b>	<b>220</b>	<b>206</b>	<b>136</b>
Comparison group	2010	60	212	189	110
	2011	56	211	189	108
	2012	52	204	184	104

## Medicare

With higher utilization rates relative to the commercially insured populations, Test states may have an opportunity to lower rates of utilization for their Medicare populations through spillover effects of the SIM Initiative. Baseline analysis indicates that all six states exhibited at least modestly declining all-cause rates of hospital admissions from 2010 to 2012 among Medicare beneficiaries (*Table 2-8*). During this period, Vermont and Oregon had the lowest absolute rates of admissions. Arkansas and Massachusetts had the highest initial absolute rates but substantial decreases in admissions over time—with rates that declined from 346 per 1,000 in 2010 to 306 per 1,000 in 2012 in Massachusetts and 327 to 304 per 1,000 in Arkansas.

**Table 2-8. Utilization measures for Medicare beneficiaries**

SIM Test state		All-cause hospital admissions per 1,000 members	All-cause emergency room visits per 1,000 members	Emergency room visits that did not lead to hospitalization per 1,000 members	Readmissions per 1,000 discharges	
Arkansas	2010	327	687	497	170	
	2011	316	699	504	176	
	2012	304	707	516	169	
	Comparison group	2010	359	749	521	173
		2011	345	762	536	177
		2012	323	771	555	172
Maine	2010	274	825	654	157	
	2011	268	840	674	158	
	2012	246	834	682	152	
	Comparison group	2010	354	816	565	177
		2011	347	833	578	179
		2012	324	835	595	172
Massachusetts	2010	346	792	522	188	
	2011	335	792	525	187	
	2012	306	786	544	180	
	Comparison group	2010	318	770	521	175
		2011	311	780	532	177
		2012	290	779	544	171
Minnesota	2010	298	627	454	165	
	2011	290	657	483	166	
	2012	277	686	517	164	
	Comparison group	2010	269	626	470	154
		2011	262	642	483	154
		2012	250	656	502	150
Oregon	2010	234	580	446	141	
	2011	229	583	450	144	
	2012	216	578	451	140	
	Comparison group	2010	296	653	459	172
		2011	288	660	466	177
		2012	274	664	478	173
Vermont	2010	229	666	547	144	
	2011	227	676	551	148	
	2012	219	689	565	146	
	Comparison group	2010	316	710	524	172
		2011	307	728	539	174
		2012	286	728	552	168

The baseline analysis of the rate of all-cause ER visits per 1,000 from 2010 to 2012 suggests that the Medicare beneficiaries are high utilizers of ER care. Contrary to our findings among the commercially insured population, most Test states exhibited increased rates of all-cause ER visits per 1,000 Medicare beneficiaries during the baseline period (Table 2-8). Rates declined slightly in Massachusetts and Oregon, but increased in all other Test states. In Minnesota, rates of ER visits increased substantially, growing from 627 per 1,000 in 2010 to 686 per 1,000 by 2012. The number of ER visits per 1,000 covered persons not resulting in a hospitalization during the baseline period also varied across the six Test states, though all states exhibited increased rates over time (Table 2-8). In Maine, rates increased significantly from 654 to 682 per 1,000 during the baseline period.

With improved quality of care and care coordination, we might expect fewer hospital readmissions even among the more complex Medicare patients. Our baseline analysis indicates mixed findings for the six Test states on this measure (Table 2-8). In Arkansas, Minnesota, Oregon, and Vermont, readmission rates were relatively stable. Maine and Massachusetts achieved decreases—from 157 to 152 readmissions per 1,000 in Maine and 188 to 180 per 1,000 in Massachusetts.

### 2.3.6 Expenditures

An expected outcome of SIM Initiative activities is a reduction or slowing in rates of health care expenditure growth. We examined baseline trends in a range of MarketScan (for commercial populations) and Medicare expenditure measures for the Test states.

#### *Commercially insured*

Our baseline assessment of total average PMPM commercial population health care expenditures across the Round 1 Test and comparison states yielded mixed results (see **Table 2-9**). All Round 1 Test states exhibited increased total expenditure PMPM rates from 2010 to 2012, with the rate of increase varying by state. Expenditures in Maine, highest in absolute level, were \$298 PMPM in 2010, rising to \$309 PMPM in 2011 before falling slightly to \$305 PMPM in 2012. Oregon exhibited a similar pattern, with expenditures ultimately increasing slightly from 2010 to 2012 (from \$273 PMPM to \$275 PMPM). Total PMPM expenditures in Massachusetts showed a small but consistent increase, averaging \$292 in 2010, \$295 in 2011, and \$297 in 2012. Vermont also showed a small but consistent increase in total expenditure PMPM. Minnesota exhibited the largest rates of increase in total expenditure PMPM, averaging \$242 in 2010, \$265 in 2011, and \$271 in 2012. Rates in Arkansas, though lowest in absolute terms of the Round 1 Test states, increased steadily (from \$182 PMPM in 2010, to \$188 PMPM in 2011, and to \$194 PMPM in 2012).

**Table 2-9. Average per member per month (PMPM) payment (\$) by type of service for the commercially insured population in MarketScan**

<b>SIM Test state</b>							
Comparison group	Year	Total <sup>a</sup>	Inpatient	Other facility	Professional	Outpatient prescriptions <sup>b</sup>	
<b>Arkansas</b>	<b>2010</b>	<b>182</b>	<b>59</b>	<b>46</b>	<b>75</b>	<b>44</b>	
	<b>2011</b>	<b>188</b>	<b>62</b>	<b>49</b>	<b>76</b>	<b>44</b>	
	<b>2012</b>	<b>194</b>	<b>62</b>	<b>54</b>	<b>79</b>	<b>46</b>	
	Comparison group	2010	166	44	51	69	46
		2011	177	48	57	72	54
		2012	186	50	61	74	53
<b>Maine</b>	<b>2010</b>	<b>298</b>	<b>76</b>	<b>128</b>	<b>93</b>	<b>58</b>	
	<b>2011</b>	<b>309</b>	<b>78</b>	<b>131</b>	<b>100</b>	<b>63</b>	
	<b>2012</b>	<b>305</b>	<b>79</b>	<b>129</b>	<b>97</b>	<b>63</b>	
	Comparison group	2010	259	64	95	99	58
		2011	271	66	103	101	60
		2012	282	68	112	102	60
<b>Massachusetts</b>	<b>2010</b>	<b>292</b>	<b>70</b>	<b>103</b>	<b>119</b>	<b>54</b>	
	<b>2011</b>	<b>295</b>	<b>71</b>	<b>102</b>	<b>121</b>	<b>53</b>	
	<b>2012</b>	<b>297</b>	<b>72</b>	<b>102</b>	<b>123</b>	<b>56</b>	
	Comparison group	2010	273	68	88	116	60
		2011	280	69	93	118	63
		2012	277	67	98	112	60
<b>Minnesota</b>	<b>2010</b>	<b>242</b>	<b>68</b>	<b>58</b>	<b>119</b>	<b>42</b>	
	<b>2011</b>	<b>265</b>	<b>72</b>	<b>66</b>	<b>126</b>	<b>44</b>	
	<b>2012</b>	<b>271</b>	<b>75</b>	<b>67</b>	<b>126</b>	<b>44</b>	
	Comparison group	2010	242	68	76	97	45
		2011	263	76	83	104	49
		2012	253	72	80	101	50
<b>Oregon</b>	<b>2010</b>	<b>273</b>	<b>71</b>	<b>80</b>	<b>121</b>	<b>44</b>	
	<b>2011</b>	<b>278</b>	<b>76</b>	<b>81</b>	<b>120</b>	<b>44</b>	
	<b>2012</b>	<b>275</b>	<b>75</b>	<b>83</b>	<b>116</b>	<b>45</b>	
	Comparison group	2010	227	64	69	94	56
		2011	237	68	73	96	56
		2012	230	66	72	91	52
<b>Vermont</b>	<b>2010</b>	<b>285</b>	<b>55</b>	<b>130</b>	<b>99</b>	<b>54</b>	
	<b>2011</b>	<b>296</b>	<b>65</b>	<b>130</b>	<b>101</b>	<b>50</b>	
	<b>2012</b>	<b>299</b>	<b>60</b>	<b>138</b>	<b>100</b>	<b>54</b>	
	Comparison group	2010	238	60	85	92	55
		2011	235	58	88	89	54
		2012	234	57	90	87	54

<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

<sup>b</sup> Denominator only includes members with drug claims captured in MarketScan.

For total PMPM payments by age group (PMPM payment analyses by age are provided in *Appendix Table E-12*), spending for infants was much higher than payments for adults and their children in the baseline period for all six Test states. In Arkansas, payments for infants were more than three times the total PMPM average for adults; Maine and Vermont experienced the lowest variation, with rates only about 50 percent higher for infants (depending on the year).

Payments to short-stay inpatient hospitals—a major source of total health care expenditures—followed similar baseline trends, with all Test states exhibiting increased expenditures during the pre-test period. At \$76 PMPM, Maine had the highest inpatient payments of the Round 1 Test states in 2010, as well as in 2012 (\$78 PMPM). Inpatient payments in Oregon followed total expenditure patterns, increasing from 2010 to 2011 but then decreasing slightly by 2012. Vermont followed a similar pattern. Over the 3-year period, inpatient expenditures increased in Arkansas from \$59 PMPM to \$62 PMPM, in Massachusetts from \$70 PMPM to \$72 PMPM, and in Minnesota from \$68 PMPM to \$75 PMPM.

Rates for infants were the highest in all states, and all states faced accelerating costs for this small but expensive age group (*Appendix Table E-13*). Rates among adults and children were much more moderate and stable for the Test states during the baseline period.

Average other facility PMPM payments varied across Test states for the baseline period (summarized in Table 2-9). Arkansas, Minnesota, and Vermont showed the largest increases PMPM from 2010 to 2012; Vermont also had the highest average spending. Net rates of increase for Maine and Oregon were small. Massachusetts exhibited the only decrease in other facility payments over the baseline period, dropping slightly from \$103 PMPM to \$102 PMPM. Professional services PMPM payments, including physician expenditures, increased for most Test states, including Arkansas (with the lowest average expenditures), Maine, Massachusetts, Minnesota, and Vermont. By comparison, professional service expenditures decreased in Oregon, from \$121 PMPM in 2010 to \$116 PMPM in 2012.

Different from total and inpatient payments, payments for other facility services were generally higher among adults relative to children and infants (*Appendix Table E-14*). Average PMPM payments in Maine, Massachusetts, and Vermont were significantly higher in the adult populations relative to the other three Test states (Arkansas, Minnesota, and Oregon), suggesting a particular opportunity for improvement in cost containment.

Average professional payments include physician services (including primary care). Trends for most Test states were stable over the baseline period, though rates varied by state. Minnesota and Massachusetts had the highest PMPM payments (\$123 and \$126, respectively, in 2012). Spending was lowest in Arkansas (\$79 PMPM in 2012). Spending decreased slightly in Oregon, dropping from \$121 PMPM to \$116 PMPM.

Payments for professional services also varied by age group, with infants generally exhibiting the highest PMPM payments relative to adults, and then children (*Appendix Table E-15*). Rates for adults were generally stable during the baseline period, with the exception of Oregon (whose average PMPM for professional services fell by \$7) and Minnesota (whose average increased by \$5). Payments for infants increased markedly in all states.

Payments for prescription drugs can be a key driver of overall spending for health care (Table 2-9). The baseline analysis shows some variation in payments for prescription drugs across the Round 1 Test states. All states showed at least a small increase in prescription drug PMPM payments. Oregon's trend was relatively stable, ending at \$45 PMPM in 2012. Prescription drug PMPM payments were highest in Maine (reaching \$63 PMPM in 2012) and lowest in Minnesota (\$44 PMPM in 2012). Prescription drug costs were highest on average for adults, followed by children, and lowest for the infant population (*Appendix Table E-16*). Rates were relatively stable across the baseline period for all Test states.

### **Medicare**

Overall, average PMPM expenditure rates for the Medicare population are substantially higher than for the commercially insured population, reflecting the lower relative health status of the elderly and disabled groups (*Table 2-10*). Total average PMPM payments for Medicare beneficiaries increased from 2010 to 2012 for all Test states, though the rates of increase varied. Massachusetts had by far the largest total Medicare PMPM payments (increasing from \$904 in 2010 to \$924 in 2012). Medicare enrollees in Oregon had the lowest (increasing from \$598 in 2010 to \$612 in 2012). Arkansas, Maine, Minnesota, and Vermont experienced modestly increased rates of growth in total Medicare PMPM payments, increasing by \$20 or less during the baseline period. Total PMPM payments were higher for the dual Medicare-Medicaid enrollees relative to other Medicare enrollees, with payments highest in Massachusetts for both groups (*Appendix Table E-17*).

Changes in average inpatient PMPM payments for Medicare enrollees also varied across the Test states. Inpatient service PMPM payments were lowest in Oregon, decreasing slightly from \$226 to \$225 between 2010 and 2012. Minnesota inpatient payments were higher in absolute terms but also decreased by \$1 PMPM during the baseline period. Inpatient payments in Arkansas and Maine decreased at a more moderate level. Inpatient services in Vermont exhibited average PMPM payments similar to Arkansas, Minnesota, and Oregon, but increased slightly from \$249 to \$252 from 2010 to 2012. Similar to trends in total spending, inpatient expenditures in Massachusetts were significantly higher than in any other state at baseline and increased from \$368 PMPM in 2010 to \$374 PMPM by 2012.

**Table 2-10. Average per member per month (PMPM) payment (\$) by type of service for Medicare beneficiaries**

<b>SIM Test state</b>					
Comparison group	Year	Total	Inpatient	Other facility	Professional
<b>Arkansas</b>	<b>2010</b>	<b>677</b>	<b>275</b>	<b>197</b>	<b>205</b>
	<b>2011</b>	<b>684</b>	<b>272</b>	<b>205</b>	<b>207</b>
	<b>2012</b>	<b>688</b>	<b>270</b>	<b>212</b>	<b>206</b>
Comparison group	2010	761	293	251	217
	2011	766	288	258	219
	2012	756	279	258	220
<b>Maine</b>	<b>2010</b>	<b>661</b>	<b>240</b>	<b>262</b>	<b>159</b>
	<b>2011</b>	<b>680</b>	<b>239</b>	<b>277</b>	<b>164</b>
	<b>2012</b>	<b>673</b>	<b>232</b>	<b>277</b>	<b>164</b>
Comparison group	2010	818	319	276	223
	2011	838	323	291	225
	2012	831	315	291	226
<b>Massachusetts</b>	<b>2010</b>	<b>904</b>	<b>368</b>	<b>316</b>	<b>220</b>
	<b>2011</b>	<b>920</b>	<b>367</b>	<b>329</b>	<b>223</b>
	<b>2012</b>	<b>924</b>	<b>374</b>	<b>328</b>	<b>222</b>
Comparison group	2010	858	331	283	245
	2011	866	328	292	246
	2012	856	321	291	244
<b>Minnesota</b>	<b>2010</b>	<b>667</b>	<b>271</b>	<b>229</b>	<b>168</b>
	<b>2011</b>	<b>685</b>	<b>272</b>	<b>244</b>	<b>169</b>
	<b>2012</b>	<b>692</b>	<b>270</b>	<b>248</b>	<b>174</b>
Comparison group	2010	657	241	228	187
	2011	672	240	242	191
	2012	684	243	247	194
<b>Oregon</b>	<b>2010</b>	<b>598</b>	<b>226</b>	<b>199</b>	<b>172</b>
	<b>2011</b>	<b>608</b>	<b>227</b>	<b>205</b>	<b>175</b>
	<b>2012</b>	<b>612</b>	<b>225</b>	<b>211</b>	<b>176</b>
Comparison group	2010	732	279	241	212
	2011	736	275	250	212
	2012	737	272	251	214
<b>Vermont</b>	<b>2010</b>	<b>650</b>	<b>249</b>	<b>268</b>	<b>132</b>
	<b>2011</b>	<b>664</b>	<b>250</b>	<b>281</b>	<b>132</b>
	<b>2012</b>	<b>677</b>	<b>252</b>	<b>285</b>	<b>139</b>
Comparison group	2010	721	272	260	190
	2011	739	273	273	193
	2012	737	268	276	193



Other facility services for Medicare enrollees tended to follow similar patterns within respective states, though rates of increase were higher than for inpatient services; this may reflect an overall trend toward outpatient sites of care. Average payments were lowest in Arkansas, increasing from \$197 PMPM to \$212 PMPM during the baseline period. Similarly, Oregon other facility spending increased from \$199 PMPM to \$211 PMPM. Such payments were higher in absolute terms in Minnesota (ending at \$248 PMPM in 2012), Maine (at \$277 PMPM in 2012), and Vermont (at \$285 PMPM in 2012); payments also increased more rapidly relative to the other Test states. Following the other trends, spending was highest in Massachusetts, increasing from \$316 PMPM to \$328 PMPM over the baseline period.

Average PMPM for other facility services were about 50 percent higher among Medicare-Medicaid enrollees relative to other Medicare enrollees (*Appendix Table E-19*). Similar to total PMPM payments, inpatient PMPM payments were highest in Massachusetts for both Medicare populations.

Average PMPM payments for professional services were generally stable across the Test states over the pre-test period. Vermont had the lowest average, which increased from \$132 to \$139. Massachusetts had the highest. Payments were higher for dual Medicare-Medicaid enrollees compared to other Medicare enrollees (*Appendix Table E-20*).

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## 3. Arkansas

### 3.1 Overview of Arkansas Model

The Arkansas Payment Improvement Initiative (APII) aims to shift health care from encounter-based service to care coordination by incorporating two complementary strategies statewide: (1) episode-based payment for acute medical episodes, acute procedures, and select chronic conditions managed by specialists; and (2) population-based advanced primary care via patient-centered medical homes (PCMHs) and health homes for medically complex patients.

APII's retrospective episode-based models reward coordinated, team-based care for specific conditions and procedures. A designated principal accountable provider (PAP) is responsible for all pre-specified services across an episode of care related to specific conditions and procedures. Medicaid is participating in all episodes of care, while commercial payers are participating only in those episodes that have the greatest impact on their enrollee populations. The episode model aims to encourage appropriate use of diagnostic testing, improve quality of care, reduce avoidable complications, and improve adherence to evidence-based treatment. Financial incentives for episodes include gain and risk sharing. As part of APII, Arkansas is also developing prospective, assessment-based episodes with bundled payments for home and community-based services (HCBS) and institutional services for: (1) individuals with developmental disabilities and (2) older adults and individuals with physical disabilities who require long-term services and supports (LTSS).

The PCMH component under APII is a team-based delivery model led by a primary care provider that coordinates patient care across multidisciplinary teams. Arkansas initiated PCMH activities in 2012, when it was awarded a CMS Comprehensive Primary Care Initiative (CPCI) pilot grant. PCMH aims to improve preventive care and improve chronic disease management, while giving patients 24/7 access to the primary care practice. Specifically, PCMH aims to reduce ambulatory-sensitive emergency room (ER) visits, inpatient admissions, and inpatient readmissions. Under the PCMH model, physicians are held responsible for their entire Medicaid patient population and receive monthly per member per month (PMPM) fees to assist in care coordination and practice transformation. Physicians are also eligible for shared savings rewards if they achieve cost savings and quality improvement.

The health homes model, the third component of APII, aims to assist providers in managing patients with special needs—including those requiring behavioral health services, developmental disabilities services, and LTSS. Health homes serve as a local point of access and accountability, coordinating services across delivery systems. Provider incentives for health homes are based on outcomes, evidence-based practices, and wellness promotion. Once fully implemented, providers will receive monthly PMPM fees to support care coordination.

## 3.2 Arkansas Site Visit and Focus Group Report

### 3.2.1 Overview of site visit and focus groups

The site visit and key informant interviews took place February 4–6, 2014, in Little Rock and Searcy. Searcy is approximately 50 miles northeast of Little Rock and was chosen to provide an APII rural perspective. We conducted 21 interviews with key informants—including state officials (12), providers and provider associations (4), payers (3), and health infrastructure experts (2). The purpose of the interviews was to clarify the state’s key approaches and strategies for delivery system transformation and to gain a better understanding of stakeholders’ planning and implementation experiences during the first year of the SIM Initiative.

To collect information on consumers’ and providers’ perspectives and experience with care coordination and care management practices, we also conducted provider and consumer focus groups. On February 25 and 26, 2014, we conducted three provider focus groups in Little Rock and two Medicaid beneficiary focus groups (one in Little Rock and the second in Searcy). One provider focus group included providers who treat Medicaid special needs populations—including providers of developmental disabilities services, behavioral health services, and LTSS—and who are likely to become participants in APII’s health homes component. The second provider focus group included surgeons subject to the surgical episodes of care. The third included providers either already involved or soon to be involved in PCMH. The first Medicaid beneficiary focus group, for adults receiving behavioral health services, was conducted in Little Rock; the second, for Medicaid beneficiaries or caregivers of all ages (including parents of children as well as seniors over age 65 dually eligible for Medicaid and Medicare), was conducted in Searcy. In total, 25 providers and 17 consumers participated in the focus groups.

### 3.2.2 Delivery system and payment models

#### *Governance and project administration*

A core team of executive leaders at Arkansas’ Department of Human Services (DHS) leads APII. In addition to the SIM Project Director, the Divisions of Medical Services (the state Medicaid agency), Aging and Adult Services, Development Disabilities Services, Behavioral Health Services, and the Office of Long-Term Care are very involved in SIM Initiative planning and implementation efforts. Each division leads distinct aspects of APII—such as development of particular episodes for complex chronic conditions (e.g., mental health, home- and community-based services), development of health homes, or the rollout of PCMHs. According to a high-level state official, the organizational structure supporting the APII may shift as Arkansas’ DHS is completing an internal review of the agency’s structure “with the specific goal of building long-term infrastructure to support remaining innovation and the operation of new payment models.”

When payment improvement initiatives began in 2012, Arkansas hired the consulting firm McKinsey & Company to provide technical assistance through a request for proposal (RFP) process. Funding for McKinsey came from the state Medicaid agency, BlueCross BlueShield (BCBS), and QualChoice. McKinsey is working closely with the state, assisting with data collection and claims data analyses for initial episode development and facilitating many of the stakeholder engagement processes. Though the Arkansas Governor Mike Beebe sponsored and is highly supportive of APII, he and his office are not involved in daily operations.

### ***Specifics of care coordination, care management, primary care strategies***

APII's three overarching strategies—episodes of care, PCMHs, and health homes for medically complex patients—mutually reinforce one another to promote value-based primary care with a strong emphasis on care coordination and care management. For all three APII models, providers are encouraged to take a more active role in managing the health of all patients in their panels. If a patient is noncompliant, the provider has a responsibility to explore medical and social determinants that may affect compliance and to work with the patient to improve accountability. APII places the onus on the provider to coordinate clinical care with social and community services, so that patient compliance, and ultimately health outcomes, will improve.

**Retrospective episodes of care.** APII's retrospective episodes determine reimbursement for both acute and complex chronic conditions and procedures. A PAP provides oversight of and is accountable for each episode. The intent is that the PAP will coordinate with a patient's PCMH or health home, ensuring a smooth transition between an acute episode and the primary care system. Providers are required to participate as PAPs if they treat Medicaid patients. Commercial payers are not participating in all Medicaid episodes of care; but for those in which they do participate, all providers in their network are required to participate. When a physician asked in a public meeting whether he had the option of not participating, the payer said, "You don't have to [participate]—but you won't be in our network."

**Patient-centered medical homes.** The PCMH, the principal primary care transformation strategy in Arkansas' SIM Initiative, is a team-based delivery model led by a primary care provider who coordinates 24/7 access to patient care. PCMHs receive a PMPM fee to cover ongoing transformation costs (costs associated with meeting criteria to become a medical home) and care coordination. PCMHs will also be eligible for shared savings if they achieve cost savings and quality metrics.

The Arkansas APII team considers the first wave of their statewide PCMH initiative to have started in 2012, when 69 primary care practices were selected to participate in CMS' CPCI. CPCI is a multi-payer arrangement created by CMS to foster collaboration between public and private health care payers, to strengthen primary care by applying PCMH principles and offering bonuses to primary care providers who better coordinate care for their patients. APII's long-term plans are to roll out PCMH transformation statewide in waves and eventually include all major

payers. To that end, the state Medicaid agency contracted with Qualis Health to help providers with practice transformation. The state is also soliciting a vendor to help practices with care coordination training and technical assistance. As one state official said, “We really want [APII] to transform the system and let primary care own care coordination services.”

**Health homes for medically complex populations.** Health homes function in ways similar to PCMHs, but focus on patients with complex needs who require a high level of care coordination. Arkansas is developing health homes for three patient populations: (1) those with developmental disabilities, (2) those with behavioral health issues including substance abuse (Arkansas had not reimbursed substance abuse treatment previously), and (3) those needing LTSS for chronic conditions. It is unclear whether health homes will be implemented for beneficiaries in nursing facilities or receiving HCBS. One state official said that nursing facilities and HCBS providers will develop health homes, though likely later than the health homes for populations with behavioral health issues or developmental disabilities. In contrast, another state official said that nursing facilities already coordinate their residents’ care, so they have no need to develop health homes. The APII envisions using prospective episodes for LTSS. These are still being developed and will include care coordination elements.

### **Payment reform**

Payment reform is being implemented through: (1) retrospective episodes with risk and gain sharing and (2) PCMH and health homes with PMPM payments and shared savings.

**Retrospective episodes of care.** Episodes of care paid on a retrospective basis are the cornerstone of APII. The first wave of episodes was launched in 2012; additional episodes are continuing to be designed and implemented over time (*Table 3-1*). This payment strategy, which takes disease severity into account using a risk adjustment methodology, is intended to shift from paying providers based on the volume of services supplied to paying them based on the outcomes of the services supplied. Under the retrospective episode approach, providers continue to receive fee-for-service (FFS) payments from payers for all care delivered. At the end of the year, providers either receive a bonus payment (via shared savings) or pay a penalty based on the overall costs associated with each episode for all patients in their panels.

BCBS and QualChoice participate in a subset of the episodes and set their own payment structure. “All of the episodes have both upside and downside risk,” a state official explained. “The levels of that risk vary by payer to avoid anti-trust issues. Quality indicators are the same for all the episodes, though, across payers. But certain payers have more interest in some episodes...depending on their consumer population. For example, Medicaid is the only payer that did the attention deficit episode because they had high exposure on the mental health side from kids.” One commercial payer said it will require the large employer groups it administers to participate in episodes, because the initiative needs as much payer participation as possible.

**Table 3-1. Arkansas episodes of care—status of implementation**

Episode & wave	Legislative review	SPA effective date	Reporting period start date/episode launch	First performance period ends	Payers
<b>Wave 1a</b>					
1-3. URI	Spring 2012	10/1/12	7/31/12	9/30/13	Medicaid
4. ADHD	Spring 2012	10/1/12	7/31/12	12/31/13	Medicaid
5. Perinatal	Spring 2012	10/1/12	7/31/12	9/30/13	Medicaid, BCBS, QualChoice
<b>Wave 1b</b>					
6. CHF	Nov 2012	2/1/13	11/30/12	12/31/13	Medicaid, BCBS
7. Total Joint	Nov 2012	2/1/13	11/30/12	12/31/13	Medicaid, BCBS, QualChoice
<b>Wave 2a</b>					
8. Colonoscopy	May 2013	10/1/13	7/31/13	9/30/14	Medicaid, BCBS, QualChoice
9. Gallbladder	May 2013	10/1/13	7/31/13	9/30/14	Medicaid, BCBS, QualChoice
10. Tonsillectomy	May 2013	10/1/13	7/31/13	9/30/14	Medicaid, BCBS
11. ODD	July 2013	10/1/13	10/31/13	03/31/15	Medicaid
<b>Wave 2b</b>					
12. CABG	July 2013	10/1/13	1/31/14	3/31/15	Medicaid, BCBS
13. Asthma	July 2013	10/1/13	4/30/14	06/30/15	Medicaid, BCBS, QualChoice
14. PCI	July 2013	10/1/13	TBD	TBD	Medicaid, BCBS, QualChoice
15. COPD	July 2013	10/1/13	07/31/14 <sup>a</sup>	10/31/15	Medicaid, BCBS
16-23. Neonatal	Q2 CY 2014	TBD	TBD	TBD	Medicaid
24. ADHD-ODD	Q2 CY 2014	10/1/13	TBD	TBD	Medicaid

Sources: Personal communication with Division of Medical Services staff, May 19, 2014; Multi-Payer Episode Chart on the APII website, dated May 1, 2014; State Plan Amendments 12-10, 13-03, 13-05.

<sup>a</sup> Anticipated

Note: ADHD = attention deficit hyperactivity disorder, BCBS = Blue Cross Blue Shield, CABG = coronary artery bypass graft, CHF = congestive heart failure, COPD = chronic obstructive pulmonary disease, ODD = oppositional defiant disorder, PCI = percutaneous coronary intervention, URI = upper respiratory infection

Revised May 19, 2014

**Patient-centered medical homes.** PCMHs receive risk-adjusted PMPM payments, may qualify for shared savings, and are subject to risk and gain sharing for any episodes they manage. The PMPM replaces the Medicaid Primary Care Case Management fee primary care providers formerly received for most of their Medicaid patients. Shared savings are expected to have a more transformative impact on primary care than the PMPMs, because providers can benefit from the savings if they maintain adequate quality levels. “We’re addressing the disparity of the distribution of the medical care dollar,” said a state official. “We’re asking them to do more things and take a lead role. Compensation has to change. We have to change the way things happen.”

One challenge for practices wishing to participate in PCMH is the requirement that a PCMH have a minimum panel of 5,000 patients to be eligible for shared savings. Many practices do not serve enough patients to achieve this threshold on their own. To enable small practices to participate, Arkansas Medicaid allows smaller practices to pool their patients with one other practice of their choosing or to be assigned to a default practice pool.

Medicaid coordinated its PCMH initiative with CPCI. Medical practices that qualify for both programs may enroll in both CPCI and the Medicaid PCMH program. Practices may qualify for Medicaid and Medicare shared savings but will receive PMPM payments from only one payer for each patient. Commercial payers, using their own payment strategy, are also participating in both the PCMH initiative and CPCI. A state official said that one strategy used by one payer is to reduce payments to specialists for procedures that could be provided by primary care providers.

**Health homes for medically complex populations.** The three health home models for LTSS, developmental disabilities, and behavioral health are each being developed independently, with separate work groups and for different provider types. However, the payment methodology for all three types of health homes was described the same way by state officials. The state plans to pay for health home services with PMPM payments will be risk-adjusted, based on each patient's impairment level as determined by assessment. Each year, a larger portion of the PMPM payments will be at risk, based on performance, until the withhold reaches 40 percent in the fifth year. Gain and risk sharing will not be used for health home providers.

Arkansas has already implemented a uniform assessment, the interRAI-Home Care, for older adults and adults with physical disabilities using services under the HCBS waiver. The state is using a related assessment, the interRAI-Developmental Disabilities, to determine functional impairments and resource needs of participants in the developmental disabilities waiver.

**Prospective assessment-based episodes.** Prospective episodes are under development for LTSS and developmental disabilities services. The prospective episode payment method uses risk-adjusted PMPMs, with a portion at risk based on performance. Risk adjustment is based on standardized functional assessments, matched with past claims data, to set reimbursement levels for individuals with differing levels of impairment in different settings. Specifically, assessment scores are used to sort individuals into Resource Utilization Groups, which determine reimbursements for 12-month episodes of care that will be paid prospectively in monthly bundled payments. One state official described the system as a Resource Utilization Group-based case-mix payment system.

State officials plan to implement prospective payments for LTSS concurrent with implementation of Community First Choice Option (CFCO). Enrollment in CFCO is based on



financial and medical eligibility and will provide HCBS to Medicaid beneficiaries with the following disabilities, so they do not have to enter institutional care settings: (1) intellectual, (2) developmental, (3), physical, and/or (4) age-related and behavioral health. Arkansas recently submitted its CFCO state plan amendment (SPA), and many waiver services will eventually be shifted to CFCO.

Two complicating factors for the LTSS population have been: (1) determining the PAP for individuals who self-direct their attendant care and (2) identifying appropriate quality metrics. The state plans on using the interRAI Home Care Assessment System, which is focused on patient functional and cognitive decline. The assessment was designed to measure primarily overall system quality rather than provider-level performance. State officials now plan to include only attendant care services in the HCBS/LTSS episodes, leaving other services in FFS. The PAPs for the episodes will be provider agencies that provide attendant care in the home. State officials said that assisted living arrangements, an HCBS waiver service used by frail older adults, has many characteristics of institutional care and may need to be considered separately.

In contrast, the state plans to include all developmental disabilities services in the developmental disabilities–based HCBS episode, because a single developmental disabilities provider agency typically provides all of an individual’s waiver and SIM plan HCBS. State officials are exploring the possibility of replacing facility-based Developmental Day Treatment Center Services with 1915(i) State Plan Home and Community-based Services. If 1915(i) is implemented for the developmental disabilities population, the state plans to develop prospective episode payments.

### **3.2.3 Enabling strategies**

#### ***Physician, consumer, and other stakeholder engagement***

According to Arkansas’ original SIM plan and its subsequent operational plan, the state has worked closely with payer, provider, and public stakeholders to design and implement new delivery and payment approaches that encompass APII. Since 2011, state leaders responsible for implementing APII have engaged more than 500 stakeholders statewide through multi-payer work groups, with more than 20 work group meetings. Input from these work groups was used to substantially define the direction of the overall initiative. Many providers and other stakeholders were deeply involved and supportive at the earliest planning stages. For example, providers actually demanded that the state reconsider the episode of care model to be retrospectively determined rather than prospectively calculated. Despite this major contribution from providers early on, our overall findings from interviews and focus groups with providers and provider associations revealed that the extent of physician engagement has not been as great as they would have liked.

Most physicians we interviewed were aware of the significant efforts APII state leaders made in the earliest development stages to provide outreach through town hall meetings, work

group meetings, and steering committees. That said, some physicians felt that by the time outreach efforts began, decisions on the payment approaches were already decided and there was little opportunity to voice differing opinions or alternative ways to transform the delivery system. According to one provider, “we [providers] think the models make a fair amount of sense, but it has had poor implementation. We particularly do not like the episodes.” Other providers shared this sentiment—that they support the overall initiative to move the payment and delivery system to one that is more patient-centered and rewards improved performance and higher quality, but they have not been satisfied with the design of several episodes and want to see state leadership engage more with the provider community to make improvements in their design, specifically incorporating more of a clinical focus.

A few physicians in the focus groups remarked that they have already begun to see improvement, with more care coordination and patient education in their practices. One physician commented that, “providing education makes patients more engaged; they feel a little bit more responsible for their health outcomes.” When asked whether patients were impacted by the changes or aware of them, however, most physicians said the patients “didn’t have a clue,” although a few physicians did remark that the patient reactions, so far, have been positive. This is particularly true for patients assigned care coordinators, because they can receive the extra attention from these health care providers without necessarily incurring additional copays.

On a less positive note, focus group physicians seemed confused and even bewildered by all the changes and requirements to reform Arkansas’ health care delivery system toward more value-based purchasing. Most physicians were aware that town hall meetings were being conducted throughout the state, but a few of them commented that the meetings: (1) felt “scripted” or “choreographed” and (2) were driven more by mid-level providers and administrators, with almost no input from physicians because the meetings were held at times when the physicians’ work schedules preventing them from attending.

For the PCMHs, we learned from state officials that one of the most important vehicles for physician engagement has been a group known as the “PCMH Provider Strategic Advisory Group.” This has held several meetings that have included executive leadership from Arkansas Medicaid, the Surgeon General, and a range of physician specialties and advanced practice nurses from across the state. The group draws from a broad range of practice sizes and types (e.g., solo practices, large group practices, rural, urban). According to one state official, the state medical associations have been instrumental in PCMH development and in some cases have entered into contracts with Medicaid to more formally solicit their input. For the state chapters of both the American Academy for Family Physicians and the American Academy of Pediatrics, the experience has been “let’s have learning collaboratives; let’s do online Web events; let’s try to get providers enrolled in PCMH.” State officials remarked that provider engagement and support is likely to hinge critically on payers’ ability to follow through with investments, supporting tools, and meaningful performance incentives. That is why state leadership is

constantly looking at how effectively they are engaging with the physician community, and how they can improve efforts to garner provider support and participation in models like PCMH and health homes.

In terms of patient-level or consumer engagement, state officials stressed that APII is primarily payment reform, and that patient or consumer engagement has been occurring but has not been the primary focus of stakeholder engagement. According to a state leader, “APII is payment reform, not patient reform.” The state argued that the impact on, and engagement by, patients will always be more of a downstream effect. “Our challenge is whether patients and consumers know that something is different, but also that if they’re receiving good quality care we hope this continues.” The state has considered conducting formal surveys with consumers to assess knowledge of APII, but they will not conduct these surveys until the models have been in place for some time and more consumers are being directly or indirectly impacted by the changes.

One state official noted that, in summer 2011, Arkansas DHS convened a public stakeholder work group oriented toward consumers that said: “This is what we’re doing. These are the many things you all thought of, and we all thought of.” More recently, the state held more than 30 statewide public work group meeting sessions, which began in late 2011 and continued throughout 2013, to discuss various episodes of care, ranging from episodes addressing beneficiaries needing LTSS to cholecystectomies. Since late 2012 according to state estimates, 15 sessions were attended—either in person or at videoconference locations across the state—by as many as 100 individuals, many of whom were consumers. When initiating the congestive heart failure (CHF) episode, one consumer stakeholder at an initial set of work group meetings shared her personal story of living with CHF. She soon began to serve in a co-lead role with the work group, which also includes payers and providers, and continued to share her personal experiences. In these meetings, the work groups discussed the goals of the initiative, provided important clinical background, and reviewed and gathered extensive input on the episode under consideration.

Many of the work groups also meet regularly with client, family, and consumer organizations. For example, according to a state official in the behavioral health work group, “[Behavioral health] has done this [consumer engagement] better than any other area. We’ve had upwards of 250 meetings with clients, and they’re all documented.” This state official went on to argue that consumers have had input into every word in the service definition list for the 1915(i) waiver. For development of behavioral health homes, another state official commented that, “if we’ve done nothing else right, it’s been that we’ve heavily engaged stakeholders.” Many consumer groups—including the American Association of Retired Persons, National Alliance on Mental Illness, and the Arkansas Mental Health Planning and Advisory Council, to name a few—have been involved in developing the health homes model. The Arkansas Healthcare Association has also been involved from the health care facility side.

The early experiences engaging LTSS stakeholders have been more tenuous. State leaders commented that when holding initial engagement meetings, the stakeholders would attend meetings and just “sit there, not really engaged.” By summer 2013, more conflict and friction occurred, primarily because the nursing home industry stakeholders were resisting development of episodes for the long-term care setting. Other stakeholder types began feeling less engaged and questioned whether decisions were being made around the design of the episodes without their involvement. It was only when the state decided to separate the nursing home stakeholders from the HCBS stakeholders that the tenor of the meetings changed, the stakeholders became engaged, and the workshops became more productive.

### **Health information technology**

**Data analysis and support.** According to Hewlett Packard, one of the contractors on APII—the Medicaid Management Information System (MMIS)—is being used by the state Medicaid agency for implementing APII activities. Specifically, Hewlett Packard maintains Arkansas’ MMIS and has General Dynamics Information Technology as its subcontractor. BCBS has its own independent databases and analytic capability, and BCBS’ Advanced Health Information Network (AHIN) is the portal through which the providers get their reports, both for episodes of care and for PCMH.

According to interviews with state officials, the contractors have been instrumental in providing the data support needed for moving APII forward. McKinsey, in particular, has been integral to implementing APII, by working with state officials and with the data contractors to develop the episode algorithms as they were specified by the clinical work groups. Hewlett Packard oversees the technical aspects of APII systems implementation and ensures quality control. General Dynamics programs the algorithms to calculate the episodes and payments, develops the PAP reports, and runs the algorithms using Arkansas claims data.

**Health information exchange.** In addition to systems for handling claims data, the state began developing a health information exchange (HIE)—the State Health Alliance for Records Exchange (SHARE) in 2009—and was awarded a grant from the Office of the National Coordinator (ONC) in 2010. As of February 2014, SHARE is able to connect 14 hospital systems and nearly 150 practices, ranging in size from solo practices to federally qualified health clinics and large clinics. The ONC grant funds lasted until February 2014. SHARE executives expressed concern that the SIM award did not include funding for continued development and implementation of SHARE, especially given the requirement that all PCMHs connect to SHARE to obtain hospitalization information. Because nothing had been planned or budgeted to create this functionality, SHARE executives applied to CMS for Medicaid Implementation Advance Planning funds.

SHARE made strides negotiating statewide agreements with electronic health records (EHR) vendors, to arrange modest fees for helping practices connect their EHRs to SHARE.

Although some practices are still complaining that the negotiated rates are too high for them to connect, they recognize the importance of communicating with one another for coordination of care, especially with regard to referrals. Some providers lamented the demise of referral letters that stated, concisely, the patient's condition and reason for consult. Now, they are being overwhelmed by reams of paper from colleagues' EHRs. One provider noted, "When a patient is referred from an organization for a very simple issue, you'll receive 75 pages of medical records about the patient's seat belt usage, vaccinations they received as a child, etc. So you're flipping through all of that to find something relevant to the referral, and then you have to scan [all the extraneous information] into your system."

With regard to sharing information across all health care constituencies, state officials caution that there has been "a lot of magical thinking" about the assumptions regarding the amount of time, effort, and money it takes to make an HIE functional. For example, although SHARE use was conceptualized as part of the SIM award, no money was earmarked for SHARE personnel or additional implementation requirements.

Now that many of the infrastructure pieces are in place, practices and hospitals are more engaged and reaching out to be connected. For example, SHARE has an agreement with the largest accountable care organization (ACO) in the state, Fort Smith, to connect their 65 providers scattered across many counties. Eventually, once everyone recognizes the value that SHARE brings, SHARE administrators would like to be the conduit for providers to transmit quality measure data to CMS.

Overall, state officials note that one of the major obstacles has been lack of a planning effort regarding health information technology (health IT) use in the state. Arkansas does not have a clearly articulated plan for how BCBS' AHIN, the all-payer claims database, and SHARE can work together. Many stakeholders said these infrastructure pieces are being put up in silos without considering how to "connect these dots." Without coordinating up front, they argue, it will cost more later on. State officials have made it clear that SHARE's primary goal is to move clinical data to improve care, not to hoard the data. One state official indicated that the state would benefit if federal agencies (such as ONC, the Centers for Disease Control and Prevention, and the Center for Medicare and Medicaid Innovation) would get everyone in one room and encourage cooperation and collaboration with the HIEs to meet public health and health care needs, although it is almost too late for this to occur in Arkansas. According to one state official, "[American Recovery and Reinvestment Act] funds were limited, and SIM will be the same. It's imperative that we not be in such a hurry that we don't think more strategically and collaboratively, and that we don't think about how to leverage these opportunities from one to another."

The Office of the National Coordinator has a visit to Arkansas planned for Sept 25–26, 2014 to support strategic planning for maximizing the interoperability of Arkansas's clinical

health IT, claims, public health and human services information ecosystem for SIM in the shorter term, and delivery and payment system reform in the longer term. SIM, SHARE, Arkansas Medicaid, Human Services, Public Health, and Arkansas Center for Health Improvement leadership and other representatives are all expected to attend.

**Health information technology needs for retrospective episodes of care.**

Retrospective episodes are evaluated for the PAPs using claims data and are available to them using BCBS' AHIN Web portal. Originally, SHARE was going to maintain the Web portal for sharing the performance metrics with providers, but SHARE developers were not able to put in place the functionality quickly enough. Some providers and non-BCBS payers continue to be concerned that one payer has access to all patient medical and payment data.

The data management involved with creating and implementing episodes is not trivial. Episode development is a complex undertaking that requires testing the episode specifications, developing the episode algorithms, generating reports, and then determining the gain and risk share. Arkansas has had "strong analytic powerhouses" as contractors to help with the analytics. These contractors have worked closely with the state and with BCBS Enterprise Business Intelligence to develop the episodes using Medicaid and BCBS claims. There is a sense, however, that episode development has been too highly focused on data rather than clinical issues. Similarly, BCBS has been much more involved with APII than other payers, despite APII's multi-payer requirement.

Providers look forward to a seamless system for reporting the data necessary for the episodes and hope that, through the portal, there will be better transparency showing how their metrics were calculated. Providers continue to see more functionality, but currently they must log out of their EHR to upload data into public health systems for mandatory reporting. Given interoperability difficulties they are having with uploading data for reporting purposes, providers are not seeing a benefit in connecting with SHARE.

**Health information technology needs for patient-centered medical homes.** AHIN is used to help practices understand program metrics and show which patients are attributed to their practices. Practices can also access information about their beneficiaries' risk profiles, designate which of their patients are high risk, and see their reports. They will be required to use SHARE to obtain information on their patients' hospital discharges.

State officials say their biggest challenge has been the IT systems and the analytic capacity to pull off these complicated algorithms and reforms in payment. Designing APII has been easier than operationalizing all its moving parts. For PCMH, Arkansas is currently using claims for its quality metrics but is working toward using clinical data. The state is using a \$2 million CMS award to pull clinical data on hypertension and diabetes from a few health care systems with the SHARE infrastructure. The process is very time consuming, and it may take

several years to make this work. In the meantime, the contractors have been very helpful with pulling APII metrics from claims data.

PCMH requires practice-based metrics rather than individual practitioner metrics. State officials noted that EHRs currently in use have been designed to extract quality metrics by provider, not by practice. Arkansas is dealing with this challenge by building enhancements to the current portal. SHARE may also help with this functionality.

**Health information technology needs for health homes for medically complex populations.** Some of the behavioral health providers have a Web-based system, Credible, that integrates clinical and administrative functions specifically for behavioral health. None of the developmental disability providers have an EHR, but the state is looking into an infrastructure that will have comprehensive care management with an EHR platform that will also link to SHARE; this would, however, not be a SIM-funded activity. The Department of Human Services would license the system to providers.

The availability and costs of EHRs are issues for health home providers. First, these providers do not fall under CMS' Meaningful Use, so they do not receive incentives for purchasing systems. Second, the currently available health information technologies have not been designed for those providing care to developmental disability and LTSS populations. Although providers are considering EHRs, they are uncertain what to look for until the health homes are fully designed. Providers say they want a system that can be used for both care management and administrative activities.

One state official indicated that some health home providers, particularly the smaller ones, will struggle with connecting to Web portals and SHARE. A health home provider concurred, saying that extracting data and uploading it to the portal for the required clinical metrics takes at least one additional staff person. The health IT needs for prospective episodes of care have not been determined, as the details for these episodes are still being worked out.

### **3.2.4 Summary of findings**

#### ***SIM operational model activities and progress***

APII began in summer 2011, when Arkansas' Medicaid Division and the insurer BCBS collaborated toward a vision of reforming the health care payment system. According to state officials, the SIM Initiative funds presented an ideal opportunity to support the ongoing APII and, to date, have advanced implementation tremendously. State officials said they were committed from the start of APII to large-scale implementation: "...we're not about doing a demonstration project or a pilot project. We're committed to full system transformation in the next 4 years. We can't afford not to because...the budget's in the red... We have to do something. We don't have the option of testing something. This is all-in, full system transformation."

**Retrospective episodes of care.** Arkansas has launched 13 retrospective episodes as of April 1, 2014. The first full performance year for PAPs ended in December 2013. At the end of January 2014, the state produced end-of-year reports for the three upper respiratory infection (URI) episodes and disbursed the first risk and gain-share payments for providers who met or exceeded their targets. Arkansas also launched the asthma episode's first informational report in first quarter 2014. Arkansas is continuing to conduct research to develop additional episodes, including a neonatal episode, for which the state created an algorithm in first quarter 2014.

Arkansas is working to create and standardize episode documentation required of PAPs. To that end, the state is working with engineers from General Dynamics Information Technology to make improvements in the episode-based payment system. Arkansas is also educating providers through webinars and providing targeted outreach to those PAPs most affected by the risk and gain-payments for the URI episodes.

State officials recognize that the episodes are not static and require maintenance—including updating current procedural terminology codes that change annually, health care common procedure codes that change quarterly, and national drug codes that are updated weekly. In addition to updating codes in the algorithms, the state also has to consider clinical feedback: “We started the [Arkansas Payment Improvement] Initiative and looked to local clinicians to see what is appropriate care here, not just national standards. We have had a good feedback mechanism that often times leads to incremental changes through provider feedback where they say you’ve missed something or a code should be included. It’s a dynamic process and will continue to be.”

Implementation of retrospective episodes has been both challenging and enlightening for providers. One said physicians initially pushed back on episodes because they don’t like to be told how to practice medicine, and feel that some quality guidelines for the episodes do not make sense, “like requiring a throat culture after a negative strep screen.” Now the episodes and quality metrics have been designed, physicians will follow the protocols even if they don’t agree: “The rationale of saving money by not compromising quality makes sense. We can see how, if we follow their protocols, there will be less money spent and it will still be good patient care. A cookie-cutter approach is frustrating though, especially when we disagree with what we’re supposed to do.” Several physicians grumbled that medical costs unrelated to their episodes are being counted against them, such as prescriptions for other conditions. And there is likely to be some gaming—one physician said that instead of coding a condition as a URI, physicians may now call it “fever” or “cough” to circumvent the episode. On a positive note, state officials shared an anecdote about an obstetrician-gynecologist’s experience when given feedback on his costs for a perinatal episode. He learned that his costs were much higher than average, which would cause him to be financially penalized in the future. Investigating, he learned that his staff was sending all placentas to the lab, unnecessarily driving up costs. The provider corrected the process to bring his costs into line.



**Prospective assessment-based episodes of care.** The prospective, assessment-based HCBS episodes for LTSS and developmentally disabled populations are scheduled to launch July 1, 2014. The LTSS/HCBS episode may launch in two stages: stage one is simply publicizing the episode payment schedule; stage two is the full launch. The Division of Aging and Adult Services is currently researching the episode payment model and patient population. Their data analysis will ensure appropriate inclusion and exclusion of various patient groups and identify special care circumstances for unique individuals needing LTSS. The Division of Developmental Disabilities Services, tasked with designing the developmental disabilities episode, has completed assessments of developmentally disabled adults eligible for an institutionalized level of care. The University of Michigan is currently analyzing the Arkansas data to help develop this episode. A state official said episode design for nursing facilities for LTSS populations will likely be delayed until after November, when a new Governor will be elected. For the developmentally disabled population, prospective episodes for institutional services will be developed after prospective episodes for HCBS are implemented.

**Patient-centered medical homes.** Arkansas's state legislature approved the Medicaid PCMH program under APII in fall 2013, and CMS approved the program's SPA in January 2014. Arkansas held a PCMH open enrollment period for practices, ending December 16, 2013. The state exceeded its goals, enrolling 637 primary care physicians from 179 practices. The enrolled practices provide coverage for 243,000 Medicaid clients (70 percent of the state's Medicaid population), including 40,000 individuals who are part of the CPCI. Each enrolled PCMH practice must identify care coordination and practice transformation leads, and every physician within a participating practice must participate. In first quarter 2014, the state sent participating practices their first PCMH PMPM payments, which cover the costs of care coordination for their patient panels.

According to information provided by the Arkansas PCMH team lead (August 20, 2014), PCMH PMPM payments related to Medicaid expansion will come directly from qualified health plans (QHPs), not from Medicaid. Medicaid and QHPs have not agreed on the payment methodology as of yet. However, the Arkansas Insurance Department is promulgating an administrative rule that generally describes PCMH PMPM payments to be made by QHPs. The Arkansas Insurance Department will implement and oversee the QHP PCMH program. The payment methodology is expected to be similar to the one used by the Medicaid PCMH program. Additionally, the rule establishes a minimum \$5 PMPM for carriers, for all members of plans serving the private option (e.g., including members over 138 percent of the federal poverty level). There is also an option for the Insurance Commissioner to approve an alternative, as long as it meets minimum standards.

Arkansas has contracted with Qualis Health to assist practices in their PCMH transformation efforts. Qualis Health has begun enrolling practices and will provide up to 30 hours of individualized support to PCMH health coaches. Qualis Health will also provide other

shared resources, including in-person and online events. To receive this support, as well as financial practice transformation support, practices must meet specified program activity criteria. In March 2014, the state gave each PMCH practice a report indicating their progress to date on meeting these criteria and their quality measure performance based on past claims information. Participating practices have used the AHIN to view their attributed clients and to select high priority beneficiaries for whom they will develop individualized care plans. The state is in the process of selecting a second pre-qualified vendor to support practices with care coordination.

**Health homes for medically complex populations.** Health homes for LTSS, developmental disabilities, and behavioral health populations are scheduled to launch approximately 6-12 months after their corresponding assessment-based episodes begin. The Division of Behavioral Health Services established a Clinical work group (see further below) to inform behavioral health home development. The work group drafted the behavioral health home SPA, which is posted publicly on the state's Web site. The work group also determined the minimum patient panel and care coordination caseloads for the health home. The Division of Behavioral Health Services is also piloting the interRAI Community Mental Health tool for children and adults to assess individuals' levels of service need. Approximately 13 percent of adult and child assessments have been conducted as of April 8, 2014, out of a total of 1,200 desired assessments they expect to complete. An expert panel has been reviewing, and will continue to review, pilot material to ultimately develop an algorithm that can identify the appropriate behavioral health home level of care.

The Division of Developmental Disabilities Services is leading the design of the developmental disabilities health home. The Division has finished assessments for adults who meet criteria for an institutional level of care, conducting 4,628 assessments in total. The University of Michigan is analyzing the data to determine risk-adjustment for the developmental disabilities health home. The Division is working on a parallel assessment for children and has completed 486 of 500 total assessments as of March 2014. The Division is also continuing to develop the developmental disabilities health home SPA, for which Medicare data are needed to link care coordination fees and performance metrics. In addition, the Division led an initiative to transition home and community-based services for individuals meeting institutional level of care criteria to Community First Choice, 1915(k) State Plan Home and Community-based Services. An SPA was submitted on March 11, 2014 with an effective date of January 1, 2015.

The Division of Aging and Adult Services and the Office of Long Term Care are working on development of the HCBS and nursing facility health homes, respectively. The Division of Aging and Adult Services is continuing work on developing its health home model, engaging specialists in geriatric medicine in model design and exploring the use of PCMHs and home health agencies as health home providers (rather than relying solely on Medicaid HCBS provider agencies). The Office of Long Term Care's nursing facility stakeholder group is continuing to develop a nursing home model that focuses on quality metrics as the foundation for pay-for-

performance in this setting. The model includes financial penalties for facilities that care for too many low-care patients, who could likely be served in lower-cost settings.

### ***Stakeholder participation***

Stakeholders remain engaged in the development of APII as the various components are implemented. Arkansas Department of Human Services holds monthly Provider Advisory Group meetings with a group of about 15 primary care providers. The meetings, which focus primarily on PCMH development, evolved from the larger town hall meetings the state held with providers throughout Arkansas earlier in the SIM Initiative planning process.

The Divisions of Behavioral Health Services, Developmental Disabilities Services, and Aging and Adult Services each has its own stakeholder groups, with which they work closely during the planning and implementation of APII activities. The Division of Behavioral Health Services works closely with the Mental Health Council of Arkansas, National Alliance on Mental Illness Arkansas, and other providers. The Division, as noted, also established a Clinical work group to inform behavioral health development under APII. The work group consists of Community Mental Health Centers, private mental health providers, substance abuse providers, family member representatives, and state employees.

The Division of Developmental Disabilities Services collaborates with the Developmental Disabilities Providers Association, the Arkansas Waiver Association (made up primarily of consumers and providers), AARP, Area Agencies on Aging, and mental health providers. The Division of Aging and Adult Services works closely with AARP, the University of Arkansas for Medical Sciences Reynolds Institute on Aging, and the major HCBS providers—the Area Agencies on Aging, the Health Department, and Superior Senior Care—which together serve 80 percent of LTSS clients for ElderChoices, the HCBS waiver for older adults.

The participating commercial payers, BCBS and QualChoice, are key to the development of APII. Their involvement stems primarily from monthly multi-payer meetings with the Department of Human Services, Medicaid, and the state Surgeon General. The state also holds monthly meetings that bring together this multi-payer group with the Arkansas Hospital Association and the Arkansas Medical Society. The latter has been extremely helpful in mobilizing physicians across the state to participate in APII stakeholder activities.

### ***Quality of care and other outcomes***

Maintaining and improving quality and patient experience is a core part of the Arkansas population- and episode-based strategies under the SIM Initiative. The vision for APII is that all patients receive high-quality cost-effective care, which will be achieved in several ways. Each care delivery and payment approach will include evidence-informed clinical quality and/or beneficiary experience metrics, linked to payment and/or reporting. At a minimum, quality performance is being reported to providers quarterly; APII leaders believe performance transparency will enhance awareness and lead to improved performance. For select measures,

incentive payments (e.g., shared savings) are contingent on meeting minimum requirements for the measure—a unique feature of the gain sharing model that is part of the episode model.

Each episode includes a set of clinical quality metrics, most of which are directly linked to a PAP payment, whereas the remainder are provided for reporting purposes to offer added transparency into care patterns. As an example for linkage to payment, the URI episode monitors whether diagnostic testing was performed only when indicated, with the goal to reduce antibiotic use for URI, especially expensive antibiotics. For the attention deficit hyperactivity disorder (ADHD) episode, the quality metric requires Quality Assessment and Continuing Care documents (for transparency in care patterns) and reducing expensive ADHD medication use. One state official, who was a key player in designing the episodes model, commented that each episode is structured to incentivize high-quality and evidence-based care by incorporating all care associated with a specific condition in calculating total cost.

One of the challenges state officials face is determining appropriate quality metrics for LTSS, particularly for the HCBS under the waivers. One state official working closely with the work group responsible for developing health homes noted that, although the InterRAI validated some home-based care quality measures, they were designed to measure the overall quality of the entire HCBS system and not individual provider performance. In addition, “providers interact with individuals intermittently and an individual may have multiple HCBS providers, so it can be hard to assign responsibility for outcomes.”

In terms of quality of care measurement across the entire initiative, state officials, providers, and other stakeholders types cautioned that the clinical data and reporting mechanisms needed to effectively monitor improved quality of care are still under development, and that this component of the overall state initiative will take several more years to further develop and then fine tune.

### **3.2.5 Population health**

Another key aim of APII is to improve population health and ensure the models that are part of the delivery system and payment reform make a positive impact on the care provided to all, including the special needs populations. APII applies to a large contingent of Arkansans—including the privately insured from the two largest commercial providers, the major self-insured payers and employer groups, and those covered by Medicaid, dual Medicare-Medicaid enrollees, and Arkansas Children’s Health Insurance Program. According to state documents, at a minimum tobacco cessation, obesity, and diabetes will be monitored across the population.

Were Medicare to commit fully to APII, the state suggests the initiative would reach the large majority of the state’s citizens and impact up to 90 percent of the total health care expenditures for the insured population. One state official working closely to develop health homes remarked that a key attribute they are looking for in providers that participate in the

model is embracing broader patient management across their entire panel or patient population. “It’s not just the individual patient for which we’re trying to have outcomes achieved, but it’s really a population approach [to improve outcomes].”

### 3.2.6 Successes, challenges, and lessons

Many of APII’s successes, challenges, and lessons have been described in earlier sections. The information below is derived from our interviews and focus group discussions that specifically targeted APII successes, challenges, and lessons.

#### Successes

**Retrospective episodes of care.** After a few years of startup activities, providers received their first gain- and risk-share payments for the three URI episodes, with providers receiving gain-sharing payments ranging from \$1.00 to \$3,000 and risk sharing up to \$7,200 for 654 episodes. Antibiotic prescribing for colds dropped 10 percent, and there was a 5 percent increase in use of strep tests to diagnose sore throats.

**Patient-centered medical homes.** Enrollment exceeded expectations. State officials expected 40 percent enrollment (150,000 beneficiaries) would be covered after the first PCMH enrollment, taking into consideration Medicare beneficiaries already enrolled in CPCI medical homes. After the first wave of enrollment, 70 percent (245,000 beneficiaries) were enrolled.

**Health homes for medically complex populations.** State officials described changes for the developmental delays and behavioral health population as “transformational.” Across all the initiatives, they have been able to expand community services and the way resources are allocated—not just enhance care coordination. In particular, the changes will allow better data on the health home populations and have allowed the state to seek 1915 waivers.

#### Challenges

APII has been a fast-moving program, so having the time and staff to design and implement the APII models while carrying out their daily responsibilities has been a significant challenge. In addition, so much is happening at once. State officials working on payment reform for the health homes initiatives need to vie for time with other state officials to have contractors make infrastructure changes to MMIS.

Communication is a critical piece of any new initiative. As one state official noted, “Finding the right people to engage with those who need the information is very important.” State officials need to communicate to providers that APII is all about paying for outcomes and not for the individual health care “pieces” as they have done up until now. At the same time, state officials need to reassure providers that the state understands the challenges providers are facing. As one state official put it, “providers need continuity to be successful,” yet providers worry that the state is taking on a “2-year experiment” rather than total health system reform. Providers need training to help make the necessary transitions, and the state has struggled to find

vendors who can provide the training. Lastly, the providers see that insurers are a key part of health system transformation, so they want all of them to be fully engaged in APII.

### **Lessons**

How to use staff efficiently has been one of the more important takeaways. Staff may be overburdened by having to carry out their routine job functions while also helping to design payment reform initiatives. However, state officials found that it was very important to have the same staff members involved in both designing *and* implementing the new payment models.

Another tension state officials grappled with was whether to hire additional internal staff or outsource some work to contractors. Overall, the state recognized that contractors played a very important role, especially with regard to dealing with the massive data analyses required for informing the models. However, state officials learned early on that they needed to limit contractor staff changes, because the state did not have time to keep teaching new staff, given the steep learning curve required.

Stakeholders are critical, so state officials need to ensure stakeholders understand the need for change and are given sufficient information to provide input in a timely fashion. Stakeholders concerns must be taken seriously and handled appropriately, being judicious and fair to all who will be impacted by the changes.

### **3.3 Arkansas Baseline Outcomes**

This section summarizes information on baseline outcomes for Arkansas' insured population, including: (1) provider and payer participation, (2) populations reached, (3) care coordination, (4) quality of care, (5) health care utilization, and (6) health expenditures. Data on the first two measures come from our site visits and the Arkansas SIM Initiative team's operational reports; the other measures are derived from claims data. Future reports will include claims-based measures for Medicaid, Medicare, and commercially insured populations. However, because Medicaid claims data were not available for this report, as noted, we present outcomes for only the commercially insured population represented in the MarketScan database and Medicare beneficiaries. The data are restricted to the FFS population, and expenditure measures exclude patient cost-sharing. We present data for Arkansas and its propensity score-adjusted comparison group comprising data from three states: Alabama, Kentucky, and Oklahoma. We define the baseline period as 2010 to 2012. The graphs contain the weighted (by the eligibility fraction) average outcomes for the population included in the MarketScan and Medicare data for Arkansas, and the weighted (by the eligibility fraction and propensity score) average outcomes for the comparison group. All quarterly outcomes are calculated as 12-month rolling averages. Appendix B provides more detailed specifications on the methods and measures.

### **3.3.1 Provider and payer participation**

Participation in the Medicaid PCMH component of APII was higher than anticipated, with 637 primary care physicians from 179 practices across the state enrolled in first quarter 2014. APII is a multi-payer strategy that includes two commercial payers at the current time: Arkansas BCBS and QualChoice. These commercial payers plan to roll out the PCMH model to additional practices not already enrolled in CPCI beginning in 2015. In Arkansas, 69 practices were enrolled when CPCI started, but since then several have dropped out. Arkansas is still developing its health home models, so the number of providers providing behavioral health services, developmental disabilities services, and LTSS through the Medicaid program has not been determined as yet.

Medicaid is implementing all episodes-of-care models, but commercial insurers are participating in only those episodes appropriate for their members. On January 31, 2014, providers assigned as a PAP for at least one of the three URI episodes were sent risk- or gain-sharing information. URI episodes evaluated: (1) prescribing antibiotics to treat the common cold (decreased by 10 percent), (2) prescribing two or more courses of antibiotics (decreased by more than 40 percent), and (3) use of strep tests to diagnose sore throats (increased by about 5 percent). These translated to 40 percent of providers participating in gain sharing (commendable), 38 percent with no gain or risk sharing, and 22 percent subject to risk sharing for a total of 654 URI episodes. Regarding payment reform, total gain sharing for URI episodes was \$69,000, ranging from less than \$1.00 to \$3,000.00 per provider. Total risk-sharing was \$92,000, ranging from less than \$1.00 to \$7,200.00 per provider.

### **3.3.2 Populations reached**

A total of 243,000 Medicaid beneficiaries will be involved in the Medicaid PCMH model. This includes 40,000 Medicaid beneficiaries covered by practices participating in CMS' CPCI. Together, PCMH and CPCI cover about 70 percent of all eligible Medicaid beneficiaries.

Arkansas's health homes are currently under development. The developmental disabilities health home is scheduled to launch in the second half of 2014, and behavioral health homes will likely launch in the first half of 2015. The state is currently conducting assessments for behavioral health and developmental disabilities health homes. As of April 8, 2014, 177 adult and 86 child assessments had been collected for the interRAI Community Mental Health Tool Pilot. By the end of March 2014, approximately 486 of 500 child assessments had been completed, along with 417 assessments for children and adults on the waiver waiting list.

Arkansas is still evaluating the regional reach of APII for its URI and perinatal episodes and plans to provide this information in the next quarterly report.

### 3.3.3 Care coordination

#### Commercially insured

For Arkansas and its comparison group states, the percent of acute inpatient discharges with a follow-up visit within 14 days among the adult population remained stable over the baseline period in Arkansas and the comparison group (*Table 3-2*). The number of visits to a primary care physician per 100 covered persons was generally stable across the baseline years in Arkansas, but increased slightly over time for the comparison group. The number of visits to a specialist per 100 visits was somewhat stable over time in both Arkansas and the comparison group, but Arkansas rates were lower than those of the comparison group. Infants had a much higher rate of visits to a primary care provider than children and adults, and Arkansas had fewer primary care visits per 100 members than the comparison group. Adults had approximately twice as many visits to specialists per 100 members as either infants or children in Arkansas and the comparison group. Among adults, the rate of visits to specialists decreased slightly over time for both Arkansas and the comparison group, and Arkansas had lower rates of specialist visits than the comparison group.

**Table 3-2. Care coordination measures for the commercially insured population in MarketScan by age group, Arkansas and comparison group**

Measure	Year	Overall	Infant	Child	Adult
<b>Percent of inpatient discharges that had a follow-up visit within 14 days for members 18 years and older</b>					
<b>Arkansas</b>	<b>2010</b>	—	—	—	<b>31</b>
	<b>2011</b>	—	—	—	<b>31</b>
	<b>2012</b>	—	—	—	<b>30</b>
Comparison group	2010	—	—	—	30
	2011	—	—	—	29
	2012	—	—	—	30
<b>Number of visits to primary care providers per 100 members</b>					
<b>Arkansas</b>	<b>2010</b>	<b>280</b>	<b>679</b>	<b>220</b>	<b>292</b>
	<b>2011</b>	<b>276</b>	<b>680</b>	<b>230</b>	<b>283</b>
	<b>2012</b>	<b>279</b>	<b>669</b>	<b>237</b>	<b>285</b>
Comparison group	2010	288	739	254	290
	2011	296	709	258	300
	2012	310	760	274	312
<b>Number of visits to specialists per 100 members</b>					
<b>Arkansas</b>	<b>2010</b>	<b>223</b>	<b>102</b>	<b>83</b>	<b>222</b>
	<b>2011</b>	<b>212</b>	<b>96</b>	<b>82</b>	<b>211</b>
	<b>2012</b>	<b>218</b>	<b>89</b>	<b>86</b>	<b>212</b>
Comparison group	2010	233	114	123	273
	2011	217	100	113	253
	2012	225	105	119	261

#### Medicare

For Arkansas, the percentage of acute inpatient discharges with a follow-up visit within 14 days steadily increased over the baseline period, whereas there was little change for the



comparison group (*Table 3-3*). The number of visits to a primary care physician per 100 covered persons and number of visits to a specialist per 100 visits were relatively stable over time for both Arkansas and the comparison group. For Arkansas, both dual Medicare-Medicaid enrollees and other Medicare enrollees showed similar values and a similar upward trajectory for percent of inpatient discharges with a follow-up visit within 14 days. The Medicare-Medicaid enrollees in the comparison group had a more variable trajectory of inpatient discharges with a follow-up visit within 14 days, and the other Medicare enrollees in the comparison group actually showed a slight decline in the number of follow-up visits after an inpatient discharge. Arkansas' Medicare-Medicaid enrollees had more visits to primary care providers per 100 members than to specialty providers, whereas Arkansas' other Medicare enrollees had fairly similar numbers of visits to primary care as to specialty providers. Arkansas Medicare-Medicaid enrollees had slightly fewer visits to primary care providers per 100 members compared to their comparison group counterparts, but the comparison group's other Medicare enrollees had more visits to primary care providers than did Arkansas' other Medicare enrollees. For specialty providers, Arkansas' Medicare-Medicaid enrollees had slightly more visits per 100 beneficiaries than did the comparison group's Medicare-Medicaid enrollees, whereas the comparison group's other Medicare enrollees had slightly more visits to specialty providers than Arkansas' other Medicare enrollees.

**Table 3-3. Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Arkansas and comparison group**

Measure	Year	Overall	Medicare-Medicaid	Other Medicare
<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>				
<b>Arkansas</b>	<b>2010</b>	<b>36</b>	<b>35</b>	<b>37</b>
	<b>2011</b>	<b>50</b>	<b>48</b>	<b>52</b>
	<b>2012</b>	<b>58</b>	<b>57</b>	<b>59</b>
Comparison group	2010	40	39	41
	2011	35	32	37
	2012	39	42	37
<b>Number of visits to primary care providers per 100 beneficiaries</b>				
<b>Arkansas</b>	<b>2010</b>	<b>379</b>	<b>469</b>	<b>352</b>
	<b>2011</b>	<b>375</b>	<b>463</b>	<b>349</b>
	<b>2012</b>	<b>384</b>	<b>474</b>	<b>358</b>
Comparison group	2010	419	475	403
	2011	414	469	398
	2012	423	495	402
<b>Number of visits to specialists per 100 beneficiaries</b>				
<b>Arkansas</b>	<b>2010</b>	<b>341</b>	<b>329</b>	<b>344</b>
	<b>2011</b>	<b>336</b>	<b>326</b>	<b>340</b>
	<b>2012</b>	<b>340</b>	<b>328</b>	<b>344</b>
Comparison group	2010	353	302	368
	2011	351	307	363
	2012	353	318	364

### 3.3.4 Quality of care

#### Commercially insured

**Table 3-4** provides the rates of hospitalization per 100,000 covered persons in the overall, acute, and chronic Prevention Quality Indicator (PQI) composite measures for the commercially insured using the MarketScan data. For the overall PQI composite, which includes 12 of the 14 individual PQIs, the hospitalization rate decreased from 720 per 100,000 covered Arkansans in 2010 to 680 per 100,000 covered Arkansans in both 2011 and 2012. The PQI composite hospitalization rates for the comparison group states were lower than for Arkansas but showed a similar decrease, from 650 in 2010 per 100,000 covered lives to 630 per 100,000 covered lives in 2011 and 2012. Across both Arkansas and the comparison group in all 3 years, the rate of hospitalization using the acute PQI composite (which includes such conditions as pneumonia and dehydration) was highest in 2010 and somewhat lower in 2012. The rate of hospitalizations using the chronic PQI composite (which includes such conditions as hypertension, diabetes complications, and chronic obstructive pulmonary disease [COPD]) was highest for Arkansas in 2010 (390 hospitalization per 100,000 covered Arkansans), with a dip in 2011 to 360 and an increase to 380 in 2012. In the comparison group, the chronic composite hospitalization rate was highest in 2010 and 2011, with 340 hospitalization per 100,000 covered lives, and dropped to 330 in 2012.

**Table 3-4. Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Arkansas and comparison group**

Measure	Commercially insured			Medicare		
	2010	2011	2012	2010	2011	2012
<b>Rates of hospitalization for composite AHRQ Prevention Quality Indicator (PQI) conditions</b>						
<b>Overall composite</b>						
Arkansas	720	680	680	2,010	2,040	1,990
Comparison group	650	630	630	2,150	2,150	2,110
<b>Acute condition composite</b>						
Arkansas	340	330	310	1,070	1,080	1,040
Comparison group	320	300	300	1,100	1,090	1,080
<b>Chronic condition composite</b>						
Arkansas	390	360	380	1,090	1,090	1,070
Comparison group	340	340	330	1,200	1,210	1,180
<b>Percent of children who turned 15 months during the year and had 0 well-child visits during their first 15 months of life</b>						
Arkansas	—	13	11	—	—	—
Comparison group <sup>a</sup>	—	9	5	—	—	—
<b>Percent of children who turned 15 months during the year and had 6 or more-well child visits during their first 15 months of life</b>						
Arkansas	—	39	42	—	—	—
Comparison group	—	44	49	—	—	—

Note: AHRQ = Agency for Healthcare Research and Quality

<sup>a</sup> Due to the small sample size of children who turned 15 months in a given year, we were unable to apply propensity score weights to the comparison group for the well-child visit measure. We report the unweighted values for the three comparison states combined.

In Arkansas, whereas the percent of children who turned 15 months of age and had no well-child visits decreased from 13 percent in 2011 to 11 percent in 2012 (Table 3-4), these percentages were still higher than in the comparison group (9 percent in 2011 and 5 percent in 2012). The percent of children who turned 15 months and had 6 or more well-child visits increased in both Arkansas and the comparison group, with a slightly larger increase in the latter.

### **Medicare**

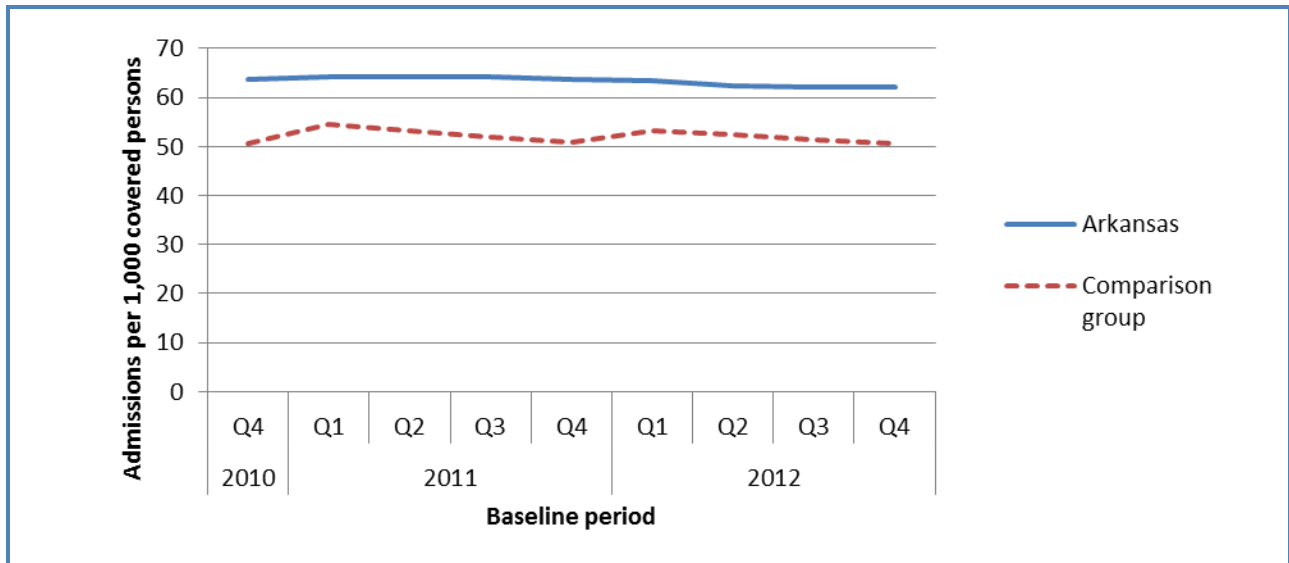
For Medicare patients in both Arkansas and the comparison group, there was a decreasing trend for the overall, acute, and chronic PQI hospitalization metrics from 2010 to 2012 (Table 3-4). Arkansas has slightly lower rates than the comparison group for the overall composite and the PQI chronic composite metrics. The PQI metrics were nearly three times higher for the Medicare patients compared to the commercially insured population.

### **3.3.5 Utilization**

#### **Commercially insured**

The rate of all-cause hospital admissions decreased slightly over the baseline period among Arkansas' commercially insured population represented in the MarketScan database, but fluctuated for the comparison group (**Figure 3-1**). Arkansas' admission rate was consistently higher than the comparison group's over the entire baseline period. For both Arkansas and the comparison group, the inpatient admission rate was highest among infants for each year, and there was a huge jump in the rates for the comparison group infants from 2011 to 2012 (**Table 3-5**)—both statistics likely due to the relatively low sample size. The number of all-cause ER visits per 1,000 covered persons increased by about 10 percent for both Arkansas and the comparison group over the baseline period (**Figure 3-2**), an increase that happened among all age groups (Table 3-5). The number of ER visits that did not lead to a hospitalization (per 1,000 covered persons) increased by approximately 13 percent in both Arkansas and the comparison group over the baseline period, an increase that was steadier over all quarters for Arkansas (**Figure 3-3**). For each quarter, Arkansas' rates were also higher than those for the comparison group over all quarters. The rates increased over time for all ages in both Arkansas and the comparison group (Table 3-5). The number of discharges that led to a hospital readmission within 30 days (per 1,000 discharges) increased by about 13 percent in Arkansas over the baseline period but remained relatively flat for the comparison group (**Figure 3-4**).

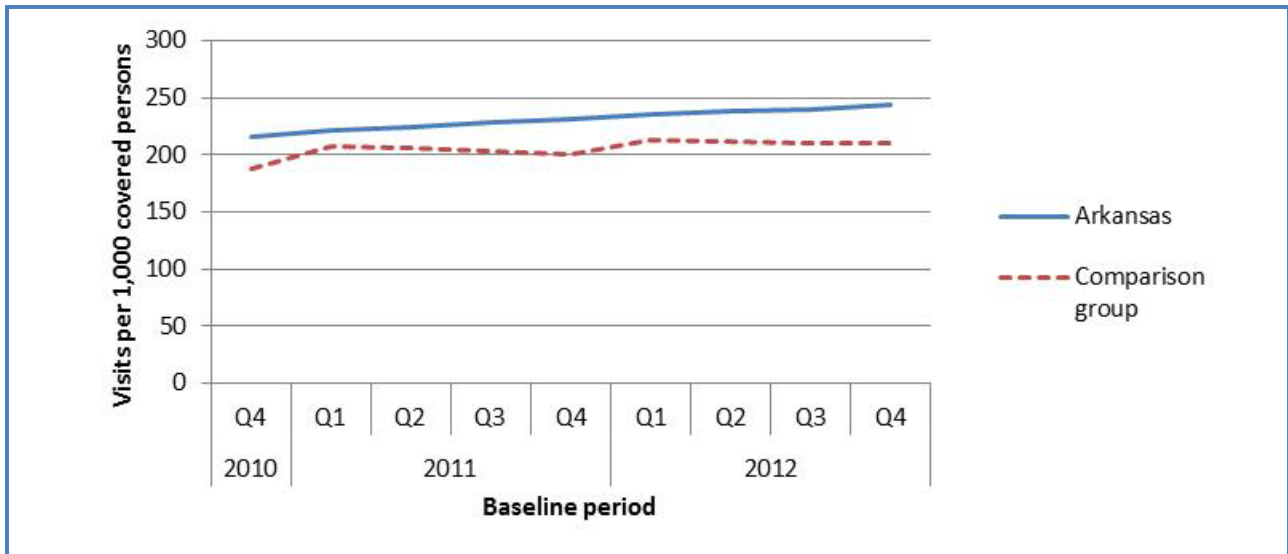
**Figure 3-1. All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Arkansas and comparison group**



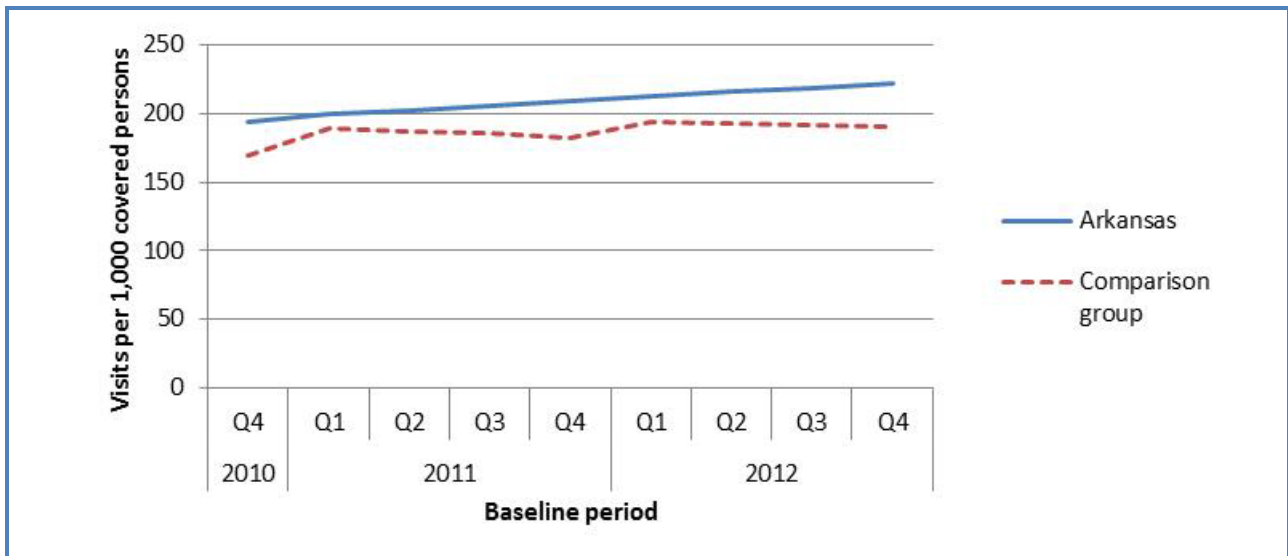
**Table 3-5. Utilization measures for the commercially insured population in MarketScan by age group, Arkansas and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 members</b>									
Arkansas	457	474	462	18	20	19	72	70	68
Comparison group	362	352	426	15	16	15	57	57	55
<b>All-cause emergency room visits per 1,000 members</b>									
Arkansas	405	419	439	172	189	195	228	243	256
Comparison group	330	338	380	167	177	185	192	205	214
<b>Emergency room visits that did not lead to hospitalization per 1,000 members</b>									
Arkansas	372	382	408	164	180	187	201	216	230
Comparison group	306	311	351	160	170	177	170	184	193

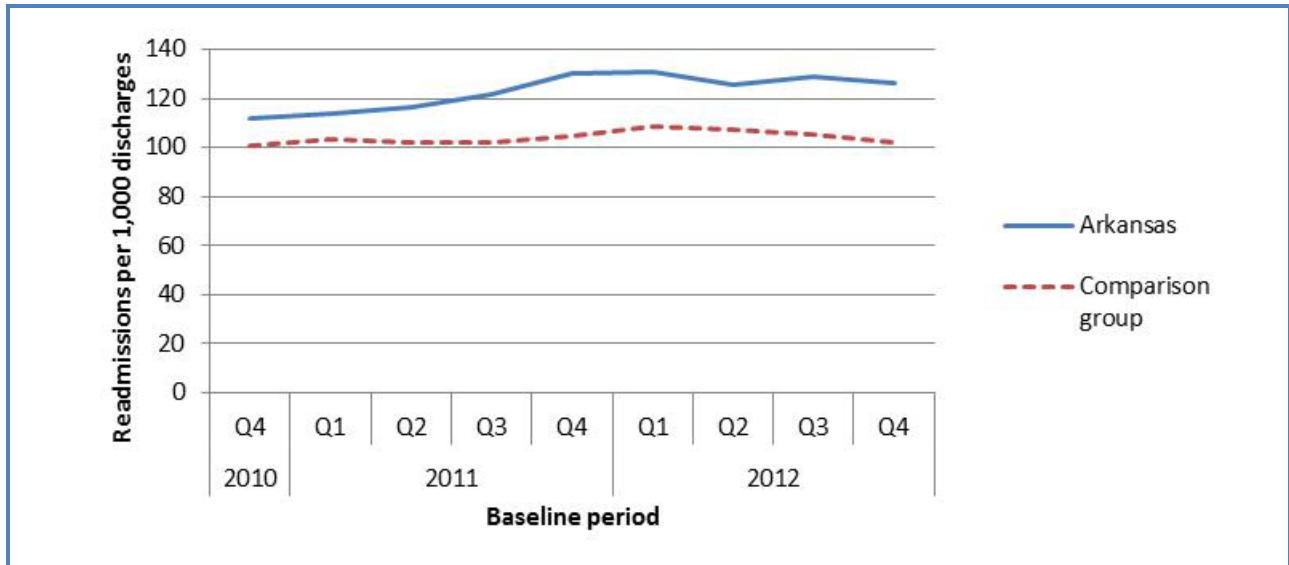
**Figure 3-2. All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Arkansas and comparison group**



**Figure 3-3. Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Arkansas and comparison group**



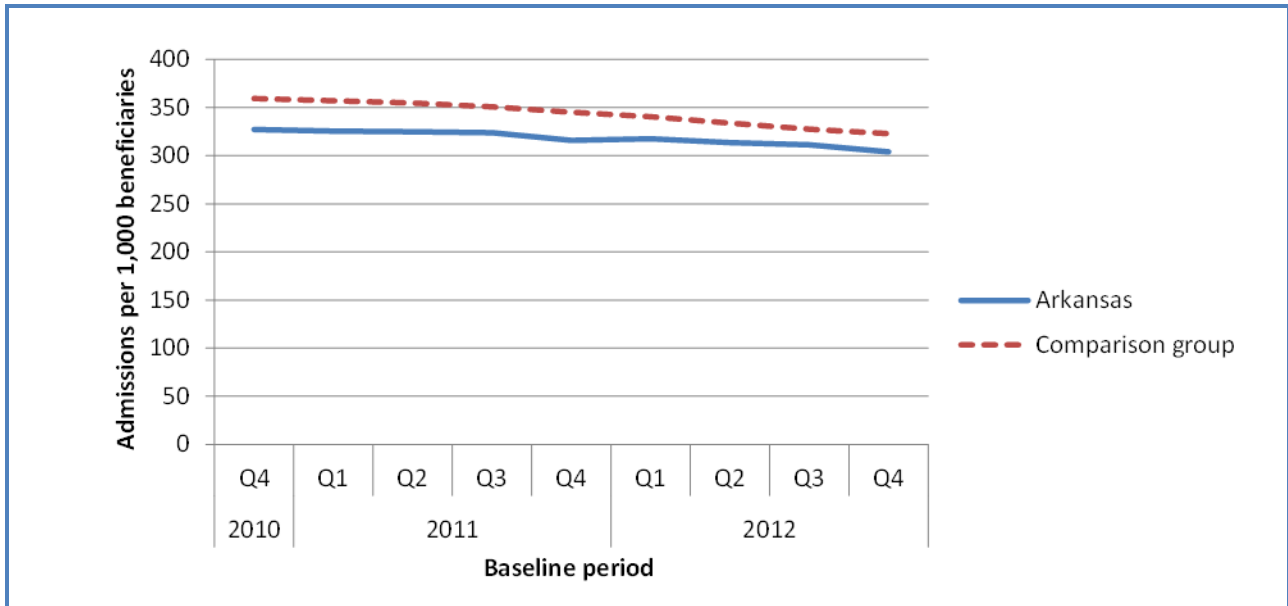
**Figure 3-4. Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Arkansas and comparison group**



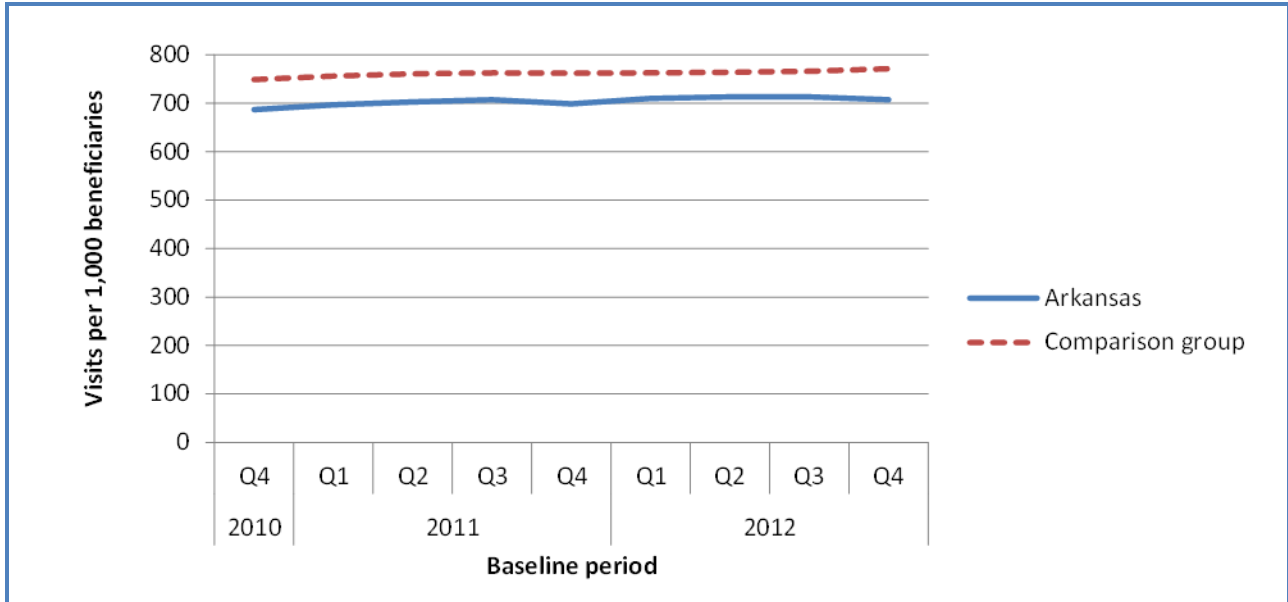
**Medicare**

For Medicare beneficiaries in both Arkansas and the comparison group, the rate of all-cause inpatient hospital admissions decreased over the baseline period, with the comparison group states having a slightly greater decrease (10 percent) than Arkansas (7 percent) (*Figure 3-5*). The number of all-cause ER visits per 1,000 covered persons increased slightly over time for both Arkansas and comparison group beneficiaries, but the comparison group had a roughly 9 percent higher rate than Arkansas throughout the baseline period (*Figure 3-6*). The number of ER visits that did not lead to a hospitalization (per 1,000 covered persons) increased slightly for Arkansas and the comparison group, with the comparison group averaging higher rates for all quarters after fourth quarter 2010 (*Figure 3-7*). The number of discharges leading to a hospital readmission within 30 days (per 1,000 discharges) remained relatively flat for both Arkansas and the comparison group and were almost identical over time (*Figure 3-8*).

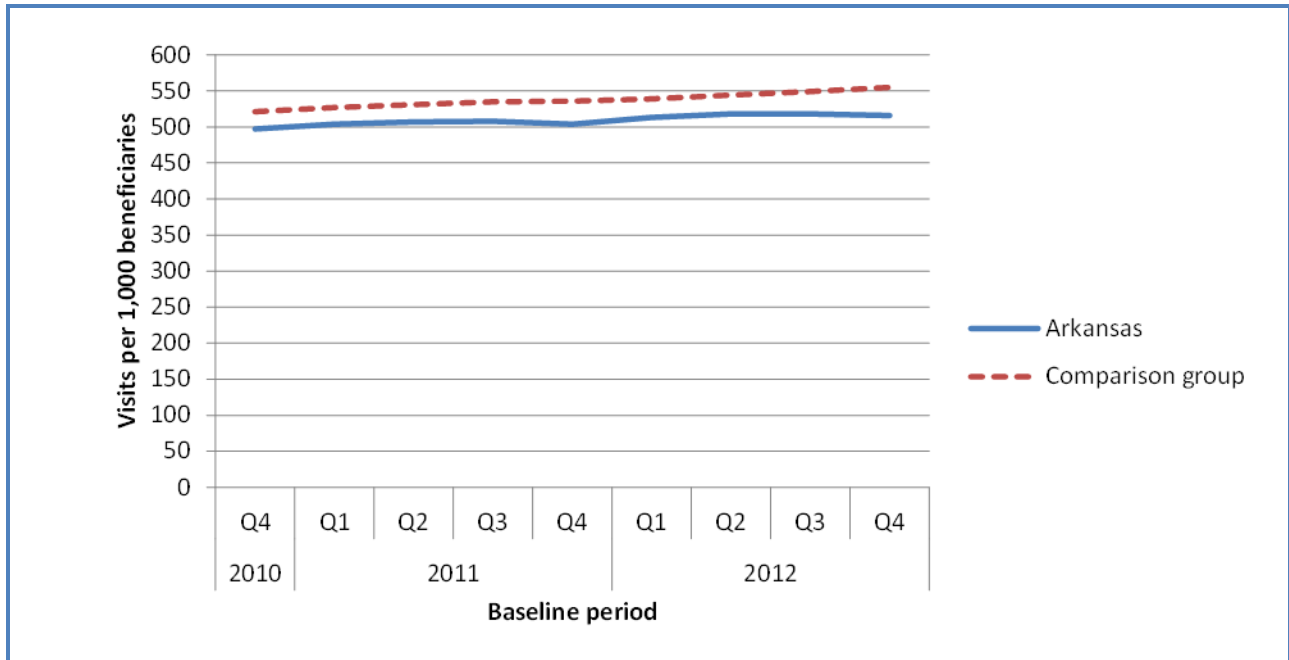
**Figure 3-5. All-cause hospital admissions per 1,000 Medicare beneficiaries, Arkansas and comparison group**



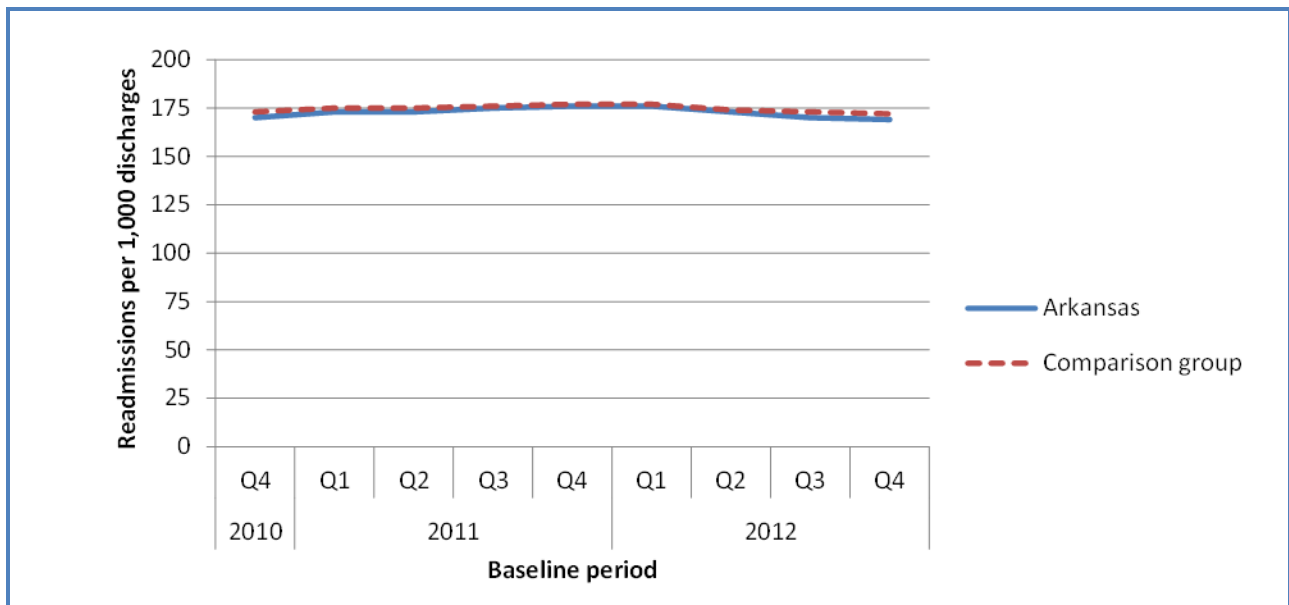
**Figure 3-6. All-cause emergency room visits per 1,000 Medicare beneficiaries, Arkansas and comparison group**



**Figure 3-7. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Arkansas and comparison group**



**Figure 3-8. Readmissions per 1,000 discharges for Medicare beneficiaries, Arkansas and comparison group**



All-cause hospital admissions per 1,000 members for both Medicare-Medicaid enrollees and other Medicare enrollees decreased slightly from 2010 to 2012 in Arkansas and the comparison group, with greater reductions for both beneficiary groups in the comparison group



(**Table 3-6**). However, all-cause ER visits per 1,000 members for both Medicare-Medicaid enrollees and other Medicare enrollees increased approximately 2 to 3 percent from 2010 to 2012 in both Arkansas and the comparison group, and the rates for Medicare-Medicaid enrollees were approximately 2.5 times than for other Medicare enrollees. The rates of ER visits that did not lead to hospitalization per 1,000 members increased 4 to 6 percent for Medicare-Medicaid enrollees and other Medicare enrollees in both Arkansas and the comparison group. Also for both Arkansas and the comparison group, the readmissions per 1,000 discharges showed a very slight rise from 2010 to 2011 and then a decline from 2011 to 2012 for both Medicare-Medicaid enrollees and other Medicare enrollees.

**Table 3-6. Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Arkansas and comparison group**

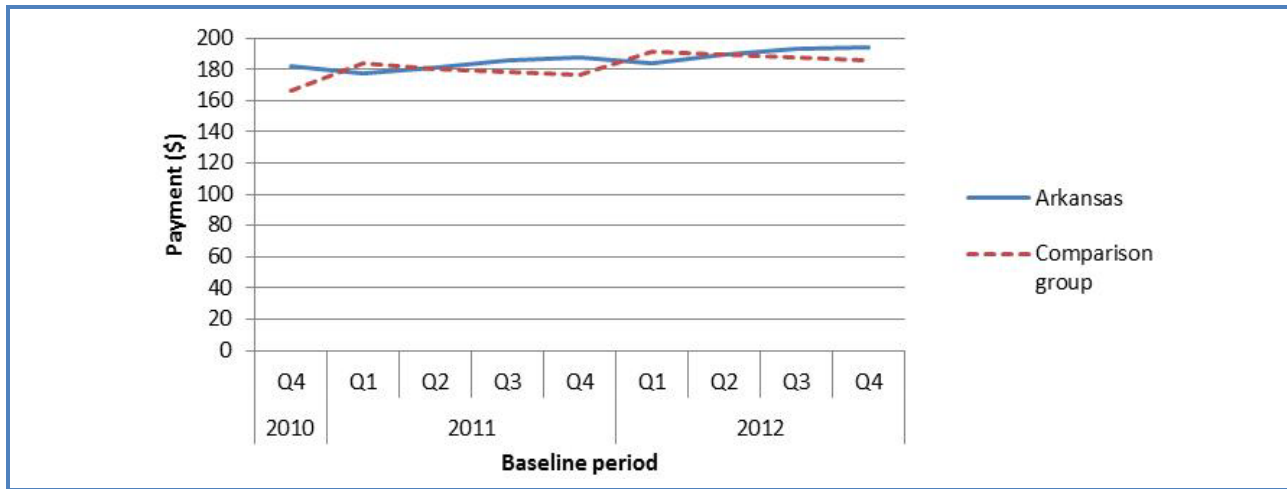
Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 beneficiaries</b>						
Arkansas	486	474	451	281	269	261
Comparison group	506	487	455	316	303	284
<b>All-cause emergency room visits per 1,000 beneficiaries</b>						
Arkansas	1,297	1,319	1,334	509	515	525
Comparison group	1,354	1,377	1,401	571	578	586
<b>Emergency room visits that did not lead to hospitalization per 1,000 beneficiaries</b>						
Arkansas	981	992	1,021	355	359	370
Comparison group	1,007	1,034	1,073	378	387	402
<b>Readmissions per 1,000 discharges</b>						
Arkansas	199	205	197	154	160	155
Comparison group	202	205	197	160	164	160

### 3.3.6 Expenditures

#### *Commercially insured*

Total payments increased gradually over the baseline period for both Arkansas and the comparison group, despite slight fluctuations in some quarters (**Figure 3-9**). The trends for average PMPM payments generally increased for all age groups—but with Arkansas infant and adult total PMPM payments higher than those for the comparison group and Arkansas children’s rates somewhat lower (**Table 3-7**).

**Figure 3-9. Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group**



**Table 3-7. Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Arkansas and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Total<sup>a,b</sup></b>									
<b>Arkansas</b>	<b>672</b>	<b>541</b>	<b>692</b>	<b>65</b>	<b>73</b>	<b>75</b>	<b>213</b>	<b>219</b>	<b>224</b>
Comparison group	480	525	617	68	74	79	194	204	212
<b>Inpatient facility</b>									
<b>Arkansas</b>	<b>420</b>	<b>336</b>	<b>468</b>	<b>17</b>	<b>20</b>	<b>18</b>	<b>67</b>	<b>70</b>	<b>68</b>
Comparison group	268	293	365	14	15	17	50	54	55
<b>Other facility</b>									
<b>Arkansas</b>	<b>33</b>	<b>35</b>	<b>35</b>	<b>16</b>	<b>18</b>	<b>19</b>	<b>57</b>	<b>60</b>	<b>66</b>
Comparison group	33	37	40	20	23	24	62	68	73
<b>Professional</b>									
<b>Arkansas</b>	<b>173</b>	<b>173</b>	<b>204</b>	<b>31</b>	<b>35</b>	<b>37</b>	<b>88</b>	<b>88</b>	<b>90</b>
Comparison group	173	186	212	33	36	38	80	81	83
<b>Outpatient prescription<sup>c</sup></b>									
<b>Arkansas</b>	<b>15</b>	<b>12</b>	<b>15</b>	<b>15</b>	<b>17</b>	<b>18</b>	<b>54</b>	<b>53</b>	<b>54</b>
Comparison group	13	13	14	18	21	21	56	61	63

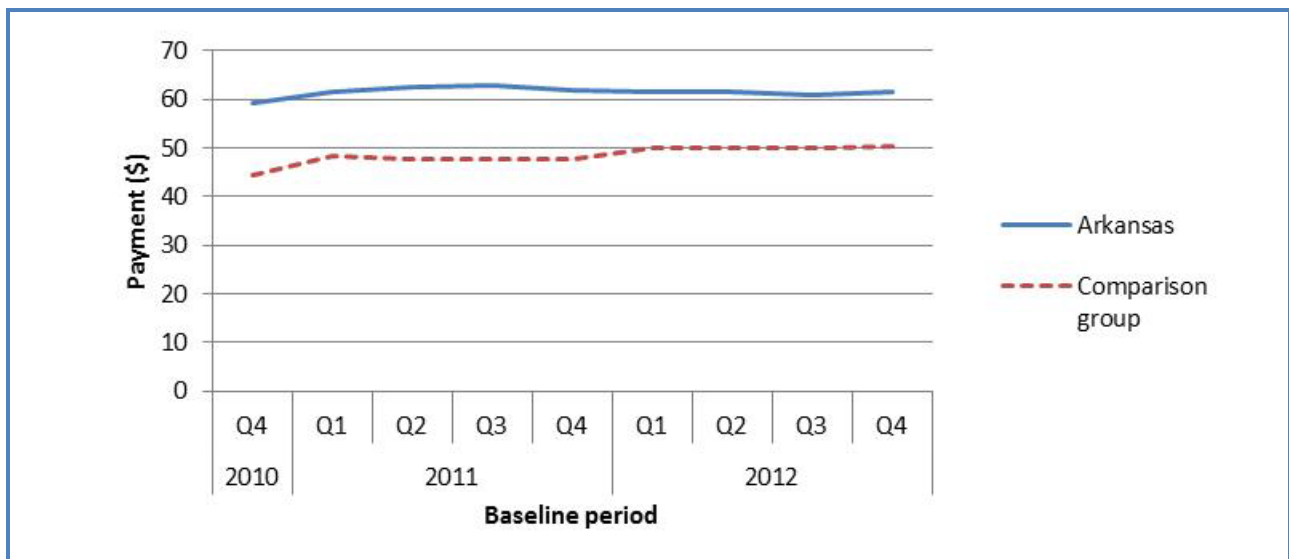
<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

<sup>b</sup> The inpatient, non-inpatient, and professional component expenditures do not add up exactly to the total expenditures because the inpatient component expenditure value does not include inpatient payments included in the outpatient MarketScan table, but the total expenditure value includes all payments.

<sup>c</sup> Denominator only includes members with drug claims captured in MarketScan.

Inpatient hospital facility PMPM payments increased by 4 percent (from \$59 in first quarter 2010 to a little less than \$62 in fourth quarter 2012 for Arkansas, compared to a PMPM payments increase of 13 percent for the comparison group, from \$44 in first quarter 2010 to \$50 in fourth quarter 2012) (*Figure 3-10*). Notwithstanding a substantial decrease from 2010 to 2011 for Arkansas infants, inpatient hospital facility payments increased sharply for infants over the 3-year span from 2010 to 2012; those PMPM payments also increased for Arkansas children and adults, but much less sharply (Table 3-7). The higher inpatient hospital payments for infants are likely due in part to the high cost of neonatal care but also to relatively low sample size. Across all 3 years and for all ages, such payments were higher for Arkansas than for the comparison group.

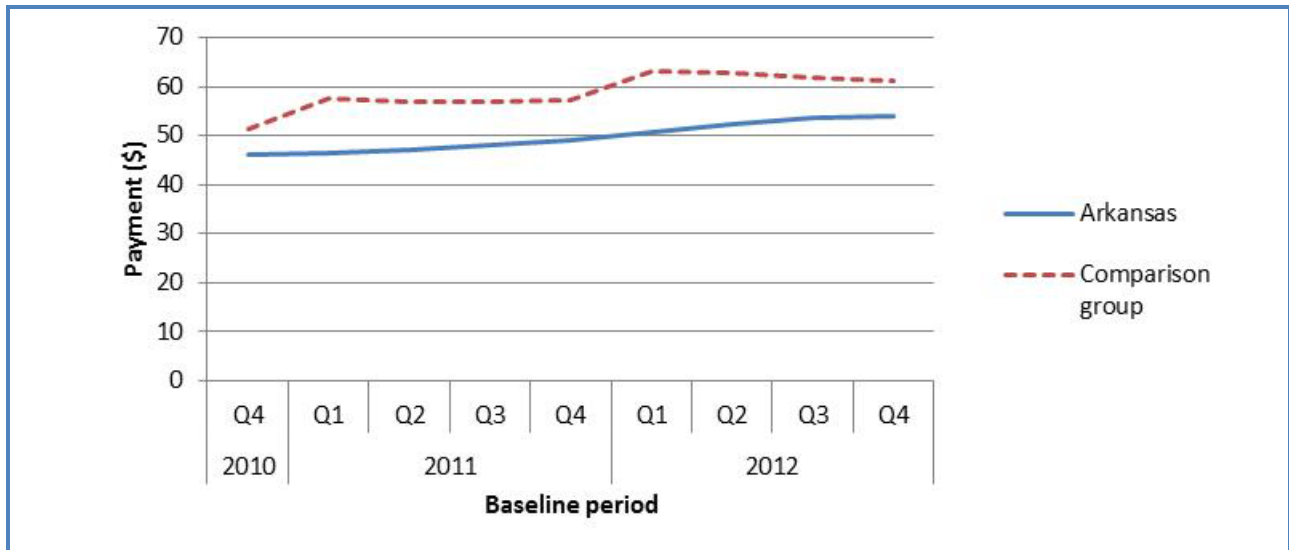
**Figure 3-10. Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group**



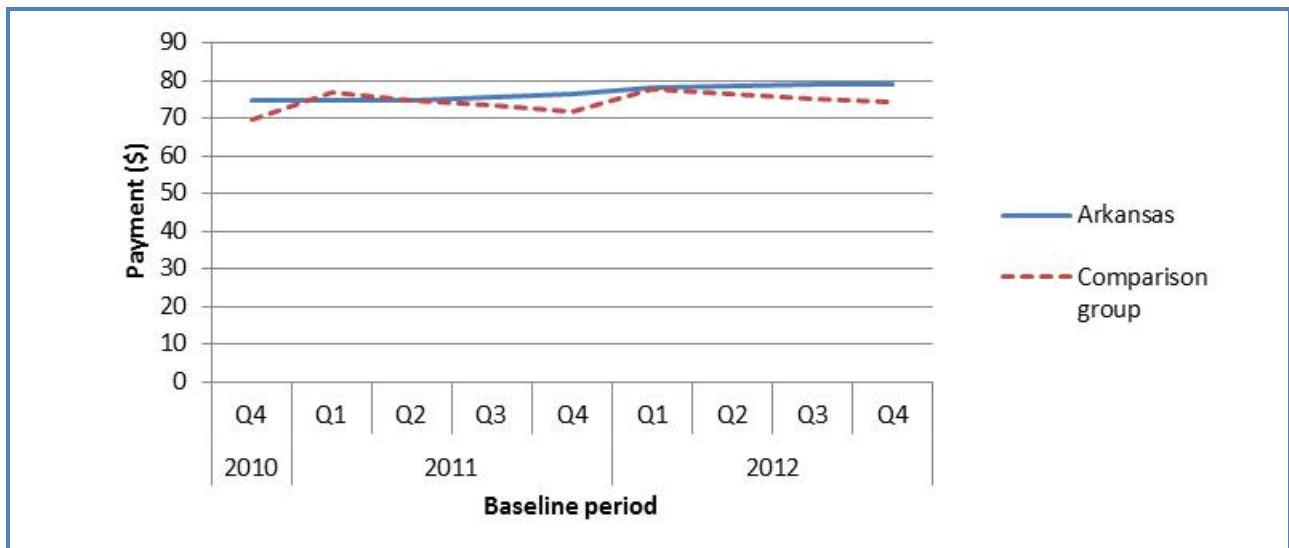
Arkansas’s payments to other facility care increased by approximately \$8 PMPM during the baseline period, whereas the comparison group’s PMPM increased by \$11 on average (*Figure 3-11*). Other facility PMPM payments showed a slight increase over time for all age groups, with the comparison group’s payments higher than those for Arkansas throughout (Table 3-7).

Professional PMPM payments increased slightly for the overall population in both Arkansas and the comparison group (*Figure 3-12*), but the increase was concentrated among infants. Professional payments jumped by approximately 20 percent for infants between 2010 and 2012 in both Arkansas and the comparison group, but remained relatively stable for children and adults (Table 3-7).

**Figure 3-11. Other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group**

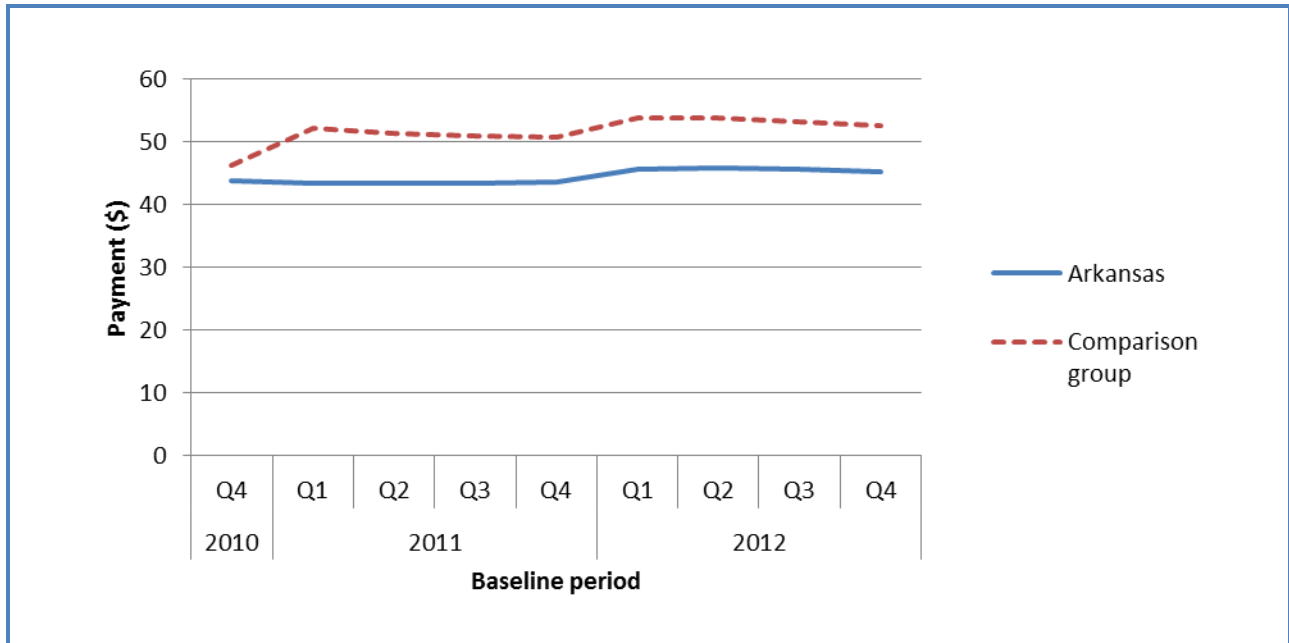


**Figure 3-12. Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group**



Outpatient prescription payments for Arkansas exhibited a very small increase over time, whereas the comparison group increase was slightly more pronounced (*Figure 3-13*). Outpatient prescription payments were highest among adults for Arkansas and the comparison group, and the comparison group had higher prescription payments than Arkansas across all age groups (Table 3-7).

**Figure 3-13. Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Arkansas and comparison group**

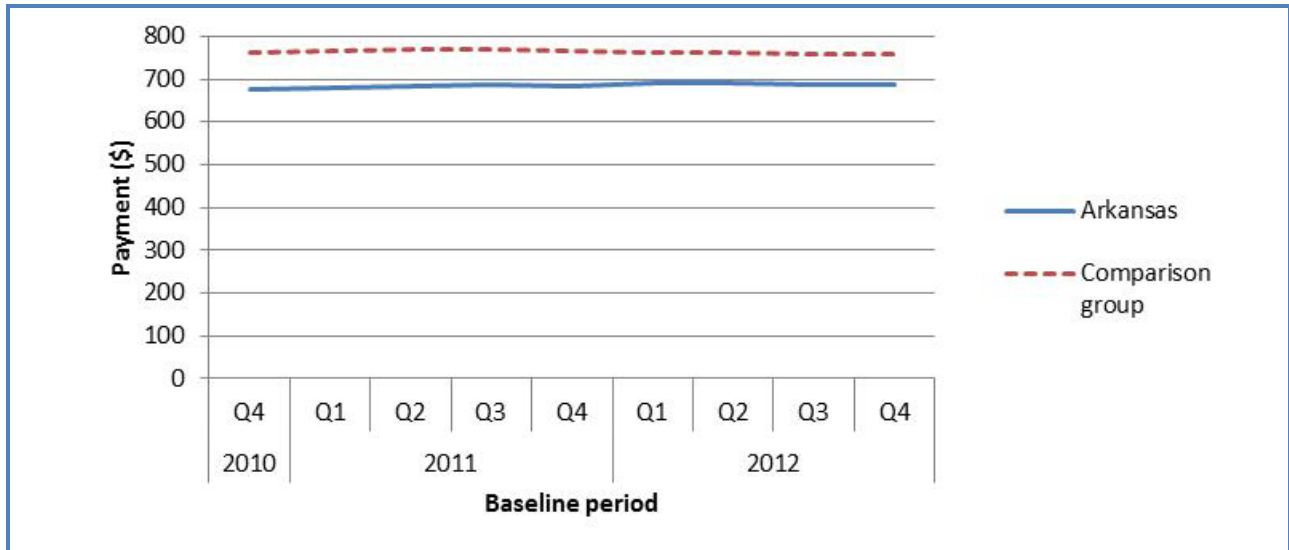


### Medicare

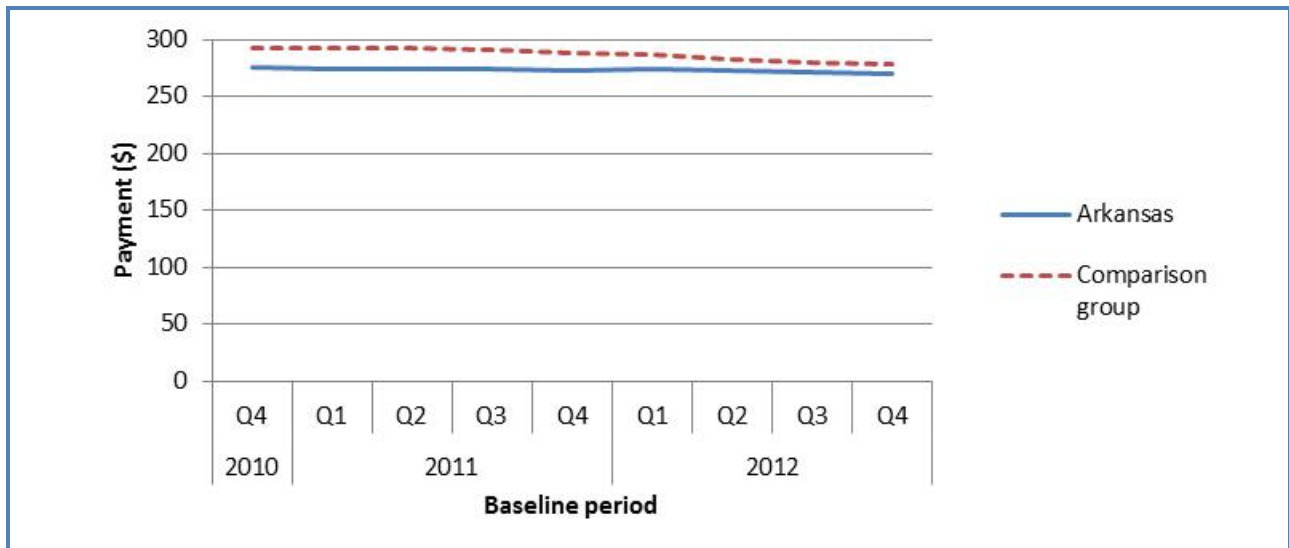
Total Medicare PMPM payments were relatively stable over the baseline period for Arkansas and increased slightly for the comparison group (*Figure 3-14*). Arkansas' total PMPM payments were consistently lower than the comparison group's for all baseline quarters. In Arkansas, Medicare inpatient hospital facility payments decreased by about 2 percent (from \$275 PMPM in first quarter 2010 to \$270 PMPM in fourth quarter 2012), whereas the comparison group had a 5 percent decrease (*Figure 3-15*). During the baseline period, Arkansas' payments to facilities for non-inpatient care increased by approximately \$15 PMPM, about \$8 PMPM more than for the comparison group (*Figure 3-16*). Medicare PMPM professional payments remained relatively stagnant for both Arkansas and the comparison group (*Figure 3-17*).

Dual Medicare-Medicaid enrollees had higher PMPM expenditures than other Medicare enrollees for every expenditure category. Arkansas' expenditures for Medicare-Medicaid enrollees were 60 percent higher than those for other Medicare beneficiaries, compared with the comparison group's Medicare-Medicaid enrollees expenditures, which were 50 percent higher than for other Medicare beneficiaries (*Table 3-8*).

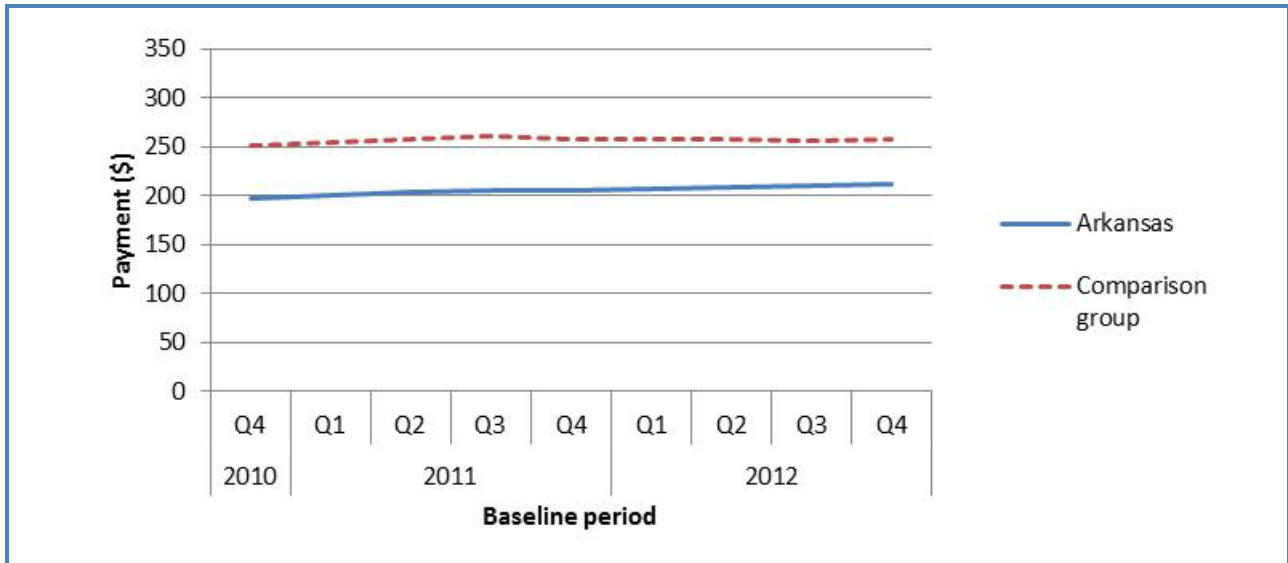
**Figure 3-14. Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group**



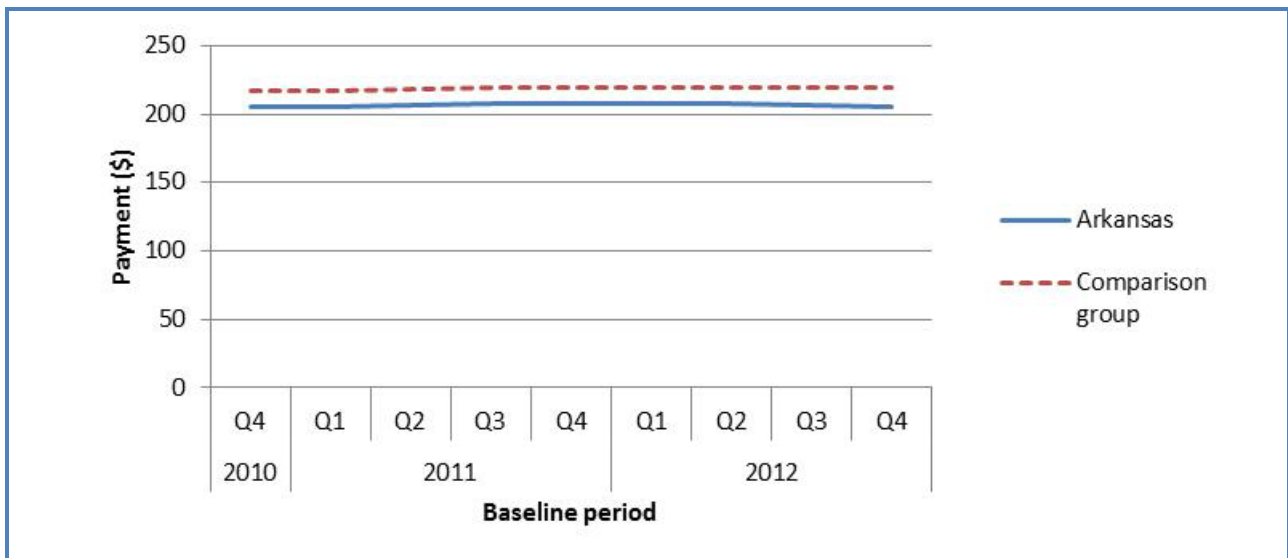
**Figure 3-15. Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group**



**Figure 3-16. Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group**



**Figure 3-17. Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Arkansas and comparison group**



**Table 3-8. Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Arkansas and comparison group**

Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Total</b>						
<b>Arkansas</b>	<b>952</b>	<b>961</b>	<b>966</b>	<b>597</b>	<b>602</b>	<b>607</b>
Comparison group	1,025	1,028	1,010	683	687	682
<b>Inpatient facility</b>						
<b>Arkansas</b>	<b>398</b>	<b>396</b>	<b>393</b>	<b>239</b>	<b>235</b>	<b>235</b>
Comparison group	406	404	388	260	254	247
<b>Other facility</b>						
<b>Arkansas</b>	<b>314</b>	<b>325</b>	<b>333</b>	<b>162</b>	<b>169</b>	<b>177</b>
Comparison group	365	369	363	217	225	227
<b>Professional</b>						
<b>Arkansas</b>	<b>240</b>	<b>240</b>	<b>240</b>	<b>195</b>	<b>197</b>	<b>196</b>
Comparison group	254	255	259	206	208	208

Inpatient hospital facility payments for Medicare-Medicaid enrollees decreased slightly from \$398 PMPM in first quarter 2010 to \$393 PMPM in fourth quarter 2012, compared with those of comparison group’s Medicare-Medicaid enrollees, which went from \$406 to \$388 during the same period. Overall during the baseline period, Arkansas’ payments for Medicare-Medicaid enrollees to other facility care increased by approximately \$19 PMPM, compared with those for Medicare-Medicaid enrollees in the comparison group, which actually went down by \$2. Professional PMPM payments for both Medicare-Medicaid enrollees and other Medicare enrollees remained relatively stagnant for both Arkansas and the comparison group.

### 3.4 Arkansas Synthesis

Arkansas state policy officials began holding discussions about payment reform early in 2011; by summer 2011, the state had begun designing the initial stages of a statewide payment reform initiative to address the dire consequences of rising health care costs and antiquated delivery systems. In July 2012, Arkansas officially launched the APII with implementation of episodes of care. The design of PCMH and health homes, additional components of APII, started later in the same year, with an anticipated implementation start date of January 2014 for PCMH Medicaid participation. Thus, Arkansas spent at least 1 full year planning and designing its state initiative components before receiving SIM Initiative funding from CMS. As RTI learned from site visit interviews, a key factor in the initial success of Arkansas’s payment reform initiatives was the support of leaders both inside and outside state government, including



the Governor, Surgeon General, and Vice President of Enterprise Networks at Arkansas BCBS. Another large private insurer, QualChoice, also joined APII early on. The visibility and significance of APII was further enhanced when a doctorate-trained health economist was hired as Arkansas' Medicaid Director in December 2011.

We also learned from our site visit interviews and focus groups that state leaders engaged stakeholders to seek their input on the design of the APII's three major models: episodes of care, PCMH, and health homes. Initially, state leaders planned to develop prospective payment for episodes of care; but when they heard from providers that this was not acceptable, as noted, they revised episodes to use retrospective payment. Payment using retrospective episodes launched with three URI episodes. After giving providers preliminary data on their performance for approximately 1 year, the state Medicaid program sent risk- and gain-sharing reports for these episodes in January 2014. Arkansas is also moving forward with its PCMH initiatives. State leaders are pleased to see that practice participation exceeded expectations, such that approximately 70 percent of all eligible Medicaid beneficiaries are being reached by this model.

It is still early to evaluate whether APII has had an effect on most process measures computed for the 2014 annual report, as Arkansas rates were typically similar to those of the comparison group for most measures. Exceptions include Arkansas' inpatient hospital facility payments, which increased only 4 percent from first quarter 2010 to fourth quarter 2012, compared with the comparison group's increase of 13 percent; and Arkansas' payments for non-inpatient care, which also increased more gradually than those for the comparison group. If APII's goal of reducing the cost of health care is met, most process measures, if not all, should show improvement when contrasted with the comparison group values in subsequent years.

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## 4. Maine

### 4.1 Overview of Maine Model

Maine's SIM Initiative aims to strengthen and expand health care transformation efforts currently under way in the state by providing an overarching framework to align payment and delivery systems statewide. The Initiative is primarily focused on alignment efforts within MaineCare (the state's Medicaid program). However, several components are also directed at Medicare and the commercial insurance market.

Maine has identified the following six goals as central to accomplishing its vision:

1. Strengthening primary care
2. Integrating primary care and behavioral health
3. Developing new workforce models
4. Supporting development of new payment models
5. Centralizing data analysis
6. Engaging people and communities

To align the range of health care transformation efforts undertaken, the state has developed a strategic framework to depict how each of its objectives relates to these broader goals (see *Appendix F*).

Building on its success with the state's Patient-Centered Medical Home (PCMH) pilot,<sup>3</sup> the Maine SIM Initiative seeks to develop an interconnected health care delivery system centered around medical homes, health homes, and accountable care organizations (ACOs). Specifically the Initiative supports the expansion of medical homes and health homes for individuals with complex conditions, implementation of behavioral health homes for individuals with mental illness, and formation of Accountable Communities (ACs) (Maine's version of ACOs) that seek to improve care coordination for MaineCare's general population.

Maine's SIM Initiative is also directing funds toward enhancing its data analytics and reporting infrastructure. Specifically, the state is providing financial incentives to behavioral health providers to adopt health information technology (health IT), developing a standard set of

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<sup>3</sup> The Maine PCMH pilot was a state-led initiative launched in January 2010 with 25 primary care practices. In January 2012, Maine was selected to participate in Medicare's Multi-Payer Advanced Primary Care Practice (MAPCP) demonstration, which provided additional funding to expand Maine's PCMH pilot to a total of 74 practices. All practices are now part of the MAPCP demonstration.

quality measures for reporting and payment, building both patient and provider portals, and developing a consumer engagement campaign to educate patients about delivery reform.

## 4.2 Maine Site Visit and Focus Group Report

### 4.2.1 Overview of site visit and focus groups

During the week of February 24, 2014, the Maine site visit team conducted in-person interviews with key SIM stakeholders in Portland and Augusta. Over a 3-day period, the team conducted a total of 23 interviews with a mix of stakeholders, including state officials (12),<sup>4</sup> health care providers (4), payers and purchasers (5), a medical association (1), and a consumer organization (1). The purpose of the site visit was to clarify the state’s key approaches and strategies for delivery system transformation and gain a better understanding of stakeholders’ planning and implementation experiences during the first year of the SIM award. Stakeholder protocols unique to each respondent type were developed to serve as a guide for each interview. Key protocol topics included perspectives on SIM activities and implementation, governance and project administration, stakeholder participation, specifics of care coordination and population health activities, payment reform, health IT, and successes and challenges to date.

RTI researchers also conducted seven focus groups in Maine—four in Portland and three in Bangor. Of these seven groups, four were conducted with medical providers and three with Medicaid beneficiaries. Two of the provider focus groups were conducted with primary care providers serving Medicaid patients and two with primary care providers specifically practicing within a PCMH that serves Medicaid patients. Primary care providers included physicians, nurse practitioners, physician assistants, and registered nurses. Beneficiary focus group participants were all enrolled in Medicaid Health Homes.<sup>5</sup> Groups were designed to obtain a baseline understanding of both providers’ and beneficiaries’ perceptions on the level and type of care coordination delivered during an office visit.

### 4.2.2 Delivery system and payment models

#### *Governance and project administration*

Maine’s SIM Initiative is led and administered by Maine Department of Health and Human Services (DHHS) staff, who work closely with two state government agencies and three SIM partners, each with responsibility for a major component of the state’s SIM Initiative:

- **MaineCare:** state Medicaid agency leading the Medicaid payment reforms (ACs, health homes, Behavioral Health Homes)

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<sup>4</sup> In addition to state officials, we interviewed the three organizations the state contracted with to help design and implement Maine’s SIM initiative. These three organizations were referred to as the SIM “partners.”

<sup>5</sup> The participant breakdown was 19 Medicaid beneficiaries (12 in Portland and 7 in Bangor) and 26 primary care physicians (14 in Portland and 12 in Bangor).

- **Maine Center for Disease Control & Prevention:** state public health agency leading population health reforms focusing on diabetes prevention and community health worker (CHW) initiatives
- **Maine Health Management Coalition:** nonprofit coalition of employers, payers, purchasers, and other organizations, leading the multi-payer alignment, employer education work, and efforts around claims data analytics to inform stakeholders about utilization and total cost of care
- **Maine Quality Counts:** nonprofit, multi-stakeholder collaborative with quality improvement expertise (at the process level, rather than specific clinical improvements), leading the practice transformation work
- **Maine HealthInfoNet:** non-profit, statewide health information exchange (HIE), leading the efforts around clinical data for a variety of provider types

In addition to those responsibilities, these state government agencies and SIM partners are active in SIM governance structures, attend one another’s subcommittee meetings, and meet weekly by phone or in person outside the official governance meetings to coordinate SIM activities. Because of Maine’s relatively small population, some of the same leaders serve on the boards of more than one partner organization, and several people mentioned a long history of working with together.

Maine spent significant effort setting up a clear governance structure for its SIM Initiative, which includes a Leadership Team, steering committee, and three subcommittees.<sup>6</sup> The three subcommittees—Payment Reform, Delivery System Reform, and Data Infrastructure—are led by Maine Health Management Coalition (MHMC), Quality Counts, and HealthInfoNet, respectively. The Leadership Team has ultimate decision-making responsibility for Maine’s SIM Initiative, and its meetings focus on high-level aspects of development, implementation, and evaluation of the various SIM activities, and resolving conflicts that arise. It is chaired by the Governor’s health policy advisor, who is briefed weekly on SIM activities. The Leadership Team also includes leaders from several state agencies and the legislature. The steering committee is the high-level stakeholder group that advises the project. This committee includes representatives from the two primary SIM state government agencies (MaineCare, Maine Center for Disease Control & Prevention [Maine CDC]) and the three SIM partners (Maine Health Management Coalition [MHMC], HealthInfoNet, and Quality Counts), plus other provider, payer, and consumer stakeholders. Although the structure made sense to most interviewees, more than one noted that it will be a challenge to ensure alignment across the three work streams. Finally, the SIM structure leverages the following four existing MHMC work groups: the Physicians and Systems work groups, both under the Pathways to Excellence

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<sup>6</sup> A fourth subcommittee on evaluation was not yet active when the site visits took place.

initiative (PTE); a work group on accountable care implementation (ACI); and a work group on tracking health care costs (HCC). Additionally, under the SIM Initiative, the MHMC has established two new work groups—one on value-based insurance design (VBID) and one on PTE-Behavioral Health.

Several state officials saw early 2014 as a turning point for the governance structure, from “setting the table” to actually executing the SIM plan. For example, between October and December 2013, the subcommittees focused on clarifying the vision of the SIM plan, dividing up assignments, and educating the diverse group of stakeholders about SIM implementation. The intent was that subcommittees would start having detailed implementation discussions and bringing recommendations and unresolved challenges to the steering committee for guidance. According to steering committee members, that group’s discussions have also focused on process and background; once the subcommittees begin bringing specific questions and requests to the steering committee, more opportunity for providing strategic input is expected. In interviews and meetings we observed, it was clear that state officials envision such a shift but that it has not yet occurred. As a result, stakeholders serving on the subcommittees and the steering committee expressed confusion, and even frustration in one case, about their respective groups’ roles and the amount of material they needed to review in a short time. One steering committee member perceived the committee’s role as primarily to receive updates and approve plans. One state official mused that a lesson learned could be to begin stakeholder engagement later in the process, to avoid stakeholder fatigue and use stakeholders when their expertise is most needed.

The SIM Initiative is administered by staff in Maine DHHS. Currently, there is one full-time project director funded by the Initiative. Several state staff members, primarily from MaineCare and Maine CDC, are also dedicating time to various pieces of the Initiative. A large number of interviewees, including state officials and consumer and provider representatives, indicated that the state had the will and the desire to implement the SIM Initiative but was concerned that staffing and technical expertise may be inadequate. Specific areas identified by stakeholders that could use additional staffing included project management, financial modeling, regulations and analysis, and working with the federal government.

Multiple state officials shared the perspective that the state, though always strained for resources, manages and has successfully executed other initiatives. The core project administration team is in the process of hiring two more people. One lesson a state official had for other states was to not underestimate staffing needs. According to state official interviewees, Maine intentionally applied for a lower amount of SIM funding for project administration, because they were planning to use partner organizations to perform much of the work surrounding implementation. Indeed, stakeholders are optimistic that the expertise of these three partners will help Maine successfully implement the Initiative. However, in the words of one state official, “what we didn’t know was what the state would have to do to manage that

collaboration.” At least two interviewees, including one SIM partner, expressed some trepidation about the large scope of partners’ roles and their ability to manage the work.

### ***Specifics of care coordination, care management, and primary care strategies***

The Maine SIM Initiative is supporting a variety of initiatives directed at improving care coordination and strengthening primary care for patients with complex illnesses. Chief among these is supporting the expansion and development of multiple care delivery models in MaineCare, the state’s Medicaid program. Additional approaches include supporting the expansion and deployment of new workforce models, enhancing the skills of current health care workers, and facilitating communication across providers, and between providers and patients, through adoption of health IT.

When discussing care coordination, several stakeholders mentioned the importance of integrating care and finding new approaches to treating patients more holistically. Specifically, Maine seeks to enhance care coordination by expanding its current health homes initiative to patients with complex and chronic conditions (referred to as Stage A Health Homes), introduce Behavioral Health Homes (Stage B Health Homes), and develop ACs in its Medicaid program. State officials view the implementation of health homes and ACs as an important step toward building a more coordinated and comprehensive delivery system to address the needs of individuals with chronic conditions. Several stakeholders also highlighted the importance of integrating: (1) behavioral health care services with primary care and (2) behavioral health with social services such as housing and employment. According to one provider, fully integrating behavioral health with primary care could be “transformative” for the Medicaid population.

Maine is also seeking to improve care coordination by expanding adoption of community care teams (CCTs) throughout its care delivery models and piloting new workforce demonstrations utilizing CHWs. CCTs—which typically consist of a mix of care managers, pharmacists, behavioral health providers, health coaches, CHWs, and other social service providers—currently work with medical and health homes to identify high-risk patients who need additional support. CCTs, which have been participating in Maine’s PCMH pilot since 2011, are perceived by multiple state officials and other stakeholders as not only unique but essential to providing comprehensive, coordinated care to complex patients. Maine is also developing five pilot projects utilizing CHWs.<sup>7</sup> The vision for Maine’s CHW initiative is to develop strategies for integrating CHWs into the CCTs and into new delivery models more broadly.

Lastly, Maine is directing a portion of its SIM funds toward two health IT activities designed to facilitate communication across health care providers participating in Medicaid. The

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<sup>7</sup> The American Public Health Association’s (APHA) definition of a CHW is an individual—usually a member of the local community—who serves as a liaison or intermediary between health/social services and the community.

first is implementation of real-time automated email notifications to Maine Care providers when a Medicaid patient visits an emergency room (ER) or is admitted to the hospital. As one state official noted, if the case manager gets a notification when the patient enters the ER, “that is huge.” The second is the state’s offer of incentives and technical assistance to behavioral health providers to adopt health IT tools.

**Perspectives on care coordination from focus groups.** Focus groups with primary care providers and Medicaid beneficiaries revealed varying levels of satisfaction and experience with care coordination activities. In general, primary care physicians practicing in medical homes reported more satisfaction with care coordination approaches than primary care physicians not practicing in medical homes. For example, the majority of primary care providers working within medical homes believed that having a full-time care coordinator or case manager enhanced efficiency. Such providers also indicated that communication between and among physicians had become easier upon joining a medical home. In contrast, physicians who were not part of a medical home but had adopted some care coordination methods—such as care managers and electronic health records (EHRs)—tended to perceive these methods as sometimes burdensome. For example, some indicated that having care coordinators on staff added complexity and increased paperwork. But some noted that the reason for the difference between medical home and non-medical home physicians could be generational: younger practitioners are more likely to transition into medical homes and more willing to adopt care coordination methods than older practitioners. Physicians across all groups expressed concerns about the costs of hiring and supporting care coordination staff, particularly in an era of reduced reimbursement and fewer incentives. Furthermore, physicians across all groups commented on challenges they experience practicing medicine in a predominately rural state, such as a high volume of no-shows, transportation barriers, and a shortage of mental health providers.

Perceptions on care coordination among Medicaid beneficiaries were, by and large, mixed across all groups. Some beneficiaries—particularly those who had a longstanding relationship with their physician—had generally positive things to say about care coordination. These patients reported receiving adequate follow-up from their primary care physicians and sufficient access to specialists. The least satisfied beneficiaries reported frustration with having to see different physicians at each visit, difficulties getting appointments, and challenges obtaining referrals to see specialists. At least one noted that, “since 2010, I’ve had to see at least six different doctors to treat my mental health issues [at the same clinic].” Access to adequate mental health care in Maine was identified generally as a challenge by both physician and beneficiary focus group participants.

### **Payment reform**

The Maine SIM Initiative is designing and implementing two major payment reforms in Medicaid: Behavioral Health Homes and ACs. On the commercial side, the Initiative is supporting activities related to VBID and development of a uniform set of core performance



measures. Although some payment reforms were initiated prior to the SIM Initiative (e.g., all-payer PCMHs, Health Homes Stage A for Medicaid patients with chronic conditions, and some commercial sector and Medicare ACOs), there was a general consensus among stakeholders that a key advantage of Maine's SIM Initiative is that it will allow the state to reach a critical mass for these payment reforms.

Many stakeholders believe that health care delivery cannot be changed without changing payment, which is consistent with the state's value-based purchasing strategy. For example, state officials pointed to statistics indicating that behavioral health patients suffer from high rates of chronic illness and die several years younger than their non-behavioral health counterparts. Stakeholders indicated that this is in part due to behavioral health providers not integrating primary care into their patients' health care. The Behavioral Health Home per member per month (PMPM) payment model allows for a holistic approach that integrates primary care with behavioral health care through care coordination. Services included in the PMPM fee structure are comprehensive care management, care coordination, health promotion, comprehensive transitional care, individual and family support, and referrals. Other services, such as transportation, ER visits, therapy, etc., are billed to MaineCare outside the Behavioral Health Home PMPM rate, as per the MaineCare Benefits Manual.

Stakeholders generally thought it was too early to tell how these payment initiatives would impact their respective organizations. However, according to several non-government stakeholders, payment reform was happening several years prior to the SIM Initiative. For example, many stakeholders reported participating in an ACO payment model for several years now, or in the state's medical home initiatives, or both. One provider believed that the single most important outcome of Maine's SIM Initiative would be if the state took full advantage of the efforts Maine providers have already implemented with other payers (commercial, Medicare)—for example, the work Maine providers have accomplished with commercial payers in developing ACOs. A number of important efforts, strategies, or goals could be useful, such as payment reform efforts to align quality metrics and cost metrics used by the commercial market and Medicare. One payer mentioned that there is a lot of discussion about commercial payers aligning with MaineCare, but thought the state could instead learn from the commercial market, which has been doing payment reform for a relatively long time.

Several purchasers viewed the SIM Initiative as a means to contain the cost curve, and generally thought the Initiative will help accelerate the rate of transformation required to achieve this goal—by giving them the ability to do the practice reports and to report total cost of care on various provider systems. This information then will create an environment such that higher performing, efficient systems and others that need to make improvement will be recognized as such. One purchaser also mentioned that VBID components are currently in development under the SIM Initiative, and that this will help their organization going forward with implementing VBID-based payment reform. For example, one SIM partner mentioned the possibility under the

Initiative of using a similar ranking and public reporting methodology for MaineCare as has been used by the State Employee Health Commission for providing state employees with financial incentives to use preferred hospitals. A purchaser mentioned how VBID under the Maine Initiative will build on PCMHs, which have synergies with VBID—for example, VBID can be a means of encouraging greater use of PCMHs. Most stakeholder groups felt that the state-led effort to identify a uniform set of core performance measures will be paramount if payment reform is to be successful. However, stakeholder perspectives on the details of payment reform varied. All stakeholders agreed that quality of care performance measures should be central. Most also thought efficiency performance measures are important to include, though some thought that “cost” efficiency performance measures were not required for certain payment models, by the following logic. In a typical ACO payment model, Part 1 requires the ACO to constrain costs relative to a comparison group or a benchmark; if it is successful, then in Part 2 of the model the ACO receives a performance payment, provided it also does well on the specified set of performance measures. Thus, given the requirement in Part 1 of constraining costs, some stakeholders thought a “cost” efficiency performance measure was not required in Part 2. Stakeholder groups of all types often had no strong opinion on what the ultimate use of the core measures should be. Most mentioned that these should be used to measure provider performance in payment reform initiatives, and some gave specific examples (such as use in public reporting and in payment contracts). But some simply said the ultimate use of the core measures was “to be determined.”

### 4.2.3 Enabling strategies

#### *Physician, consumer, and other stakeholder engagement*

The Maine SIM Initiative has been designed to integrate all major stakeholder groups throughout the planning and implementation of the state’s model. The majority of these efforts are being led and facilitated by MHMC, Maine Quality Counts, and HealthInfoNet—the three SIM partner organizations that independently convene multi-stakeholder groups around delivery system transformation, payment reform, and other topics to further SIM goals.

**Integration and engagement efforts led by SIM partners.** As a key SIM partner, MHMC is charged with gathering health information to influence market forces and inform policy decisions by tracking health care costs, driving value-based benefit design, and utilizing the PTE process for payment alignment activities. State officials noted that partnership with MHMC was a strategic move to leverage participation of key payers, purchasers, and providers in the Initiative. They pointed specifically to MHMC’s link with the three largest self-insurers in the state as an opportunity to “nudge consensus” around quality improvement and measurement topics among other stakeholders (such as providers and payers). One state official commented that “CMS is a big player, but you need provider systems and commercial plans involved to justify changes to the delivery system in risk contracting.”

MHMC is responsible for a number of key milestones that integrate stakeholders into the implementation process. These include convening a CEO roundtable to: (1) inform business leaders on the cost of health care in Maine, (2) reconvene the Healthcare Cost work group, (3) continue convening the ACI work group, and (4) convene and hold regularly scheduled meetings for each of the following new groups—the Behavioral Healthcare Cost work group, VBID work group, and PTE Behavioral Health work group.

Feedback was provided on development and maintenance of some of these groups. Stakeholders see the VBID work group as a resource between emerging payment reform strategies and the response from providers and purchasers. The PTE Behavioral Health work group will be multi-stakeholder and vet a series of measures related to behavioral health quality and integration. One stakeholder commented on the positives of the ACI work group, in that it “provides opportunity for planning of integrated delivery models, bringing experience of the Medicare Shared Savings Program, behavioral health organizations and large providers into one room.” For example, MHMC will introduce the National Diabetes Prevention Program (NDPP) at the ACI work group. The Maine accountability targets state that the “ACI may serve as a venue for the NDPP pilot to showcase its work, educate purchasers regarding the program, building familiarity with the NDPP across a broad community.” Maine CDC’s CHW pilot is slated for input through the ACI work group and Payment Reform subcommittee.

Maine Quality Counts, which seeks to collaboratively align quality improvement efforts throughout the state, is charged with a number of Maine SIM objectives that seek to integrate providers and consumers into the implementation process. These objectives include providing learning collaboratives for MaineCare Health Homes, quality improvement support for Behavioral Health Homes, and quality improvement support for Patient-Provider Partnership Pilots (P3 Pilots). Quality improvement was mentioned as a potential challenge for behavioral health organizations entering as Stage B Health Homes, because “they operate differently and do not have previous experience with performance measurement as primary care practices in Stage A do.”

HealthInfoNet is an organization using information technology to improve patient care quality and safety. It built and operates Maine’s statewide HIE, a secure electronic system in which health care providers share important patient health information including allergies, prescriptions, medical conditions, and lab and test results. HealthInfoNet is leading several SIM activities to integrate providers and consumers in implementing the SIM Initiative (e.g., providing ER notification to MaineCare care managers). HealthInfoNet also leads the Data Infrastructure subcommittee under the Initiative. As one SIM partner expressed it, this subcommittee is helping stakeholders to manage data in the projects under the SIM Initiative and create a forum for collaboration to help develop understanding with managing their own data.

**Provider integration and engagement.** Providers are engaged in multiple health IT activities supported by the Maine SIM award, including development of quality metrics, practice reports, and a provider portal. Many interviewees reported that the use of performance reporting and benchmarking to other providers through public reporting will be one of the most powerful levers to engage providers. Providers, payers, and state officials agree that this could eventually be tied to value-based purchasing through employers and ACO payment arrangements, as mentioned previously. Practice reports reflecting practice performance on outcomes measures are being produced by MHMC and distributed to all primary care practices.

**Consumer integration and engagement.** The BlueButton pilot, which uses BlueButton standards to allow patients to download a Continuity of Care document summarizing all their records in the HIE, was described by one state official as the “most active way to engage consumers.” For reasons that are not clear, however, Maine has reduced funding for this pilot and now plans to select only one provider organization to participate next year.

The Maine Health Data Organization (MHDO) has sponsored a process for conducting statewide patient experience of care surveying using CG-CAHPS with provider practices across the state. The Initiative will include an analysis of results from this surveying process, with plans to compare results from the first round of surveying (conducted in late 2012 – early 2013) with a second round anticipated to be run in fall 2014. MHDO has provided substantial subsidies to practices to defray the costs of participation for both rounds.

Results from these surveys will be reported publicly through MHDO ([www.mainpatientexperiencematters.org](http://www.mainpatientexperiencematters.org)); additionally, practices participating in the MHMC’s public rating (PTE) program will receive a more favorable rating on MHMC’s public reporting Web site, [www.getbettermaine.org](http://www.getbettermaine.org), for participating in these patient experience surveys. As of second quarter 2014, ratings will be based on the 2012-2013 survey, with results publicly available on the MHDO Web site.

**Payer integration and engagement.** The level of involvement among payers in the Maine SIM Initiative is varied. One payer stated that they “feel it is their job to be a good community citizen and help answer questions related to provider functioning, integration, and payment of services.” Others reported that this is primarily a Medicaid initiative, and that they have yet to become actively involved.

### ***Health information technology and other infrastructure investments***

Health IT and related investments of the Maine SIM Initiative are primarily led by MHMC and HealthInfoNet. State officials and participating stakeholders commented that these organizations are working to understand how they will each coordinate the collection, management, and analysis of data.

HealthInfoNet is charged with leading the state's work around clinical data, including clinical data exchange, and measurement using clinical data. One objective is testing the impact of sharing real-time clinical data with payers. Interviewees describe this objective as uniquely innovative, because although HIEs in Maine and elsewhere have a history of providing clinical data in real-time to providers, it has not been provided to payers in the same way. MaineCare will be the test payer receiving clinical data, and the intention is that MaineCare's care managers will then use the real-time notifications to coordinate care. Because MaineCare must rely on claims data for care management, which has significant inherent delays, real-time clinical data may strongly improve their ability to coordinate care. Through this objective, the state is testing whether payers will be in a better position to coordinate care across providers. Finally, HealthInfoNet is building a data dashboard for MaineCare that will incorporate clinical and claims data and allow the payer to drill down into demographics and diagnoses, to inform more targeted interventions.

Another health IT strategy of the Maine Initiative is to improve the data infrastructure related to behavioral health care. This includes providing incentives to behavioral health providers to connect to the HIE. In May 2014, HealthInfoNet announced that 20 behavioral health organizations will be receiving financial reimbursements to adopt HIE. Although multiple interviewees noted that the incentives may not be enough to purchase an EHR, they may be sufficient to connect organizations that already have EHRs to the HIE. Behavioral health provider interviewees saw this as a positive and concrete step toward furthering the integration of behavioral and physical health in Maine.

Lastly, on the clinical data side, the "BlueButton" pilot follows a national model to give patients access to their own clinical data in the HIE. Originally the pilot was for 3 years but this has been reduced to a 12-month period, as noted, and will be carried out with only one provider organization. HealthInfoNet released a request for information (RFI) and is in the process of gaining verbal commitment from the partnering provider organization.

MHMC is leading the Payment Reform subcommittee and is involved in health IT efforts. MHMC holds a claims database and has a contract to receive data from the state's all-payer claims database (APCD) at MHDO. Thus, MHMC is providing much of the claims data for SIM work.

MHMC produces practice reports for providers to help physicians compare their performance on select cost and quality metrics. In January 2014, MHMC distributed provider reports to all primary care practices in Maine. Currently, the reports only feature data for commercial populations. In June 2014, however, CMS recognized MHMC as a qualified entity eligible to receive Medicare data, so future reports are expected to incorporate both Medicaid and Medicare data.

HealthInfoNet, MHMC, and MHDO all collect and manage health care data in the state. Although these entities share data with one another, clarifying the roles and relationships among the entities, as well as what data they can and should release to outside entities, has posed challenges. With the clinical data health exchange in Maine led by HealthInfoNet, MHDO responsible for the APCD for the state, and MHMC maintaining a commercial claims database for its members (it also has access to APCD, MaineCare, and Medicare claims data), stakeholders noted room for improvement in the integration of clinical and claims data to help with health reform, including the SIM Initiative.

MHDO was not originally represented on the Data Infrastructure subcommittee until several members of the steering committee objected. In addition, during the site visit, a bill was introduced in the legislature (LD 1740) requiring that MHDO release identifiable claims data for the first time. The Maine Hospital Association put forth, and then modified, an amendment supported by HealthInfoNet and the Maine Medical Association that would require MHDO to bring forward to the Health and Human Services Committee specific use cases for collecting patient identified clinical data, and to define the minimum data set that would be required to satisfy the use cases. After the site visit, the bill passed with some restrictions on MHDO's ability to collect clinical data.

In addition to these data challenges, state officials and providers noted barriers to data sharing related to the Health Insurance Portability and Accountability Act (HIPAA) and to both Substance Abuse and Mental Health Services Administration and state-specific privacy regulations.

#### **4.2.4 Summary of findings**

##### ***SIM operational model activities and progress***

Maine has made considerable progress in meeting its key objectives. Maine DHHS (including MaineCare and Maine CDC) and the SIM partners issued solicitations for key aspects of SIM work, including ACs, Stage B Behavioral Health Homes, and health IT support for behavioral health providers. Behavioral Health Homes officially launched on April 1, 2014, and ACs are scheduled to occur starting August 1, 2014. The state and its SIM partners also made progress laying the groundwork for the Initiative—for example, hiring a vendor and staff to analyze claims data, completing preliminary workflow requirements for establishing ER alerts for MaineCare enrollees, and beginning an employer education campaign related to value-based benefit design.

Even so, some of Maine's SIM operational activities were delayed. The AC state plan amendment (SPA) faced unanticipated delays within the Attorney General's office, as increased time was needed to review the SPA before moving forward with rulemaking. There were also delays as questions were raised of how rates would impact Behavioral Health Home providers. Thus, the SPA was submitted to CMS in February, approximately 1 month later than planned.

Stakeholders had varying levels of clarity about Maine’s SIM Initiative, depending on the element. Most interviewees, both in and out of state government, had deep understanding of the state’s data vision, including integrating claims and clinical data and the need for HIE among providers. Stakeholders also consistently reported that a primary SIM goal was to better coordinate care across settings, especially to improve physical and behavioral health integration. Many interviewees mentioned community health teams as important to the SIM Initiative, although they were most likely referring to teams funded through the multi-payer PCMH project, which is not part of the Initiative. Areas in which interviewees, especially those outside state government, seemed to have less clarity included Behavioral Health Home measurement and payment, ACs, multi-payer measure alignment, the tie between workforce initiatives and the SIM Initiative (e.g., CHWs), and payment reform in the broader market. In such cases, several non-government stakeholders (health care providers, commercial payers and purchasers, medical associations, consumer groups, etc.) perceived the work as less clearly developed at this stage, and were unsure what would happen during the remainder of the test period.

### ***Stakeholder participation***

Maine’s SIM Initiative has had generally high stakeholder participation. The Leadership Committee and the steering committee (along with its three subcommittees) have broad stakeholder representation—including representatives from the Governor’s Office, Maine DHHS, MaineCare (Maine’s Medicaid agency), Maine CDC, the three SIM partners, several types of providers, consumer groups and consumers, and commercial insurance plans and purchasers (notably, the Payment Reform subcommittee has representatives from all the commercial insurance plans). In addition, two legislators sit on the steering committee and on the Leadership Team. Legislators’ roles are considered important, as they can report SIM progress back to the legislature and educate colleagues on the SIM Initiative more generally. No interviewee identified a stakeholder group that had been left out of Maine’s SIM process.

By and large, non-government stakeholders of all types felt the state had been inclusive during SIM implementation and its test phases, and receptive to feedback. State officials observed that the relationships between the state and various non-government stakeholder groups are generally positive, which has not always been the case in previous initiatives in Maine. Both state officials and payer interviewees noted that there was much less non-government stakeholder engagement during the SIM application process than during the implementation and test phases. One payer said the state could do more to understand innovation they already have under way. More than one stakeholder implied that the state may have even been too inclusive in engaging stakeholders—to the point that some subcommittees, particularly the Delivery System Reform subcommittee, had become large and unwieldy. But a provider stakeholder thought the state had done a good job of creating openness and opportunities for input, even from those not on the subcommittees.

MaineHealth is the largest integrated health system in the state, and several interviewees (including state officials and provider and consumer representatives) pointed to MaineHealth as an influential stakeholder. Representatives from MaineHealth serve on the steering committee, the Payment Reform subcommittee, and the Delivery System Reform subcommittee. Several interviewees, both in and outside state government, referenced a recent merger that grew the scope of one of MaineHealth's competitors and introduced short-run instability into the state's hospital landscape. As a result, these interviewees perceived Maine's SIM Initiative as operating in a context in which the hospitals are the most powerful players; and tension among the hospitals themselves has an influence on what the state can do. Some stakeholders viewed this negatively, but some viewed it as simply a reality that needs to be navigated for a successful transformation.

### ***Quality of care and other outcomes***

Aligning quality measures across providers and payers and improved public reporting of cost and quality data are both objectives of the Maine SIM initiative. The state has contracted with a nonprofit organization, the MHMC, to help develop portals for providers to access claims and outcomes data, increase the number of quality metrics that are publicly reported, and identify performance metrics for assessing new care models (specifically ACOs and Behavioral Health Homes). MHMC is also convening a work group to track health care costs across the state and identify strategies to lower costs.

At the conclusion of the SIM Initiative, Maine would like to have a core set of quality indicators identified and publicly reported that are aligned across all participating payers and providers. The ACI work group under the SIM Initiative has started this by gathering all metrics that payers are currently using in the state. Although many stakeholders viewed development of a uniform set of measures as critical to Maine's payment and delivery reform efforts, several state officials and payers alluded to the challenges associated with this endeavor. For example, according to at least one national health plan, creating a Maine-specific set of quality metrics did not make sense for them, as they had already invested considerable time in developing a national set of measures that applied uniformly across their participating states.

In addition, the number of core measures thought to be ideal has been a topic of conversation in Maine SIM stakeholder meetings—about which opinions among stakeholders have ranged from 5 to 10 measures (one state official), to 30 to 40 measures (one SIM partner), to 100 measures (one commercial payer). However, some stakeholders feel that even discussing the specific number of core measures is a distraction from the main goal, which is to develop and implement a set of core measures that will help Maine achieve its goals under the SIM Initiative. Perspectives were varied even within stakeholder types. For example, one payer mentioned not knowing the right number of measures, but that the lowest common denominator across all payers should be used and that alignment is possible because measures are not a way for commercial payers to distinguish themselves. However, another payer expressed apprehension



around alignment because of concerns about the aligned measures not fitting within their business model, being too prescriptive, and limiting potential for future innovation. This payer also mentioned inconsistencies in the state’s use of language and whether it will be “creating” or “requiring” alignment through regulatory power. Stakeholders are also varied in their opinions on commercial payers’ willingness to adopt the chosen core set of measures. One provider noted that the provider community is not convinced payers will embrace the measures once the state determines them. However, state officials said they believe all commercial payers will make a good faith effort to adopt the chosen core set by 2015.

#### **4.2.5 Population health**

Population health improvement is another of Maine’s goals under the SIM initiative, and SIM funds are directly supporting two interventions that fall under the authority of the state’s Office of Population Health and led by Maine CDC: (1) the CHW pilot and (2) the NDPP pilot. Some stakeholders noted that, since these were to be pilots and not statewide programs under the SIM Initiative, they could not be expected to have a major impact on population health in the short term; but if these pilots proved successful, they could be expanded in the long term. One state official also noted that there will likely be indirect spillover effects on population health from the health home and AC payment reforms under the Initiative.

Maine’s CHW initiative, described in the care coordination section, is focused on developing the infrastructure necessary to support CHWs as part of Maine’s transformed health care system. As one state official described it, a CHW could be a lay person of the community and help with different things in different communities, such as language or cultural barriers. This state official also noted that stakeholders were convening to answer the question: “How can the state move the CHW program forward in a concrete way?” and that pilot demonstrations, especially with provider participation, are one way to move the program ahead.

NDPP is a Maine CDC-led program incorporating classes and education to reduce the incidence of diabetes across the state. NDPP has a specific curriculum of lifestyle coaches and classes for a patient with pre-diabetes or risk for pre-diabetes, which has proven to delay or prevent diabetes in these patients. As one state official explained, originally Maine was going to work with MaineCare and Medicare to start the program, but in the end the state decided to do a pilot under the SIM Initiative and then consider making a change to start reimbursing for the program.

#### **4.2.6 Successes, challenges, and lessons**

##### **Successes**

On the whole, stakeholders (state officials, SIM partners, providers, commercial payers and purchasers, medical associations, and consumer groups), generally agreed that it is too early to discuss whether Maine’s SIM Initiative will ultimately be successful. The perspective among

many stakeholders was that overall success of the state’s transformation efforts will largely depend on the state’s ability to capitalize on current redesign activities—both those happening commercially and those already occurring in the public sector. One stakeholder noted, for example, that the state’s medical and health homes initiatives will likely help accelerate the state’s implementation of Behavioral Health Homes over the next few years.

A key success many interviewees noted is the state’s progress in securing multi-stakeholder consensus for the model. Several respondents commented that getting all payers, providers, and other stakeholders to the same table, participating in the governance structure, and agreeing to work on the model is a major step, for which the state deserves significant credit. Although initiating stakeholder involvement prolonged the process, most indicated that it was worthwhile because there is real value in achieving consensus. As one state official put it, “I’m surprisingly pleased about how this consensus model has managed to work. I never thought it would work. I thought it would be majority rule. But there are so many stakeholders around the table, and still we are able to come to consensus and able to do the work in an organized way. The more buy-in at the front end, the better the take-away for me.”

Though SIM-specific initiatives are in the early stages of implementation, they are still generally proceeding on track. The SIM steering committee meeting in February 2014 focused on where Maine was with its SIM Initiative. During this meeting, the state reported that, while there were some delays, Maine is generally on target across all its objectives, which translates into success for the early implementation stages.

### **Challenges**

Interviewees recounted challenges with the SIM Initiative thus far, and foresaw additional challenges the state and its partners will have to navigate for the SIM Initiative ultimately to be successful. Still, stakeholders were generally optimistic that these challenges were surmountable.

One challenge state officials noted was longer than expected time frames for contracting and for approval of SPAs. It took more time than expected for the state to contract with the SIM partners but, as one SIM partner expressed it: “We feel now that through the initial 6 months it’s going to become like second nature to go through the administrative steps, the meetings, budgets, paperwork, heavy contracting, because we have a contract structure. But allowing more time for that in the project plan would have been helpful.” Several stakeholders mentioned longer time frames than they anticipated to gain approvals from the Attorney General’s office—for example, approvals for the three SIM partner contracts, and approvals for SPA and rulemaking language. As one state official expressed it, a major reason for this was that the Attorney General’s office was exhibiting “due diligence” by reviewing all applicable SIM background materials at the outset, which was time-consuming given the scope of the SIM Initiative. A final hurdle was that

other legal agreements, such as data-sharing agreements between MaineCare and HealthInfoNet, took longer than expected to execute.

A continuing challenge noted by interviewees was the administrative intensity of coordinating all stakeholders (state officials, SIM partners, and other stakeholders). As discussed earlier, at the time of our interview, Maine was understaffed and working to bring more SIM project staff on board. Some state officials and other stakeholders indicated feeling overextended with the SIM Initiative. According to one state official: “It’s difficult because it was such a heavy lift to get it moving.” In addition, Maine’s self-evaluation of its SIM initiative has been challenging, given that the initial award for the evaluation was appealed and ultimately rescinded. Maine is optimistic, though, that it will have an evaluator in place early enough in the process to conduct a successful self-evaluation of its SIM initiative.

Beyond project administration, several stakeholders noted persisting challenges in Maine’s health policy and political environment that add difficulty to the transformation process. One challenge is the aforementioned issue with data collaboration. Though interviewees witnessed substantial progress in defining roles, they also foresaw continuing room for improvement over the ownership of data and data analysis. In addition, several behavioral health–focused interviewees, and also the steering committee at its meeting, discussed the emerging challenges associated with “coordinating the care coordinators” in an environment that encourages proliferation of care coordination through several different avenues. For example, multiple providers and payers may all be incentivized to coordinate care, but efforts are needed to ensure the coordination efforts are complementary and not duplicative.

Fatigue due to multiple SIM activities was another general concern expressed by many stakeholders. For example, some providers and stakeholders mentioned feeling overwhelmed by the number of payment models, performance measures, and data portals they were being asked to implement. Another highlighted concern was sustainability of the multi-payer PCMH program. Many stakeholders would like to see the PCMH program continue its initial success, yet the federal demonstration expires during SIM implementation. Other issues included tensions between large hospitals and health systems; recent cuts in MaineCare eligibility that reduce the number of people eligible for Health Homes and other initiatives; a Medicaid managed care proposal that was active before the legislature (though, after the site visit, the proposal was not enacted); and the 2014 elections that could change the Governor and legislature.

At a big-picture level, several stakeholders thought the SIM test in general is challenging because of its short number of years in which to change the culture of health care in Maine. The perception was that the state needs to be realistic and understand that the SIM Initiative is a demonstration, and that real change may not be possible in such a short time. As one SIM partner put it: “The impact of SIM might not be apparent a year from now, and that’s a big issue.”

Finally, one challenge Maine has already overcome is that not all non-government stakeholders felt included during development of the SIM application. According to interviewees, including a commercial payer and a state official, there was not as much stakeholder involvement in the grant application as later in the process. Per the state official, the lack of non-government stakeholder involvement was due to the tight time frame of the application, and the state was unable to extensively engage stakeholders apart from state officials and the three SIM partners. From the other stakeholders' perspective, they kept hearing that Maine was working on the SIM award and the state was going to reach out to them, but as one commercial payer stated, "What we got was a request for a letter of support 3 days before it was due." However, because involvement by all stakeholder groups has increased dramatically since the grant award, most stakeholders thought the consensus model was working well now, and they felt included.

### **Lessons**

Most stakeholders indicated, as noted, that it was simply "too early to tell" what the key lessons learned from Maine's SIM Initiative will be. That said, interviewees saw several early lessons.

The amount of front-end administrative work was a major lesson. To other states that will be implementing their SIM initiatives, state officials thought that one lesson learned is not to underestimate what will be needed in terms of resources to get the SIM Initiative started. As described earlier, Maine's theory was to develop both a partnership model with the three SIM partners and a collaborative model with all other stakeholders. This required more extensive project management, and more time than expected, to establish a robust, multi-stakeholder governance structure. In addition, by giving the partners and other stakeholders such an extensive role, the state bumped against participants' time limitations. Many stakeholders asked themselves something similar to: "How do I find time for my regular job and for the SIM Initiative on top of that?" The resources required to manage these partnerships and collaborations are greater than the state originally anticipated, and it is now moving to secure additional staffing for project coordination.

Some state officials felt Maine should have built infrastructure at the state level to do more of the SIM work. One state official suggested developing some of the process and governance pieces more thoroughly before going out to non-government stakeholders. Maine spent months with stakeholders setting up the process—rather than engaging them and leveraging their content expertise—and just informing them about updates and processes. By the time the state really needed stakeholders to help solve problems, "they might have faded away." Maine then began enthusiastically to engage governance, because their approach is a robust and engaged governance body. But state officials feel a lesson learned is to bring in stakeholders when more of the groundwork is being done.

Despite all the work to engage stakeholders, another key lesson was that a multi-stakeholder model was highly valuable in getting to this point. At the onset of Maine's SIM Initiative, the need to be clear about alignment was imperative. For example, MHMC's work around improving delivery of care through public reporting is a little different than what the public payers' (e.g., MaineCare's) alignment ideas are and what they lever to influence change. They need to fully appreciate one another's position, and there are differences between public and private payers. A successful approach will need to incorporate the multitude of perspectives. The state is still trying to strike a balance between inclusiveness (e.g., several large committees) and the ability to move forward efficiently. Some stakeholders thought there were too many SIM committees, and the process was too cumbersome; but others were generally pleased. Maine's approach to inclusiveness will likely yield future lessons as implementation of the SIM Initiative progresses.

### **4.3 Maine Baseline Outcomes**

This section summarizes information on baseline outcomes for Maine's insured population, including: (1) provider and payer participation, (2) populations reached, (3) care coordination, (4) quality of care, (5) health care utilization, and (6) health care expenditures. Data on the first two measures come from our site visits and the Maine SIM Initiative team's operational reports; the other measures are derived from claims data. Future reports will include claims-based measures for Medicaid, Medicare, and commercially insured populations. However, because Medicaid claims data were not available for this report, we present the outcomes for only the commercially insured population represented in the MarketScan database and Medicare beneficiaries. These data are restricted to the fee-for-service population, and expenditure measures exclude patient cost-sharing. We present data for Maine and its propensity score-adjusted comparison group, comprising data from three states: New Hampshire, Rhode Island, and Pennsylvania. We define the baseline period as 2010 to 2012. The graphs contain the weighted (by the eligibility fraction) average outcomes for the population included in the MarketScan and Medicare data for Maine, and the weighted (by eligibility fraction and propensity score) average outcomes for the comparison group. All quarterly outcomes are calculated as 12-month rolling averages. Appendix B provides more detailed specifications on methods and measures.

#### **4.3.1 Provider and payer participation**

Maine's SIM Initiative is working with physician practices, health systems, health plans, and hospitals to transition to value-based clinical models and adopt the state's chosen strategies. Overall, Maine continues to report success with provider participation in the SIM activities. As of the end of 2013, about 83 primary care practices were participating in MaineCare's Health Homes Stage A initiative (currently over 100), with about 508 providers. In addition, for the PCMH Pilot (which was extended by the MAPCP demonstration and is all-payer), as of the end of 2013 there were about 74 primary care practices participating, with about 567 providers.

Altogether, Maine’s medical home initiatives account for more than one-third of the state’s primary care practices.

Beginning January 1, 2014, all health home practices are required to obtain National Committee for Quality Assurance (NCQA) recognition. Providers from PCMH, health homes, and Behavioral Health Homes practices are actively participating in SIM Initiative learning collaboratives. This quarter, seven practices that failed to maintain NCQA recognition were terminated and invited to reapply when recognition is attained. Another eight practices are under payment suspension while their NQCA applications are under review. Suspended practices may continue to participate in the health homes learning collaborative until their applications are approved.

MaineCare released an “intent to contract” list of five organizations for the MaineCare AC initiative, which is expected to begin July 1, 2014. Combined, these ACs would serve Central, Midcoast, Southern, and Western Maine. The state anticipates attribution lists to be sent to these organizations in the next quarter. Several AC webinars have been conducted—including for attribution, shared savings, and quality framework.

HealthInfoNet released an RFI and selected Eastern Maine Health System as the partner site for the BlueButton pilot for patients to access their own electronic health information. HealthInfoNet also released a request for proposals for incentives to support health IT for behavioral health providers, and is completing contracts with 20 of the 26 applicants. In addition, six behavioral health providers are working with HealthInfoNet on bi-directional data sharing within the HIE. The first of the six providers implemented bi-directional data sharing in first quarter 2014.

Maine’s PCMH program, which MAPCP extended and converted to an all-payer model, is still in the pilot stage with potential plans to expand. In first quarter 2014, MHMC began surveying insurance plans regarding their VBID activity. MHMC also began conversations with payers, including Aetna, around future VBID work. Aetna expressed interest in possibly piloting a VBID arrangement and implementing a pilot shared decision making tool.

#### **4.3.2 Populations reached**

Maine’s SIM Initiative aims to strengthen and expand health care transformation efforts currently under way by providing an overarching framework to align payment and delivery systems statewide to improve population health, quality of care, and cost containment. The initiative is primarily focused on alignment efforts within MaineCare. However, several components are also aimed to impact Medicare and the commercial insurance market. Maine aims to reach at least 80 percent of its population through statewide rollout of the SIM Initiative to MaineCare, Medicare, and commercial populations. Based on projections made by Maine (we do not have actual figures, except as indicated below), in 2014 Maine projected the total

population covered under SIM to be 931,874 (71 percent)—including 627,800 (48 percent) for medical homes and 304,074 (23 percent) for ACOs. Note that included in Maine’s 2014 projection for medical homes was 160,000 (12 percent) for MaineCare Chronic Conditions Health Homes, Stage A (the projection for 2013 was 160,000 as well); as of the end of 2013, however, only 48,000 had enrolled.<sup>8</sup>

Maine intends to monitor the SIM Initiative’s reach through several methods: robust claims database, practice reports to providers, and a clinical dashboard to MaineCare from the state HIE. MHMC made progress in building a robust claims database by completing steps to obtain Medicare data as a qualified entity (data use agreement and Qualified Entry Certification Program data security review), and processing data from MHDO and Molina. In January 2014, MHMC also completed and distributed the first round of claims-based practice reports to providers. Currently, the reports only contain commercial claims data, but Maine hopes future reports will also include Medicare and Medicaid claims. In March 2014, MHMC held five trainings for practice leaders on using the reports; practice leaders from some practices in the state still remain to be identified. Work has begun on the next round of practice reports, which will incorporate feedback from the first round. HealthInfoNet has been meeting with MaineCare to develop use cases for the HIE clinical dashboard, which will inform the priorities and scope of the project.

### 4.3.3 Care coordination

#### *Commercially insured*

For Maine and the comparison group, the percent of acute inpatient discharges with a follow-up visit within 14 days among the adult population remained fairly stable over the baseline period (*Table 4-1*). Because the MarketScan data contributors in Maine do not provide detailed provider specialty codes, we are not able to provide primary care and specialty physician visit rates for the commercially insured in MarketScan for Maine in Table 4-1.

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<sup>8</sup> Fox, K., Gray, C., Rosingana, K., and Thayer, D. March 18, 2014. MaineCare Stage A Health Homes Year 1 Report: Implementation Findings and Baseline Analysis. Submitted to MaineCare by U. of Southern Maine. Accessed on September 4, 2014, at [http://www.maine.gov/dhhs/oms/pdfs\\_doc/vbp/HH/Stage%20A/HHReport\\_Yr1\\_Stage%20A\\_FINAL%20\(2\).pdf](http://www.maine.gov/dhhs/oms/pdfs_doc/vbp/HH/Stage%20A/HHReport_Yr1_Stage%20A_FINAL%20(2).pdf).

**Table 4-1. Care coordination measures for the commercially insured population in MarketScan by age group, Maine and comparison group**

Measure	Year	Overall	Infant	Child	Adult
<b>Percent of inpatient discharges that had a follow-up visit within 14 days for members 18 years and older</b>					
<b>Maine</b>	<b>2010</b>	—	—	—	<b>37</b>
	<b>2011</b>	—	—	—	<b>40</b>
	<b>2012</b>	—	—	—	<b>41</b>
Comparison group	2010	—	—	—	33
	2011	—	—	—	34
	2012	—	—	—	34

### Medicare

For Maine and the comparison group, the percent of acute inpatient discharges with a follow-up visit within 14 days increased substantially over the baseline period (*Table 4-2*). The number of visits to a primary care physician per 100 covered persons increased slightly over time and decreased slightly for the comparison group, while the number of visits to a specialist per 100 visits remained stable for both Maine and the comparison group. Dual Medicare-Medicaid enrollees in Maine had a much higher rate of visits to a primary care provider and specialists than other Medicare enrollees.

**Table 4-2. Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Maine and comparison group**

Measure	Year	Overall	Medicare-Medicaid	Other Medicare
<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>				
<b>Maine</b>	<b>2010</b>	<b>40</b>	<b>41</b>	<b>39</b>
	<b>2011</b>	<b>42</b>	<b>43</b>	<b>41</b>
	<b>2012</b>	<b>56</b>	<b>55</b>	<b>58</b>
Comparison group	2010	34	28	36
	2011	39	36	39
	2012	49	54	47
<b>Number of visits to primary care providers per 100 beneficiaries<sup>a</sup></b>				
<b>Maine</b>	<b>2010</b>	<b>368</b>	<b>410</b>	<b>342</b>
	<b>2011</b>	<b>381</b>	<b>422</b>	<b>355</b>
	<b>2012</b>	<b>381</b>	<b>429</b>	<b>352</b>
Comparison group	2010	443	510	431
	2011	441	505	429
	2012	439	506	427
<b>Number of visits to specialists per 100 beneficiaries<sup>a</sup></b>				
<b>Maine</b>	<b>2010</b>	<b>363</b>	<b>382</b>	<b>351</b>
	<b>2011</b>	<b>370</b>	<b>391</b>	<b>357</b>
	<b>2012</b>	<b>366</b>	<b>387</b>	<b>353</b>
Comparison group	2010	384	345	391
	2011	382	343	390
	2012	384	350	391

<sup>a</sup> To address a data anomaly, propensity score models were run separately by dual status for the visits to primary care provider and specialist providers for Maine. Future reports will run propensity models by dual status for all states and all outcomes.



#### 4.3.4 Quality of care

##### Commercially insured

**Table 4-3** presents the rates of hospitalization per 100,000 covered persons in the overall, acute, and chronic Prevention Quality Indicator (PQI) composite measures. For the overall PQI composite, which includes 12 of the 14 individual PQIs, the baseline rate of hospitalization in 2012 was 390 per 100,000 covered persons for Maine and 530 for the comparison group. The rate of hospitalization for the acute PQI composite (which includes conditions such as pneumonia and dehydration) was less than half of the overall rate (150 hospitalizations per 100,000 covered persons), while the rate of hospitalization using the chronic PQI composite (which includes conditions such as hypertension, diabetes complications, and chronic obstructive pulmonary disease) was 240 per 100,000 covered persons.

**Table 4-3. Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Maine and comparison group**

Measure	Commercially insured			Medicare		
	2010	2011	2012	2010	2011	2012
<b>Rates of hospitalization for composite AHRQ Prevention Quality Indicator (PQI) conditions</b>						
<b>Overall composite</b>						
<b>Maine</b>	<b>410</b>	<b>430</b>	<b>390</b>	<b>1,800</b>	<b>1,910</b>	<b>1,840</b>
Comparison group	550	590	530	2,000	2,030	1,930
<b>Acute condition composite</b>						
<b>Maine</b>	<b>190</b>	<b>210</b>	<b>150</b>	<b>870</b>	<b>960</b>	<b>920</b>
Comparison group	250	270	240	950	980	920
<b>Chronic condition composite</b>						
<b>Maine</b>	<b>220</b>	<b>220</b>	<b>240</b>	<b>1,050</b>	<b>1,070</b>	<b>1,030</b>
Comparison group	320	320	300	1,180	1,180	1,130
<b>Percent of children who turned 15 months during the year and had 0 well-child visits during their first 15 months of life</b>						
<b>Maine</b>	—	<b>2</b>	<b>1</b>	—	—	—
Comparison group <sup>a</sup>	—	3	3	—	—	—
<b>Percent of children who turned 15 months during the year and had 6 or more well-child visits during their first 15 months of life</b>						
<b>Maine</b>	—	<b>57</b>	<b>58</b>	—	—	—
Comparison group	—	61	64	—	—	—

Note: AHRQ = Agency for Healthcare Research and Quality

<sup>a</sup> Due to the small sample size of children who turned 15 months in a given year, we were unable to apply propensity score weights to the comparison group for the well-child visit measure. We report the unweighted values for the three comparison states combined.

In 2012, nearly all infants in Maine and comparison group had at least one well child visit and 58 percent had six or more well-child visits in the first 15 months of life, as compared to 64

percent for the comparison group (Table 4-3). The percentage of such infants with six or more well-child visits changed very little from 2011 to 2012 for both Maine and comparison group.

### Medicare

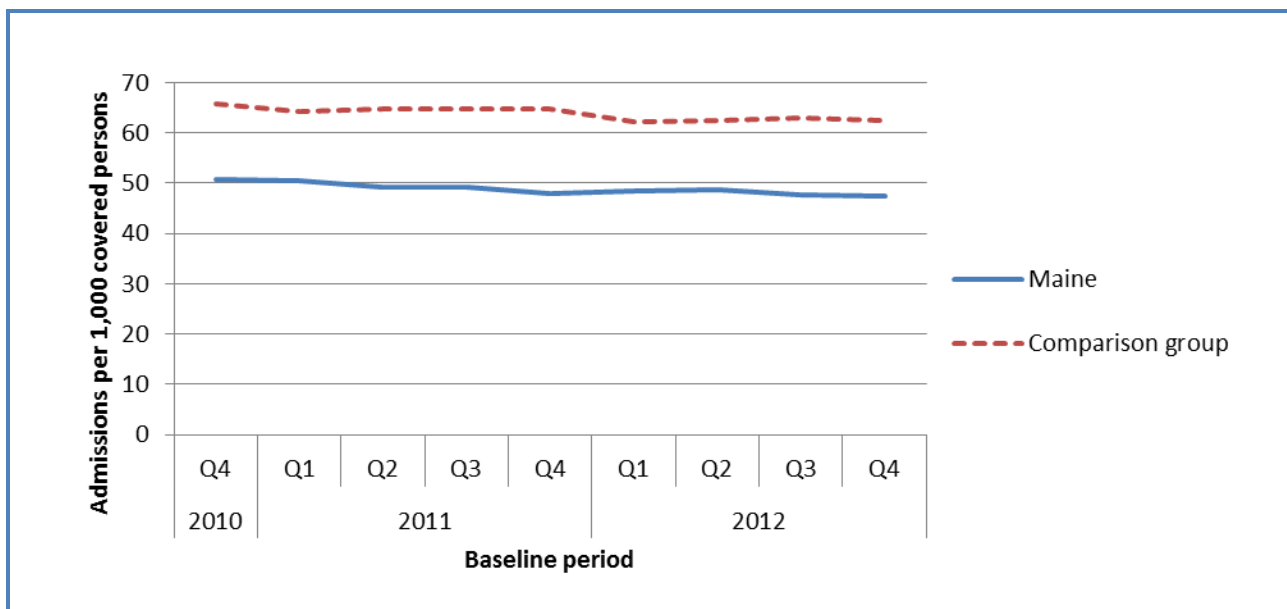
For the overall PQI composite measure, the baseline rate of hospitalization in 2012 for the Medicare population was 1,840 per 100,000 covered persons for Maine and 1,930 for the comparison group. The rate of hospitalization for Maine for the acute PQI composite was less than half of the overall rate (920 hospitalizations per 100,000 covered persons), while the rate of hospitalization using the chronic PQI composite was 1,030 per 100,000 covered persons.

### 4.3.5 Utilization

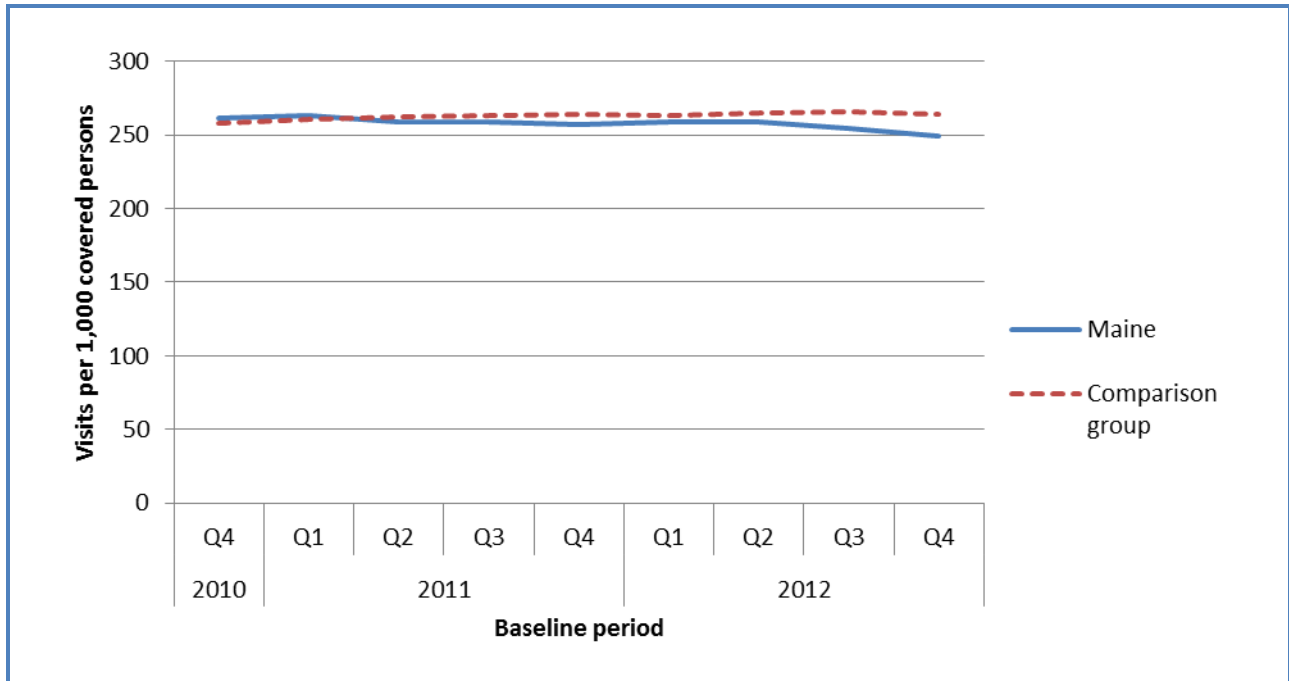
#### Commercially insured

The rate of all-cause inpatient hospital admissions decreased over the baseline period from 51 to 47. The comparison group also had a slightly downward trend in this measure, but it was consistently higher than in Maine (*Figure 4-1*). The inpatient admission rate was highest among infants for each year, likely due to most newborns being delivered in hospitals. The number of all-cause ER visits per 1,000 covered persons decreased slightly over the baseline period from 261 to 249 (*Figure 4-2*), with both adults and children having decreases (*Table 4-4*). The number of ER visits that did not lead to a hospitalization (per 1,000 covered persons) remained fairly stable (*Figure 4-3*) and was lowest among adults (Table 4-5). The number of discharges that lead to a hospital readmission within 30 days (per 1,000 discharges) decreased from 111 to 103 (*Figure 4-4*).

**Figure 4-1. All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Maine and comparison group**



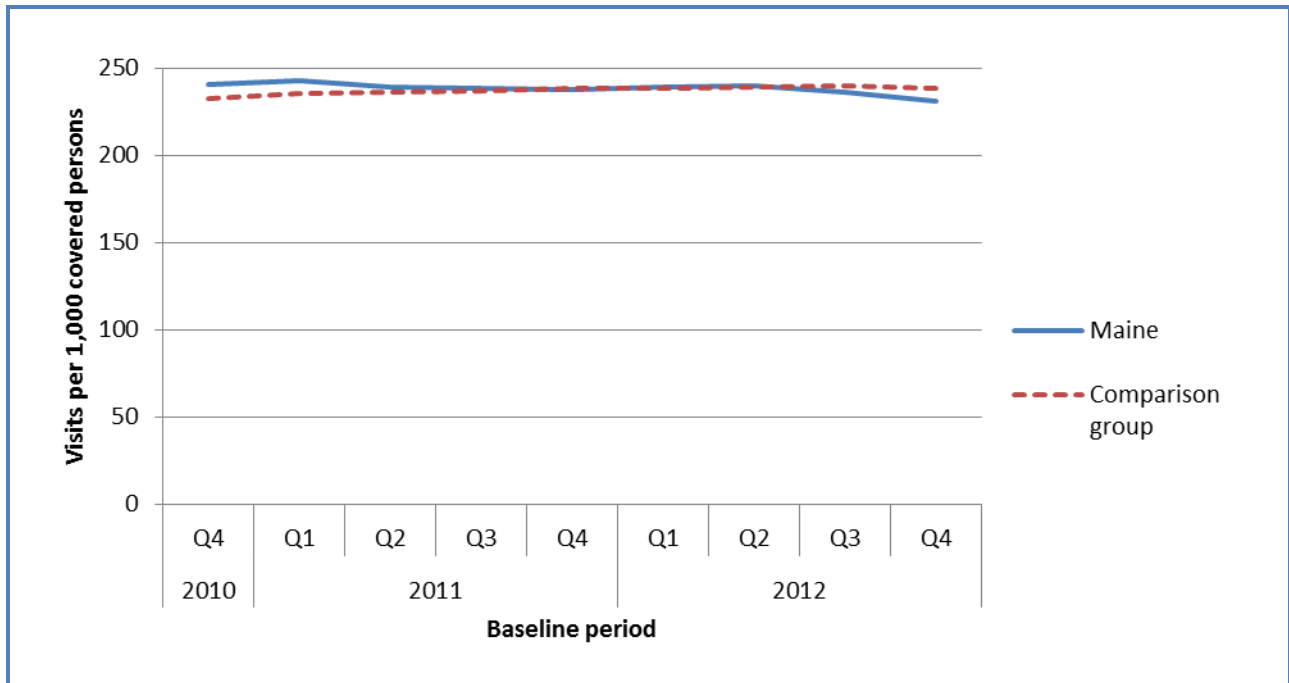
**Figure 4-2. All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Maine and comparison group**



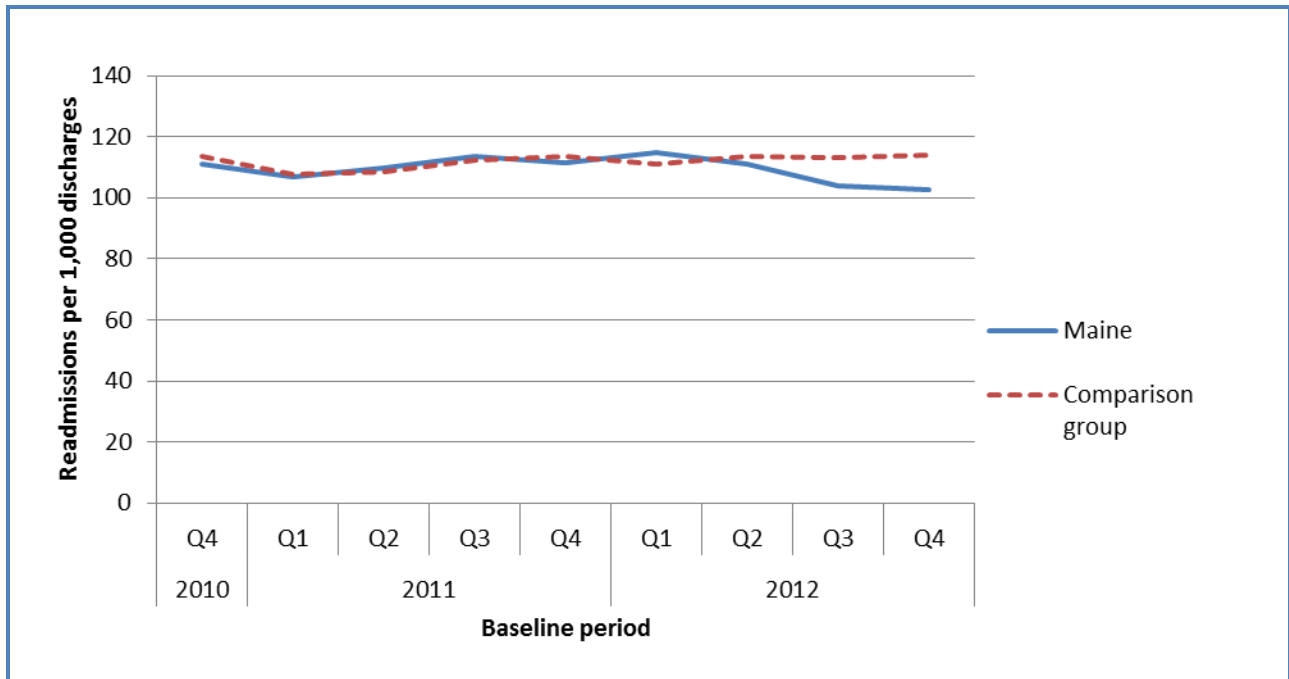
**Table 4-4. Utilization measures for the commercially insured population in MarketScan by age group, Maine and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 members</b>									
<b>Maine</b>	<b>240</b>	<b>248</b>	<b>287</b>	<b>15</b>	<b>14</b>	<b>16</b>	<b>57</b>	<b>54</b>	<b>52</b>
Comparison group	454	440	425	18	18	18	73	71	68
<b>All-cause emergency room visits per 1,000 members</b>									
<b>Maine</b>	<b>383</b>	<b>415</b>	<b>402</b>	<b>267</b>	<b>262</b>	<b>245</b>	<b>258</b>	<b>254</b>	<b>248</b>
Comparison group	424	426	428	264	269	259	253	260	263
<b>Emergency room visits that did not lead to hospitalization per 1,000 members</b>									
<b>Maine</b>	<b>362</b>	<b>390</b>	<b>374</b>	<b>258</b>	<b>254</b>	<b>236</b>	<b>234</b>	<b>232</b>	<b>227</b>
Comparison group	395	396	400	254	259	248	222	229	232

**Figure 4-3. Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Maine and comparison group**



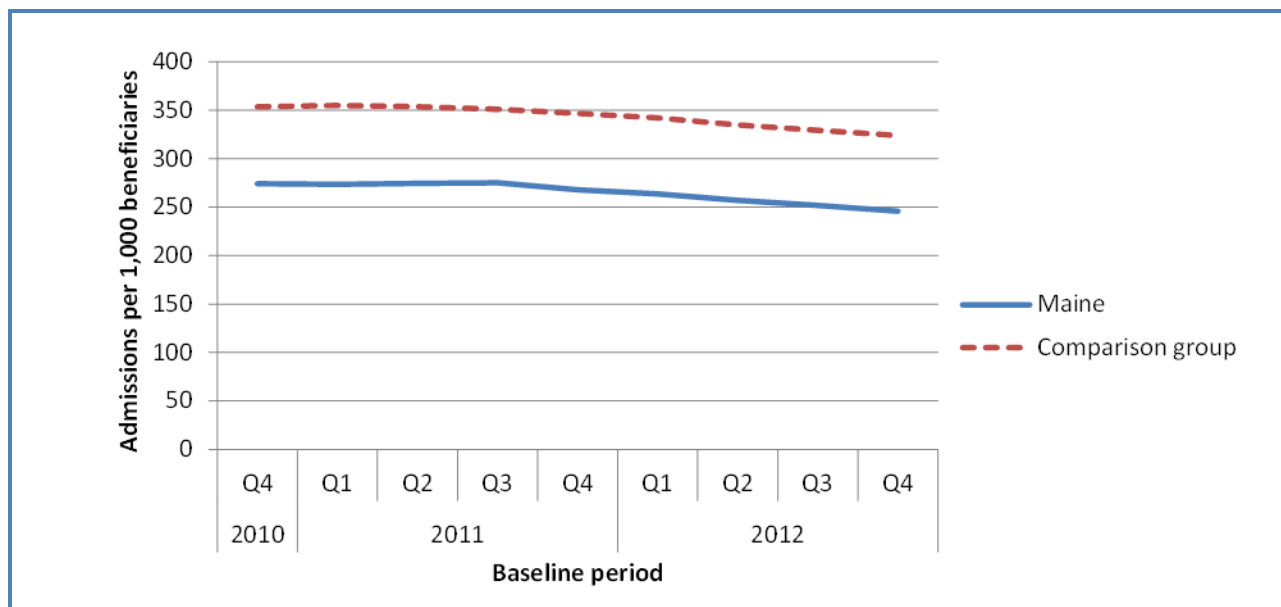
**Figure 4-4. Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Maine and comparison group**



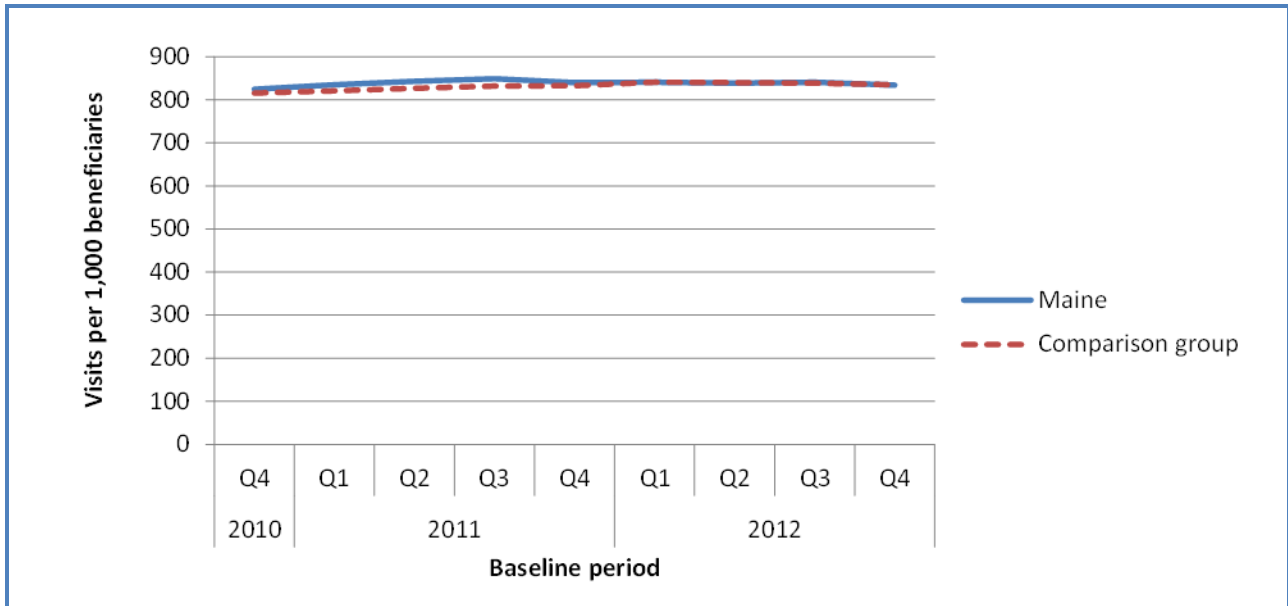
## Medicare

For Maine and the comparison group, the rate of all-cause inpatient hospital admissions for Medicare beneficiaries decreased over the baseline period (**Figure 4-5**). For Maine, the decrease was from 345 to 311 for dual Medicaid-Medicare enrollees and 231 to 206 for other Medicare beneficiaries. The trajectories for the comparison group were about the same. The number of all-cause ER visits per 1,000 covered persons increased slightly for both Maine and the comparison group (**Figure 4-6**). Although the number of all-cause ER visits per 1,000 covered persons for Maine beneficiaries and the comparison group were broadly similar, the number of ER visits not leading to a hospitalization (per 1,000 covered persons) was substantially higher for Maine beneficiaries (**Figure 4-7**). The number of discharges leading to a hospital readmission within 30 days (per 1,000 discharges) slightly decreased over the baseline period (**Figure 4-8**), with Medicare-Medicaid enrollees having higher utilization than other Medicare enrollees for every utilization category (**Table 4-5**).

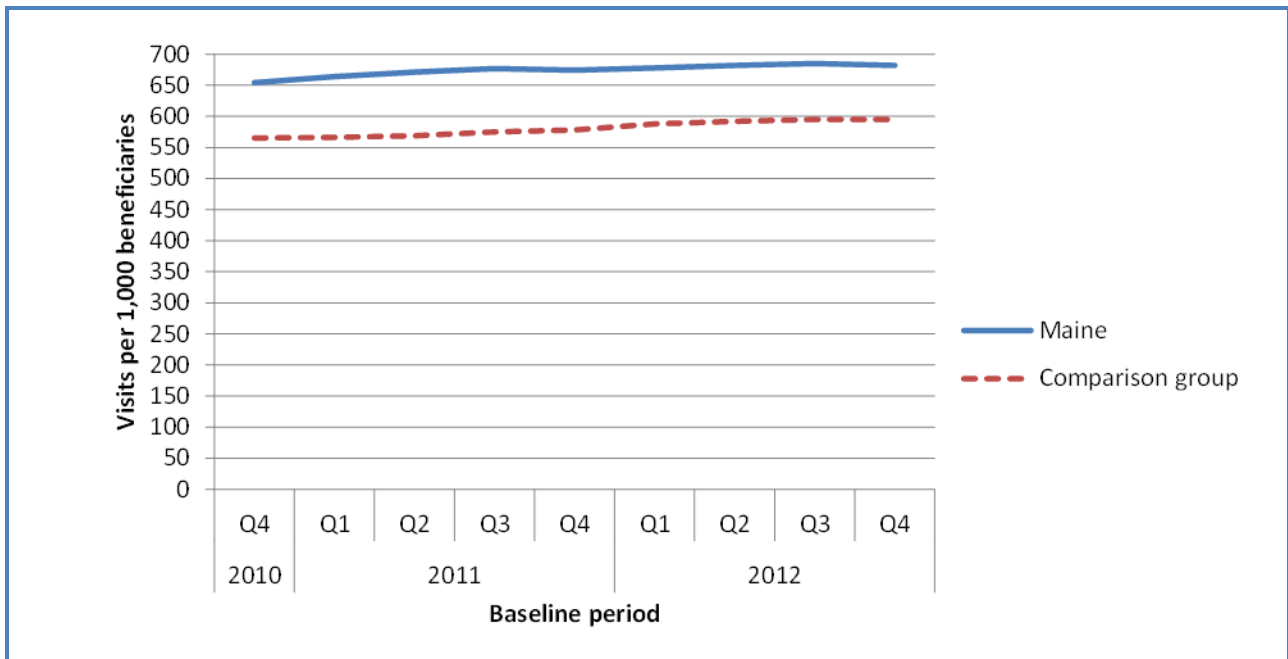
**Figure 4-5. All-cause hospital admissions per 1,000 Medicare beneficiaries, Maine and comparison group**



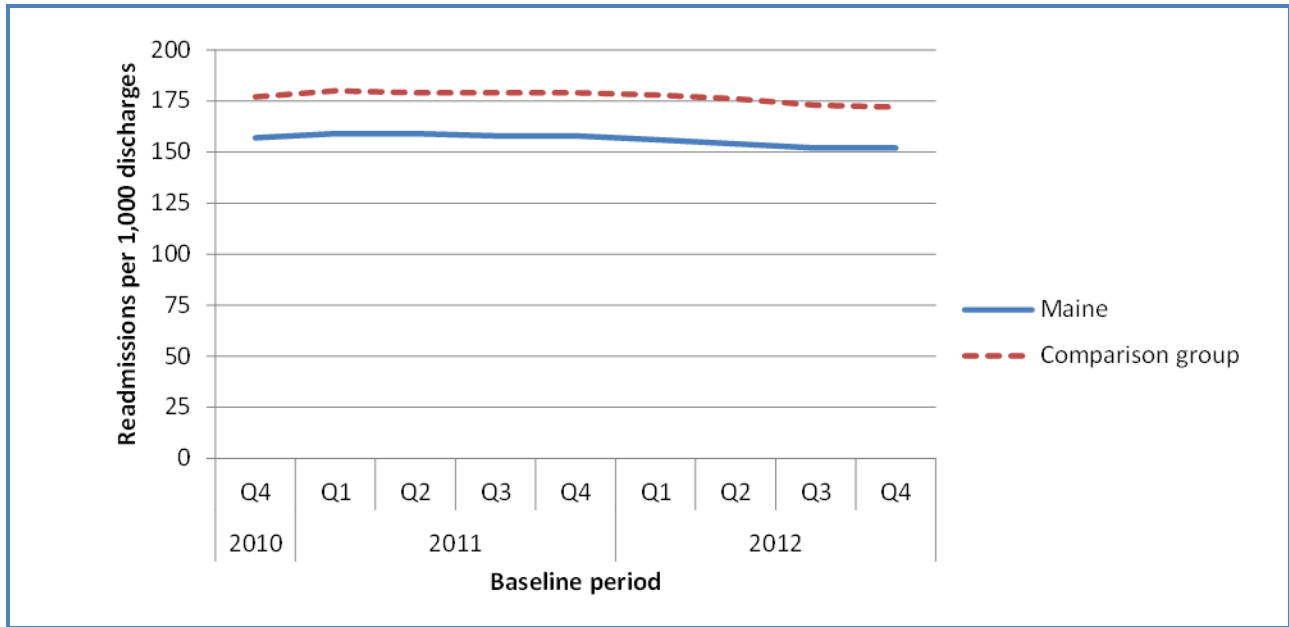
**Figure 4-6. All-cause emergency room visits per 1,000 Medicare beneficiaries, Maine and comparison group**



**Figure 4-7. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Maine and comparison group**



**Figure 4-8. Readmissions per 1,000 discharges for Medicare beneficiaries, Maine and comparison group**



**Table 4-5. Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Maine and comparison group**

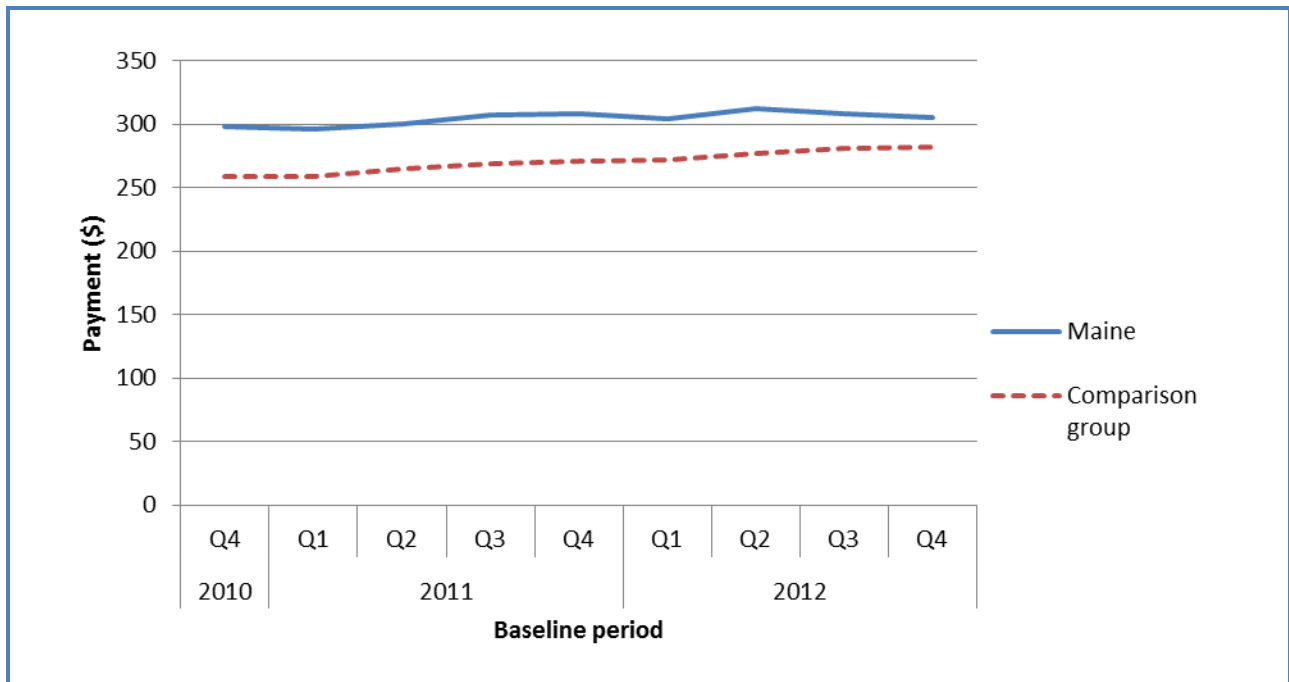
Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 beneficiaries</b>						
Maine	345	339	311	231	224	206
Comparison group	432	423	395	306	301	281
<b>All-cause emergency room visits per 1,000 beneficiaries</b>						
Maine	1,247	1,270	1,269	567	576	566
Comparison group	1,238	1,261	1,266	561	577	575
<b>Emergency room visits that did not lead to hospitalization per 1,000 beneficiaries</b>						
Maine	1,022	1,053	1,070	429	442	442
Comparison group	907	930	954	358	367	377
<b>Readmissions per 1,000 discharges</b>						
Maine	174	174	165	141	143	141
Comparison group	214	213	206	167	170	163

### 4.3.6 Expenditures

#### Commercially insured

Total PMPM payments increased by 2.3 percent over the baseline period for Maine, from \$298 to \$305 (*Figure 4-9*), with Maine total PMPM payments consistently lower than comparison group payments for all baseline quarters. PMPM payment trends for the child and adult populations followed the overall trend for Maine but had a more substantial increase for infants (*Table 4-6*).

**Figure 4-9. Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group**



Inpatient hospital facility payments for Maine increased by 4.2 percent, from \$76 PMPM in first quarter 2010 to \$79 PMPM in fourth quarter 2012 (*Figure 4-10*). Payments were highest among infants for each year. Results for the comparison group were broadly similar, except that total payments and inpatient and outpatient facility payments were consistently lower than those for Maine. Maine's PMPM payments to facilities for non-inpatient care remained relatively flat over the baseline period (*Figure 4-11*); professional payments increased by 3.4 percent (*Figure 4-12*); outpatient prescription payments increased by more than double that rate (7.5 percent) (*Figure 4-13*), and were highest among adults (*Table 4-6*). Other facility payments in the comparison group were lower than those in Maine but the difference narrowed somewhat by the end of the baseline period. In contrast, professional payments and outpatient prescription drug payments in the comparison group tracked those in Maine fairly closely.



**Table 4-6. Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Maine and comparison group**

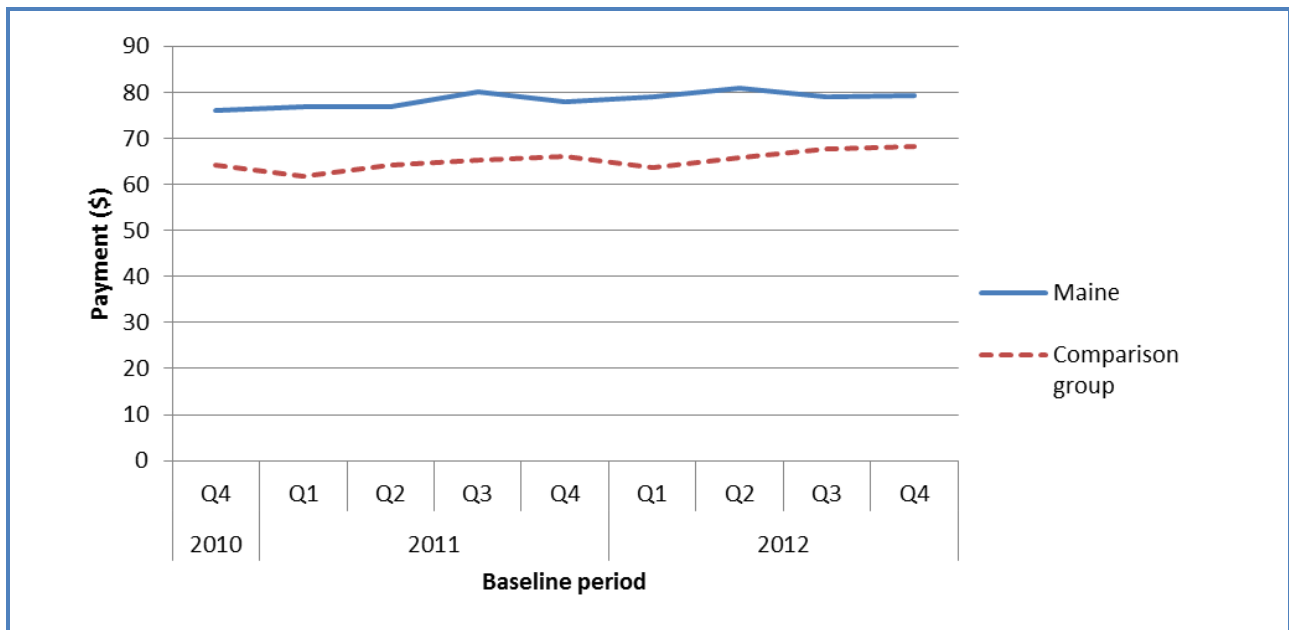
Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Total<sup>a,b</sup></b>									
<b>Maine</b>	<b>382</b>	<b>513</b>	<b>486</b>	<b>119</b>	<b>122</b>	<b>122</b>	<b>344</b>	<b>354</b>	<b>348</b>
Comparison group	504	505	530	108	117	123	301	313	323
<b>Inpatient facility</b>									
<b>Maine</b>	<b>187</b>	<b>277</b>	<b>275</b>	<b>21</b>	<b>20</b>	<b>26</b>	<b>89</b>	<b>90</b>	<b>90</b>
Comparison group	250	237	256	18	19	20	75	77	79
<b>Other facility</b>									
<b>Maine</b>	<b>36</b>	<b>45</b>	<b>54</b>	<b>43</b>	<b>43</b>	<b>40</b>	<b>152</b>	<b>154</b>	<b>152</b>
Comparison group	49	49	53	35	39	42	115	124	133
<b>Professional</b>									
<b>Maine</b>	<b>162</b>	<b>195</b>	<b>159</b>	<b>54</b>	<b>60</b>	<b>56</b>	<b>103</b>	<b>109</b>	<b>106</b>
Comparison group	203	217	222	55	59	61	111	112	111
<b>Outpatient prescription<sup>c</sup></b>									
<b>Maine</b>	<b>10</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>23</b>	<b>25</b>	<b>69</b>	<b>74</b>	<b>73</b>
Comparison group	10	10	8	22	23	23	70	72	72

<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

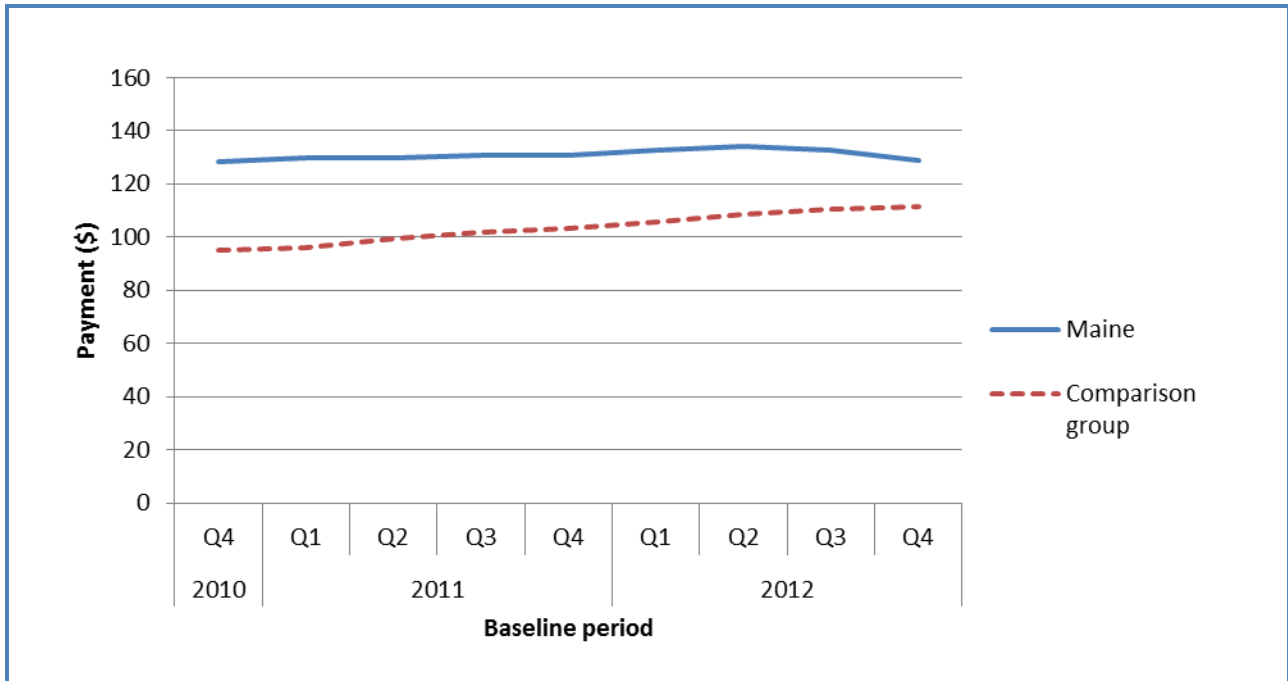
<sup>b</sup> The inpatient, non-inpatient, and professional component expenditures do not add up exactly to the total expenditures because the inpatient component expenditure value does not include inpatient payments included in the outpatient MarketScan table, but the total expenditure value includes all payments.

<sup>c</sup> Denominator only includes members with drug claims captured in MarketScan.

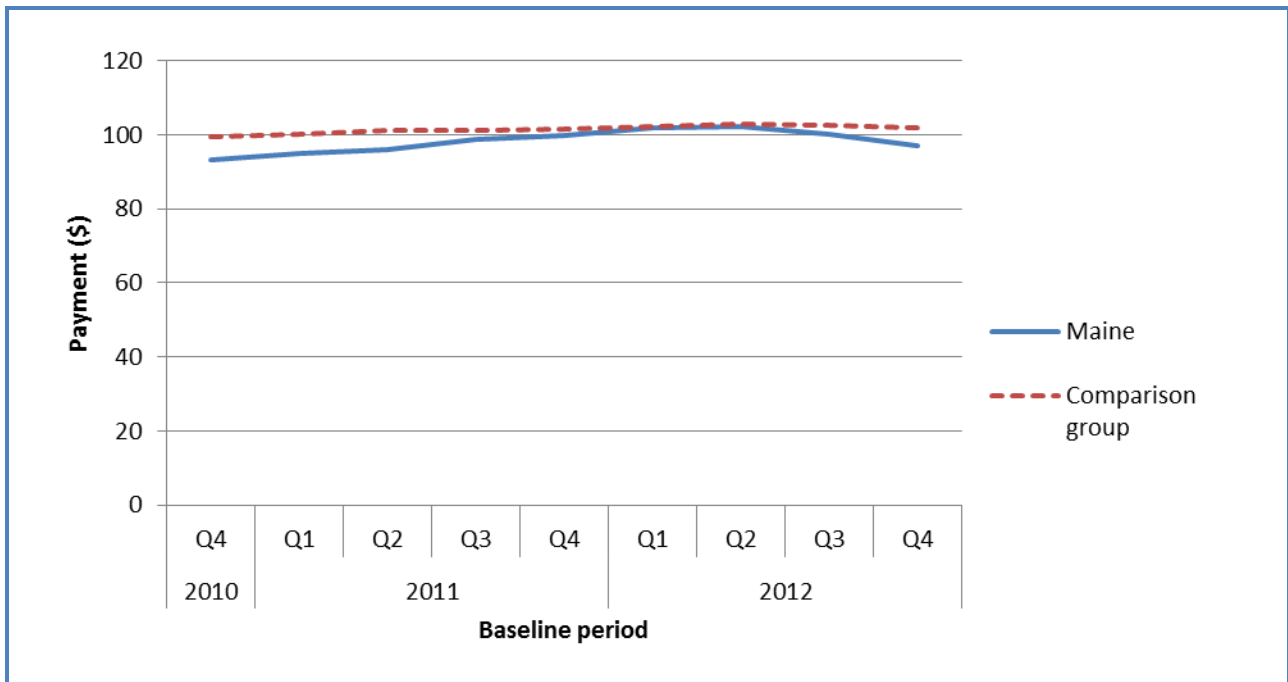
**Figure 4-10. Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group**



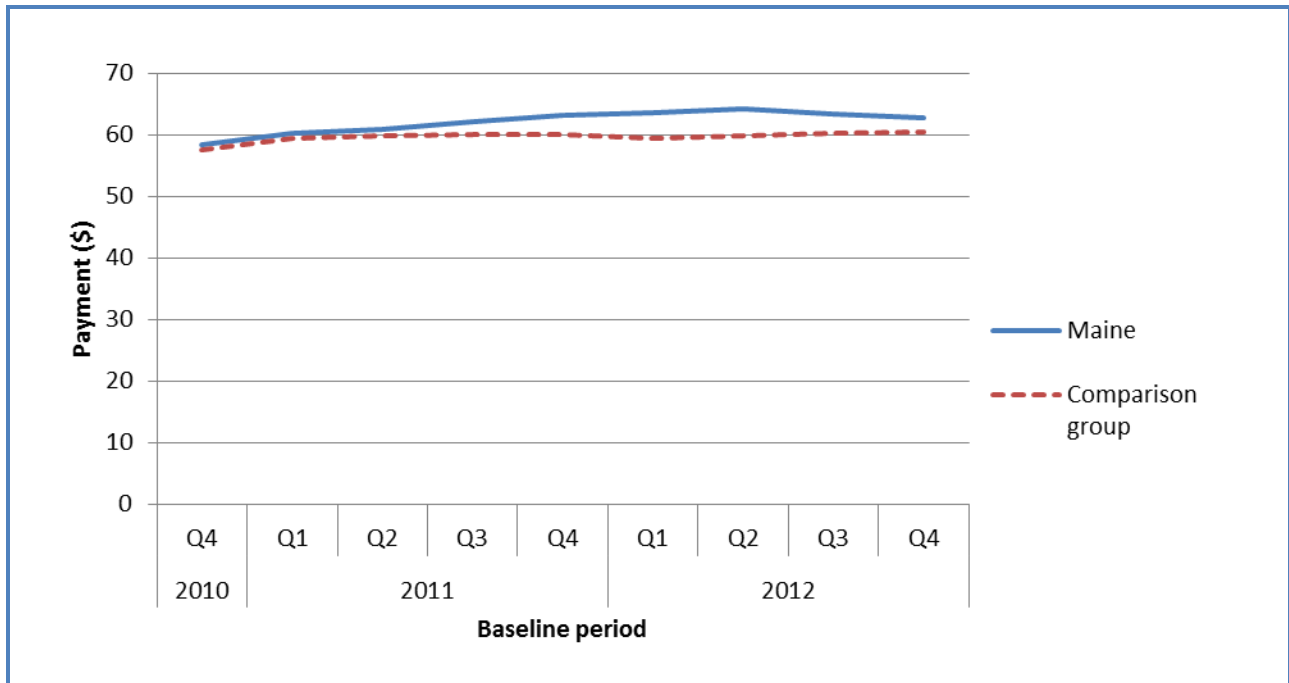
**Figure 4-11. Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group**



**Figure 4-12. Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group**



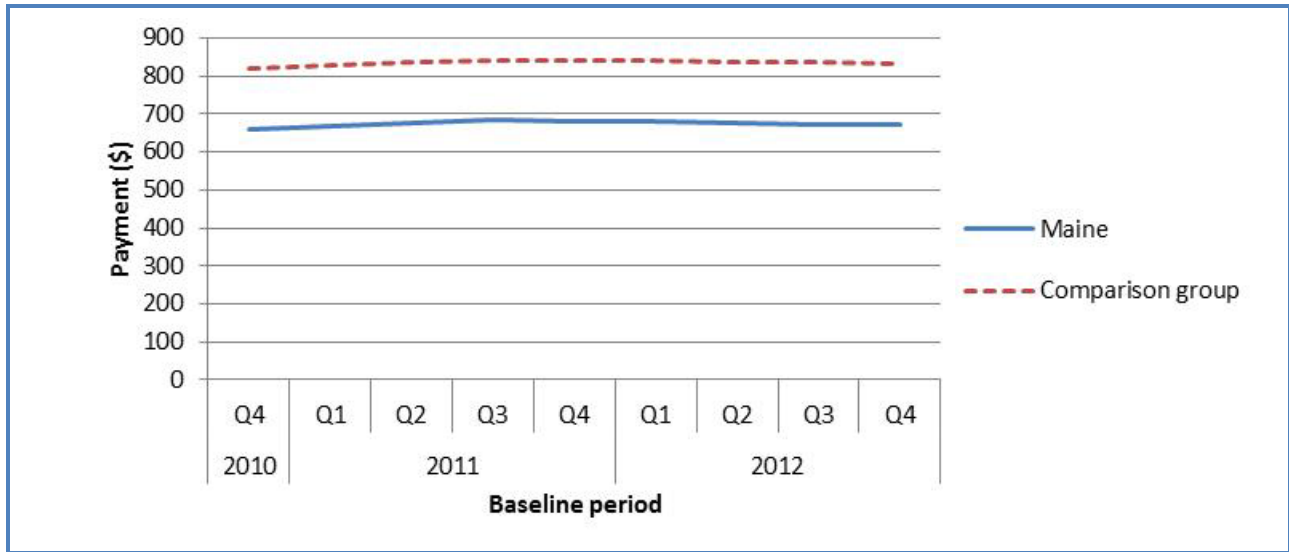
**Figure 4-13. Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Maine and comparison group**



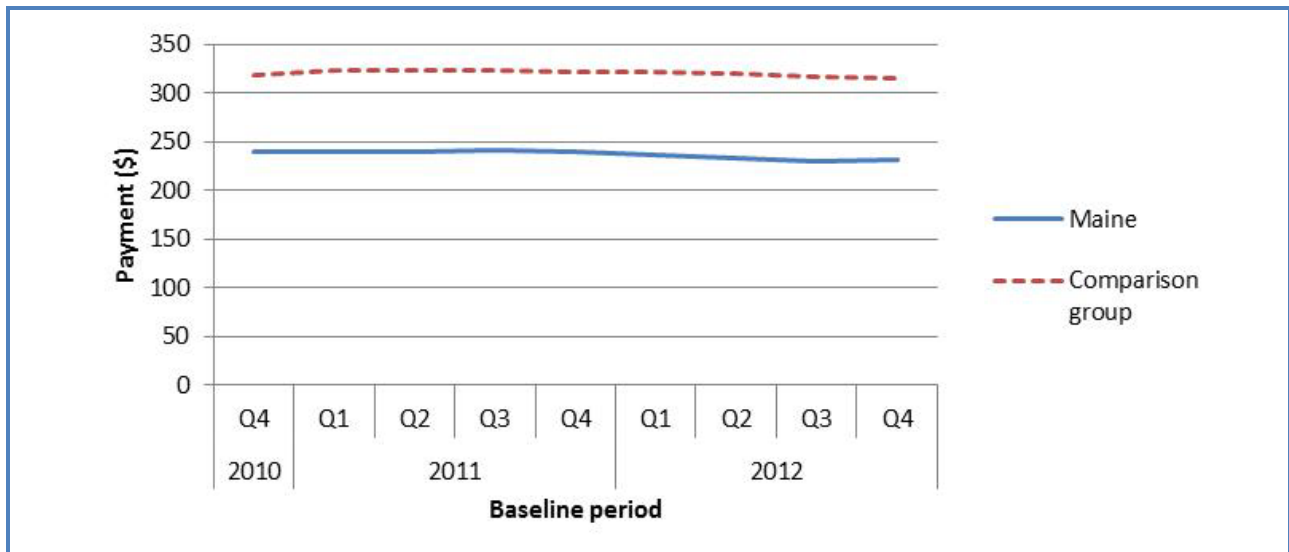
### Medicare

Total PMPM payments increased slightly over the baseline period for both Maine and comparison group (*Figure 4-14*). Maine's payments were consistently lower than the comparison group for all baseline quarters. Inpatient hospital facility payments decreased slightly, from \$240 PMPM in first quarter 2010 to \$232 PMPM in fourth quarter 2012 (*Figure 4-15*). Maine's payments to facilities for non-inpatient care increased by approximately \$15 PMPM, similar to that for the comparison group (*Figure 4-16*). Professional payments slightly increased for Maine and the comparison group (*Figure 4-17*). Dual Medicare-Medicaid enrollees had higher expenditures than other Medicare enrollees for every expenditure category. For example, in 2012 for both Maine and its comparison group, respectively, total PMPM expenditures were \$809 and \$974 for Medicare-Medicaid beneficiaries, but for other Medicare beneficiaries, they were \$590 and \$745 (*Table 4-7*).

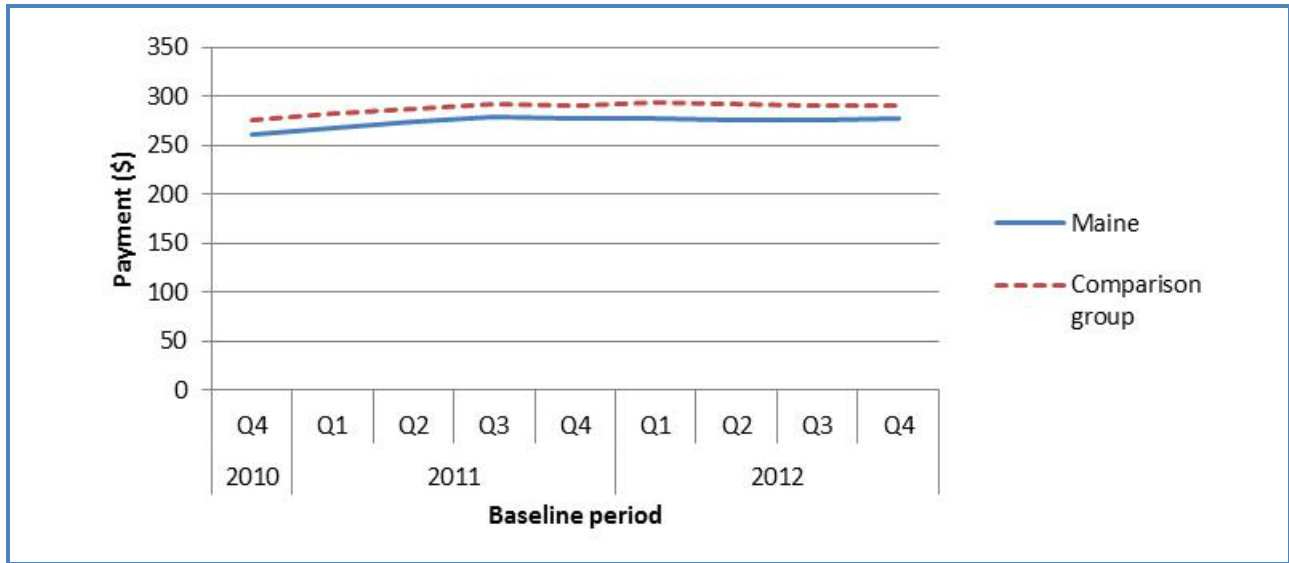
**Figure 4-14. Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group**



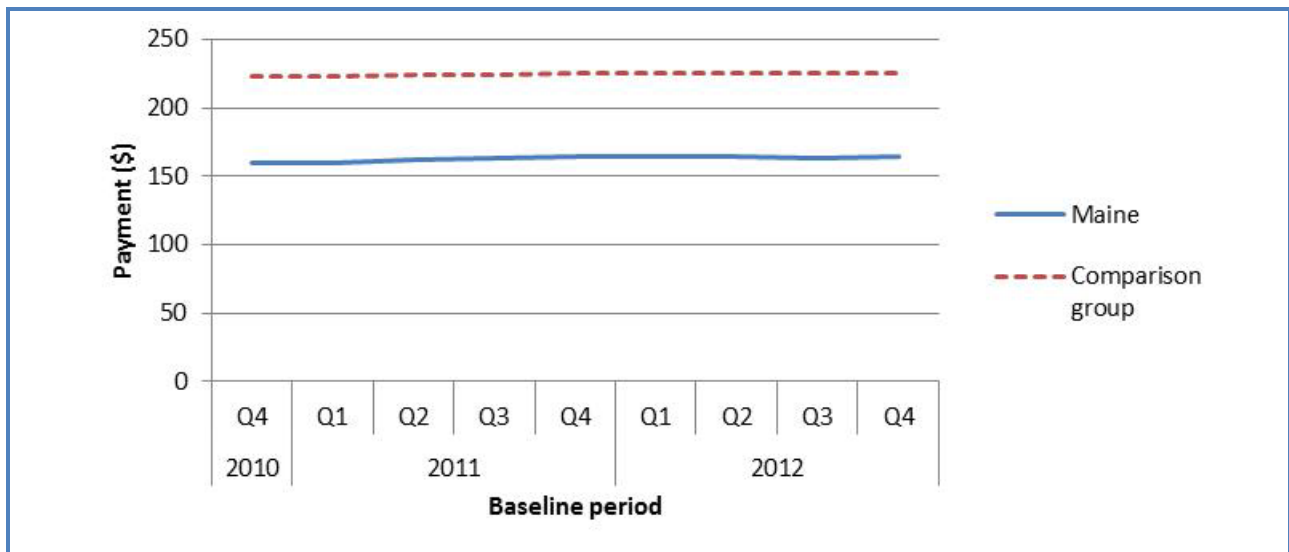
**Figure 4-15. Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group**



**Figure 4-16. Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group**



**Figure 4-17. Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Maine and comparison group**



**Table 4-7. Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Maine and comparison group**

Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Total</b>						
<b>Maine</b>	<b>794</b>	<b>819</b>	<b>809</b>	<b>579</b>	<b>596</b>	<b>590</b>
Comparison group	970	988	974	727	748	745
<b>Inpatient facility</b>						
<b>Maine</b>	<b>294</b>	<b>299</b>	<b>286</b>	<b>206</b>	<b>203</b>	<b>198</b>
Comparison group	392	398	385	275	277	272
<b>Other facility</b>						
<b>Maine</b>	<b>319</b>	<b>336</b>	<b>338</b>	<b>227</b>	<b>241</b>	<b>240</b>
Comparison group	336	348	346	240	256	257
<b>Professional</b>						
<b>Maine</b>	<b>180</b>	<b>184</b>	<b>185</b>	<b>146</b>	<b>152</b>	<b>151</b>
Comparison group	241	242	243	212	215	215

#### 4.4 Maine Synthesis

Maine is embarking on an ambitious multifaceted effort to reform health care delivery across the state. Given the breadth and scope of the SIM Initiative, it is not surprising that stakeholders had varying levels of understanding and clarity on the specific activities and approaches the state is supporting with SIM funds. However, by and large, most respondents understood that the Initiative’s main objective was to enhance care coordination across multiple settings and improve the integration of physical and behavioral health care for the most complex patients. Interviewees also seemed to have a solid understanding of the state’s vision for a comprehensive and well-integrated health IT network, despite expressing some uncertainty and confusion around the overarching strategy.

According to a majority of interviewees, the state has worked hard to include key stakeholders throughout the early phases of SIM implementation. The state has been receptive to feedback and provided various opportunities for stakeholders to express input. As a testament to this early accomplishment, progress on the initial phase of SIM implementation was described as successful across all major stakeholder groups. Respondents were particularly optimistic and hopeful about Maine’s activities to promote better behavioral-physical health integration. This includes Maine’s movement toward advancing Behavioral Health Homes and its plan to identify and test a set of behavioral health integration measures to drive improvements in mental health care.

Among the more common challenges cited by stakeholders during the site visit were developing a uniform set of measures for public reporting across payers and providers, and overcoming regulatory and policy challenges related to data sharing. Achieving consensus among competing stakeholders around a standard set of performance measures raises considerable concerns across providers and payers, given the likely role they would eventually play in reimbursement. Additionally, the state will likely face a number of obstacles to creating a comprehensive, fully integrated health IT network. Despite its obvious benefits, integrating claims and clinical data and sharing data seamlessly across multiple providers is a complex undertaking. The state will likely be devoting considerable resources toward addressing these key challenges in the coming years.

Finally, although most stakeholders said it is still too early to tell, overall, stakeholders tended to view SIM as a success thus far and were optimistic that challenges are surmountable. There was a general stakeholder consensus about one important aspect of Maine’s SIM Initiative—that it will, indeed, allow the state to reach a “critical mass” for payment reforms.

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## 5. Massachusetts

### 5.1 Overview of Massachusetts Model

Massachusetts' SIM Initiative is a multifaceted strategy largely focused on supporting the state's payment and delivery system reform legislation, Chapter 224 of the Acts of 2012. The main focus of the Initiative is implementing Primary Care Payment Reform (PCPR) in MassHealth (Massachusetts' Medicaid program), a risk-adjusted capitation payment model with shared savings and quality incentives for participating primary care providers. The state's SIM Initiative also supports accountable care organization (ACO) efficiency and provider practice pattern studies being conducted by the Group Insurance Commission (GIC)—the state agency in charge of benefits to state employees, retirees, and dependents—for use as the state evaluates the Centered Care initiative. Through Centered Care, the state contracts with health plans for its employee benefits program to create integrated risk-bearing organizations (IRBOs) that will receive financial incentives or penalties for meeting benchmarks and adopting new payment models.

Underlying many elements of Massachusetts' SIM Initiative are enhancements to health information technology (health IT) and data collection infrastructure intended to enhance care coordination, increase efficiency, and enable quality measurement and enhanced payment reforms. These include:

- Implementing an e-Referral program designed to link primary care providers to community resources
- Creating a provider portal and master provider index based on an all-payer claims database (APCD)
- Expanding the state's health information exchange (HIE) functionality to improve use of quality data for delivery system and payment reforms and to enhance linkages with behavioral health services
- Developing Community Links provider and consumer portals to better link providers, social services, and consumers with timely information related to long-term services and supports (LTSS)

Finally, the Massachusetts SIM Initiative expands and enables evaluation of the Massachusetts Child Psychiatry Access Project (MCPAP), which provides pediatric behavioral health consultation services to primary care providers across the state.

## 5.2 Massachusetts Site Visit and Focus Group Report

### 5.2.1 Overview of site visit and focus groups

RTI International and the National Academy for State Health Policy conducted 20 in-person interviews in the greater Boston area between February 25 and 27, 2014, and two additional phone interviews on March 5, 2014. The site visit stakeholders included Massachusetts state officials, health plans, providers, and consumer groups. The purpose of the interviews was to clarify the state's key approaches and strategies for delivery system transformation and gain a better understanding of stakeholders' planning and implementation experiences during the first year of the SIM award. In early April 2014, the evaluation team and its subcontractor, The Henne Group (THG), also conducted eight focus groups—four with providers and four with consumers. The focus groups, which were designed to obtain provider and consumer perspectives on how health care is delivered in Massachusetts, provide a baseline understanding of the providers' and consumers' perspectives on care coordination and care management.

Due to privacy laws in Massachusetts, recruitment for the consumer focus groups was handled somewhat differently than in the other Test states. For the consumer focus groups, MassHealth and GIC mailed invitations to 1,600 beneficiaries in the Springfield and Boston areas, who were asked to call our subcontractor, THG, if they were interested in participating. THG contacted both GIC and MassHealth providers directly to invite them to participate in the provider focus groups in the Boston area. Participation ranged from 6 to 8 providers per provider focus group and from 7 to 9 beneficiaries per consumer focus group, for a total of 28 providers and 32 consumers across all focus groups.

### 5.2.2 Delivery system and payment models

#### *Governance and project administration*

The Massachusetts Executive Office of Health and Human Services (EOHHS) serves as the lead agency for oversight of the SIM Initiative—with its sub-agency, MassHealth, playing a lead role. The SIM director sits in EOHHS, and the director of PCPR works out of the office of MassHealth. Other state participants/agencies include the Executive Office of Elder Affairs (EOEA), the Department of Public Health, GIC, the Center for Health Information and Analysis (CHIA), the Department of Mental Health, and the Health Policy Commission. The SIM Initiative did not have a permanent project director at its inception; the interim director also served as director of policy for the secretary of EOHHS. Some of the challenges in hiring a permanent director were due to the state's hiring process itself. However, after several months of searching, a new SIM project director took over on April 7, 2014.

### **Stakeholder engagement**

Key stakeholders during initial implementation of the Massachusetts SIM Initiative included state agencies, primary care providers, health plans participating in MassHealth and GIC, community health centers (CHCs), and MassHealth beneficiaries. According to state officials, the abbreviated timeline to complete the SIM application precluded an extensive dedicated stakeholder engagement process during the planning phase. However, the Initiative built on the framework for health reform established through an extensive public legislative process that resulted in passage of Chapter 224. EOHHS also conducted several years of stakeholder engagement to inform development of PCPR. During the site visit, state officials commented that additional outreach to providers and health plans would begin in spring 2014. Examples of recent engagement efforts include CHIA's outreach to providers and PCPR's outreach to managed care organizations (MCOs).

Another important stakeholder in the Massachusetts SIM Initiative is the Massachusetts Behavioral Health Partnership, which is responsible for managing the behavioral health carve-out for primary care clinician (PCC) members in MassHealth and providing clinicians for the MCPAP. In addition, the Massachusetts chapter of the Academy of Pediatrics is highly involved and catalyzed initial development of the MCPAP. The Department of Public Health has partnered with the Massachusetts League of Community Health Centers to pilot the e-Referral software in three CHCs and expand it to a total of nine in the coming years.

The EOEI is working with Massachusetts Aging Services Access Points, Councils on Aging, and direct service providers to implement the LTSS Professionals and Family Plus projects (formerly known as the physician portal and consumer connect, respectively). The Health Policy Commission is not directly involved in the SIM Initiative, but is central to health policy reform in the state. The Department of Mental Health attends the Parent Professional Advocacy League statewide meetings, which include MCPAP on their agendas.

### **Payment reform**

Payment reform is one of the key efforts of the Massachusetts SIM Initiative, which supports Chapter 224. Chapter 224 explicitly requires promotion of alternative payment methodologies; for example, it requires Medicaid to utilize alternative payment methodologies for no fewer than 50 percent of its enrollees by July 2014 and 80 percent by 2015. PCPR supports this effort by moving the state Medicaid program toward alternative payment methodologies. It includes risk-adjusted comprehensive primary care payments for a defined set of MassHealth beneficiaries participating in MassHealth's managed care networks. In addition, some providers are receiving a capitated payment for these members' behavioral health utilization. The capitation payments allow providers the flexibility and technical resources to deliver high-quality care to their patients through increased care coordination and disease management, for example. Provider groups will also enter into a shared-savings, shared-risk

arrangement and are eligible to receive quality incentive payments based on their performance on 37 quality measures.

GIC payment reform efforts include the Centered Care initiative, which assigns IRBOs (a form of ACO) to coordinate and manage patients' health. GIC's contract with health plans requires that providers bear financial risks for the populations they serve. Health plans are expected to develop contracts with provider groups using at least one of the key elements in the sample agreement the GIC has provided to them. Beginning in 2014, if plans remain under established benchmarks per member per year, they will be rewarded with a share of the savings. If they exceed the benchmark, they will pay a penalty. SIM funds specifically will go to support provider practice pattern and ACO efficiency studies conducted by John Snow, Inc. (JSI). The state will use information from these reports to inform and improve the IRBO program; the reports have not yet been completed. A sample member-level data set was received by JSI in June 2014.

### ***Care coordination, care management, and primary care strategies***

The SIM operational plan for Massachusetts does not explicitly outline care coordination strategies, but rather enables stronger care coordination by creating linkages between LTSS and primary care providers, behavioral health and primary care providers, and CHCs and community-based organizations (CBOs); expanding access to health IT; and implementing specific payment reforms. PCPR capitation payments are supposed to cover services to increase care coordination, but the PCPR initiative is not prescriptive of how that should be accomplished.

A long-term goal of the Massachusetts SIM Initiative is integration of primary care and behavioral health. All PCPR participants have a behavioral health component, but they do not all receive capitation payments for the behavioral health services under PCPR. At present, the state is providing technical assistance and outreach to behavioral health providers to encourage their adoption of electronic health records (EHRs) and health IT. The state views this as a critical first step to enhancing communication between primary care providers and behavioral health providers. Similarly, the state developed a learning collaborative on behavioral health integration for providers participating in PCPR.

Another strategy to support integration of primary care and behavioral health is MCPAP, which enhances access to behavioral health services for pediatric patients. SIM funds expand this initiative, which has been in operation in Massachusetts since 2005. Currently, more than 42 percent of pediatricians access MCPAP services and 89 percent of calls are responded to within 30 minutes.

### 5.2.3 Enabling strategies

#### *Health information technology and other infrastructure investments*

Health IT plays a substantial role in the state's SIM Initiative. Many of the health IT interventions involve creating new software solutions (e-Referral, LTSS Community Links), new technology innovations (quality data reporting node), or technical assistance to coordinate with existing efforts (connecting providers to the HIE, developing a master provider index for the APCD). Many of these infrastructure efforts currently remain in the start-up and planning phase, with implementation to occur in subsequent years. This infrastructure will formalize community and clinical linkages, in conjunction with the goals of the SIM Initiative to improve care coordination. This will also create new synergies with Chapter 224, which mandates that all providers have EHRs by 2017. For example, PCPR providers will be able to submit quality data through the Medicaid Management Information System (MMIS) to the quality data repository, which will exist on the HIE. This will enable more streamlined quality reporting for PCPR and other initiatives.

The SIM award enables provider engagement to build better and more usable health IT products. For example, CHIA surveyed 650 unique providers during development of the provider portal to understand what is most important for their needs; they received 80 survey responses. Stakeholders noted that lessons from the Patient-Centered Medical Home Initiative, which also focuses on coordinating care through EHRs, are also informing development of the provider portal.

#### *Technical assistance and other support resources*

The state is engaging and working with contractors for many of the technical aspects of its SIM work. PCPR staff members are working with Verisk and Mercer for technical assistance related to beneficiary assignment, claims analysis, and risk-adjusted capitation payments. The PCPR initiative has also solicited responses for a consumer satisfaction survey of PCPR participants and non-participants in MassHealth. CHIA has engaged The Lewin Group and JEN Associates to profile the data elements that will likely be used in the master provider index. GIC contracted with JSI to conduct provider practice pattern and ACO efficiency studies. The state has also contracted outside vendors to assist with creating the e-Referral system and the LTSS referral system.

A portion of SIM funds is dedicated to providing technical assistance to behavioral health and LTSS providers related to adoption of health IT. Behavioral health and LTSS providers generally do not qualify for federal EHR adoption incentive programs and, therefore, do not have access to as many resources as other providers to enable them to connect to the state HIE. Funds will also be used to provide technical assistance to enable CHCs to fully participate in the e-Referral program.

## 5.2.4 Summary of findings

### *Operational activities and progress*

State officials described the goals of the Massachusetts SIM Initiative as to develop both provider capacity and the infrastructure tools necessary to enable delivery transformation statewide. Providers' capacity to accept risk-based contracts will be enhanced by PCPR. The infrastructure/health IT tools will allow providers to connect to community services, behavioral health services, and LTSS; these tools will also improve quality data collection and cross-payer reporting through the APCD. Many of the SIM activities are intended to support mandates embedded in Chapter 224; therefore, the award is supporting activities required by state law. The SIM Initiative brings together many state and private stakeholders previously working independently to meet the aims of the law, and works to coordinate their efforts. For example, MCPAP staff members are now reaching out to public and private payers regarding the role of MCPAP in behavioral health integration and alternative payment mechanisms.

MassHealth launched the PCPR initiative on March 1, 2014, but only 30 of the more than 1,000 PCC groups in MassHealth participated in the initial launch. Ten of the 30 PCC groups receive a behavioral health capitation payment and a primary care capitation payment. Though the PCPR offers three options for sharing risk, the 30 participating PCC groups have all elected to receive upside-only payments. Ideally, Massachusetts would like more participants to begin sharing risk, but they expressed skepticism about taking on risk at this time. Another challenge is that providers will not receive any of the shared-savings payments until after a 9-month claims lag.

The majority of MassHealth participants are covered by either the PCC plan or a Medicaid MCO plan. As of first quarter 2014, PCPR covered 22 percent of PCC participants, which is approximately 9.3 percent of the 905,106 eligible MassHealth beneficiaries. Although MassHealth has been in conversations with the six MCOs participating in MassHealth—with the aim of including some in the PCPR beginning July 2014—as of the beginning of August 2014, none of the MCOs had adopted PCPR. MassHealth aims to have 50 percent of beneficiaries in alternative payment models by the end of 2014 and 80 percent by the end of the SIM test period in 2016. MassHealth has held at least one learning collaborative with PCPR providers. Due to limited response to the first posting, the state re-posted a request for response to conduct a patient experience survey among both PCPR and non-PCPR MassHealth beneficiaries in fall 2014. These results will be used for quality measurement and payment incentives in future years.

As mentioned, many of the SIM-funded health IT efforts remain in the planning stage for this year. For example, the quality data repository is in its preliminary design phase, and CHIA is working with developers and stakeholders on how best to configure the master provider index in the APCD to enhance the analytic quality of the claims data. Some elements of health IT

enhancements and infrastructure will be launched this year, however. EOEAs Community Links platform is on track to launch on September 30, 2014. Two pilot sites went live in second quarter 2014 and the third site is anticipated to go live in summer 2014. Development of the e-Referral software is ongoing, although technical assistance to behavioral health providers to connect and transmit data has not yet begun. The SIM Initiative is also supporting an evaluation of the MCPAP program, including utilization of MCPAP and psychotropic prescribing patterns of pediatric primary care providers. Massachusetts will use this information to strategize how to expand utilization of the program.

### ***Governance and project administration***

Although Massachusetts clearly values the SIM Initiatives focus on encouraging interagency collaboration in its transformation efforts, some stakeholders reported limitations to collaborating across state agencies and coordinating among the disparate project activities. Others had positive comments on this structure, as they could remain involved with the SIM Initiative without having to deal with its day-to-day details. Several stakeholders said they would like to have been more involved in the design of the SIM Initiative and would like to be more involved in its implementation. Others pointed out that one purpose of the award was to foster interagency collaboration; however, the reality is that EOHHS is the primary driver of reform priorities related to the SIM Initiative. Others commented on the challenge of coordinating paperwork among all the different sub-projects, and noted that, due to its setup and CMS requirements, the current structure does not allow changes without a complex administrative process.

High-level staffing changes have also created challenges for administering the SIM Initiative. Several stakeholders mentioned the 2013 departure of the former Medicaid director and the former secretary of EOHHS as challenges, because their strong leadership shaped the current reform plans. In addition, the January 2015 departure of the Governor Deval Patrick, who is not running for re-election, has created uncertainty. Despite these challenges, many of the individual agencies receiving SIM funds appear to have a clear vision for the goals they would like to have accomplished by the end of the year and by the end of the SIM test period.

### ***Physician, consumer, and other stakeholder participation***

We spoke with several consumer and provider groups who shared that the state had adequately engaged them in matters of health reform, especially pertaining to implementation of Chapter 224. While generally knowledgeable about health reform efforts in the state, their understanding of the SIM Initiative was limited to understanding that it plays a role in delivery system transformation across the state. Several consumer groups shared that Massachusetts could have made a stronger effort to solicit their participation in the early design or implementation phases of the SIM Initiative. For example, several stakeholders commented that they were not aware the state had engaged CBOs to understand the challenges and benefits of the e-Referral program for the population they serve. Although not yet started at the time of our site

visit, several state agencies did engage in greater stakeholder outreach during March and April 2014, including CHIA and EOE. The state is also planning to field a patient experience survey in fall 2014.

With so many activities related to the SIM Initiative, stakeholders outside state agencies were unclear about which projects were funded under the SIM award and which by other initiatives in the state. However, they were positive about the benefits of the ongoing projects where they were directly impacted.

### ***Payment reform***

Physicians in the focus groups were not aware of the PCPR or IRBO initiatives outside some basic understanding of capitation; several mentioned provider tiering, which is not a part of either but is part of GIC's Clinical Performance Improvement Initiative. In general, physicians were positive about capitation and reported shifting to less expensive medication and after-hours services to try to keep patients out of the emergency room (ER). The goal of keeping patients out of the hospital was a central focus of providers under any type of risk-based contract. Providers did not like the concept of provider tiering; however, they commented that tiering for drug pricing is a good way to force patients to bear financial responsibility for their drug choices. Overall, the provider groups expressed their belief that patients should share in the accountability for their outcomes and costs.

Health plans and provider groups expressed skepticism about the evidence that care coordination and payment reform will result in cost savings. Additionally, many health plans in Massachusetts have developed their own unique delivery reform models, and the providers do not necessarily want to implement another alternative payment contract. Providers are concerned that participation in PCPR could interfere with their movement toward becoming ACOs; and the added investment in PCPR does not completely align with the other initiatives in the state. Health plans expressed similar skepticism over their involvement in GIC's Centered Care initiative.

### ***Care coordination, care management, and primary care strategies***

Physicians serving MassHealth and GIC patients expressed similar strategies for care coordination in all the physician focus groups. Many, especially from the large multispecialty practices, had robust care coordination systems targeted at keeping patients out of the hospital, following up with high-risk patients, and connecting patients to services after hospitalization. Many physicians said they treated all patients the same regardless of their payer, but others mentioned that they provided additional coordination services to Medicare managed care beneficiaries. Several physicians complained that they did not have enough social services resources available. While many physicians had access to care coordinators for their patients, they also mentioned a lack of communication between many specialists and primary care providers, especially mental health providers. Primary care providers are concerned that the



burden of care management is going to fall completely on them, and that specialists will not be involved.

MassHealth beneficiaries in the focus groups reported satisfaction with their care and the level of coordination between specialists and primary care providers. Several individuals mentioned that their primary care provider knew they were receiving mental health services and which therapeutic medications they were receiving. One participant was offered a case manager, but did not see a lot of benefit from the service. Several beneficiaries in Springfield were receiving home health services, and a few were offered transportation services. Focus group participants were generally satisfied with the process of referrals to specialists, but noted that it could take up to a month to see the specialist. Others mentioned that long waits were a deterrent to seeking care in the ER; however, still others mentioned that they would come in on an ambulance to expedite their care. Approximately half of the beneficiaries had access to a patient portal, but fewer actively used the service to connect with their doctors.

Members of GIC were less satisfied with their care compared to MassHealth beneficiaries, especially the Springfield focus group. They mentioned several reasons for their dissatisfaction, including the long wait times to get an appointment and seeing a nurse practitioner instead of a physician. Some recently hospitalized beneficiaries' doctors did not know those patients had been hospitalized, and few beneficiaries felt their doctors were familiar with them. One beneficiary was receiving mental health services of which the primary care provider was unaware. Beneficiaries mentioned that care coordination was good if they stayed within the group practice, but that any outside providers were not in communication with their primary care providers. Approximately half of the beneficiaries had access to a patient portal, though only some of those with access actively used the service to connect with their doctors.

### ***Health information technology and other infrastructure investments***

The changes initiated as a result of the SIM award will structurally put in place technologies that have the potential to change the way care is delivered in Massachusetts; they provide linkages that did not previously exist between providers. Although promising, however, implementation of these new technologies will have challenges. For example, sharing of behavioral health data requires patient consent to comply with legal requirements. Several state leaders expressed concern that patients will not consent to have their information shared between providers; if this occurs, the chance of significant uptake is low. Another example is the e-Referral program that will directly connect CHCs with CBOs, such as YMCAs. While the new technology provides a real-time way for primary care providers to monitor patient adherence to programs such as chronic disease self-management, the presence of the new technology does not guarantee widespread participation.

The challenge of many of the technological innovations is for providers to engage and meaningfully use them. Primary care physicians participating in the focus groups were positive

about the changes with the increase of EHRs, and some use them to create algorithms to identify high-risk patients. Patient portals allow them to see what happened at different hospitals in their systems, which increases their ability to coordinate care across the care continuum. Many of these physicians mentioned that EHRs work very well if the patients stay in network, but if patients receive care outside of the network it is difficult to track them. Some primary care physicians mentioned a similar challenge with mental health providers.

### 5.2.5 Population health

Massachusetts recently posted a vendor procurement for technical assistance to support PCPR participants. One area of assistance is using EHRs in population health management. Continuing adoption of health IT will make information more readily available for population health management. The e-Referral system will also be integrated with the existing population health management initiatives used by the Department of Public Health.

### 5.2.6 Successes, challenges, and lessons

#### Successes

The majority of stakeholders commented that SIM funds have helped them expedite Massachusetts' priorities, as articulated under Chapter 224. State officials expressed their judgment that the SIM award is a helpful step toward implementing delivery system transformation statewide. Many of the programs moving the state toward these goals are funded with SIM funds and likely would not have been possible without this federal support, according to interviewees. This is especially true in the MassHealth population; leaders said the PCPR initiative would not have been possible without SIM funding. Other officials mentioned that the SIM award has provided an opportunity for state agencies to collaborate across agencies—including the Health Policy Commission, GIC, the Department of Mental Health, the Department of Public Health, MassHealth, EOEA, CHIA, among others. The funds have been a catalyst for delivery reform, which was already a state priority, but stakeholders perceive additional funds as likely to add to these goals. Officials from agencies across the state commented that having their projects operate in separate silos is efficient, because it allows them the opportunity to remain focused on meeting their internal SIM-funded project objectives. The funds to create new technologies are also viewed as very advantageous, and divisions such as EOEA have begun to pilot a new system to connect providers and caregivers.

#### Challenges

- The SIM Initiative is intended to involve multi-payers, but GIC is receiving a small portion of the overall funds and is the only other payer outside MassHealth currently involved in the SIM Initiative.
- Provider participation in the PCPR initiative is skewed toward CHCs and hospital outpatient departments, rather than the large hospital systems and provider practices that are responsible for driving costs.

- State officials commented on the large administrative burden of the SIM Initiative. Those outside the core team, however, felt that the structure of the award allowed them to be free of administrative burden.
- The state has had a difficult time engaging providers to participate in the PCPR, especially taking downside risk. To date, none of the participating providers is accepting downside risk.
- Some viewed the structure of the SIM Initiative as exacerbating the silo approach of the state agencies, rather than promoting overall integration of a statewide strategy. A few state officials mentioned lack of a champion to drive the Initiative's vision; they also mentioned the departure of the Medicaid director and secretary of EOHHS as a challenge to sustaining their original vision.
- Implementation of new technologies is important to allow care coordination, but stakeholders are concerned that the issues of patient confidentiality may interfere with the transfer of information. This concern is especially strong in behavioral health.
- Several stakeholders mentioned provider consolidation and increased market power as a major concern for providers participating in shared-savings, shared-risk models.

### Lessons

- The structure of having many small projects has led to an increased administrative burden, and state officials suggested they would have proposed fewer bigger projects if they had to write the proposal again.
- The state would like a forum for discussion with the other Test states. They feel isolated in their efforts and would like CMS to organize some sort of learning forum for the states to share best practices.

## 5.3 Massachusetts Baseline Outcomes

This section summarizes information on baseline outcomes for Massachusetts' insured population, including: (1) provider and payer participation, (2) populations reached, (3) care coordination, (4) quality of care, (5) health care utilization, and (6) health expenditures. Data on the first two measures come from our site visits and the Massachusetts SIM Initiative team's operational reports; the other measures are derived from claims data. Future reports will include claims-based measures for Medicaid, Medicare, and commercially insured populations. However, because Medicaid claims data were not available for this report, we present the outcomes for only the commercially insured population represented in the MarketScan database and Medicare beneficiaries. The data are restricted to the fee-for-service population, and expenditure measures exclude patient cost-sharing. We present data for Massachusetts and its propensity score-adjusted comparison group, comprising data from three states: Connecticut, New Hampshire, and Rhode Island. We define the baseline period as 2010 to 2012. The graphs contain the weighted (by the eligibility fraction) average outcomes for the population included in

the MarketScan and Medicare data for Massachusetts and the weighted (by the eligibility fraction and propensity score) average outcomes for the comparison group. All quarterly outcomes are calculated as 12-month rolling averages. Appendix B provides more detailed specifications on methods and measures.

### 5.3.1 Provider and payer participation

On March 1, 2014, Massachusetts launched the PCPR program (capitated payment model) with 30 PCC groups administered by MassHealth. Participants represent hospital-licensed health centers (10), CHCs (19) and a group practice (1). All opted to participate in the upside-only risk payment model, and 10 are including outpatient behavioral health services as part of their capitated payments. No MCOs, which serve about 37 percent of the MassHealth population, opted to participate in PCPR during first and second quarter 2014. The state remains in discussions with the MCOs.

### 5.3.2 Populations reached

The majority of MassHealth participants are covered by either the PCC plan or an MCO plan. As of first quarter 2014, PCPR covered 22 percent of PCC participants, or approximately 84,000 covered lives; no MCOs had opted to participate at the time. The state had projected a goal of covering 25 percent (226,276 beneficiaries) of the 905,106 managed care enrollees (MCO and PCC) during the quarter.

### 5.3.3 Care coordination

#### *Commercially insured*

For Massachusetts and the comparison group, the percent of acute inpatient discharges with a follow-up visit within 14 days among the adult population remained stable over the baseline period at 35 to 36 percent (*Table 5-1*). The number of visits to a primary care physician per 100 covered persons decreased slightly over time for Massachusetts (3.6 percent) and by about the same proportion for the comparison group (3.7 percent). The number of visits to a specialist per 100 visits declined by 7.7 percent in Massachusetts and 9.2 percent in the comparison group. Infants had a much higher rate of visits to a primary care provider than adults or children, whereas adults had the highest rate of visits to specialists. Among adults, the rate of visits to specialists decreased over time for both Massachusetts (8.6 percent) and the comparison group (10.4 percent).

**Table 5-1. Care coordination measures for the commercially insured population in MarketScan by age group, Massachusetts and comparison group**

Measure	Year	Overall	Infant	Child	Adult
<b>Percent of inpatient discharges that had a follow-up visit within 14 days for members 18 years and older</b>					
<b>Massachusetts</b>	<b>2010</b>	—	—	—	<b>36</b>
	<b>2011</b>	—	—	—	<b>36</b>
	<b>2012</b>	—	—	—	<b>35</b>
Comparison group	2010	—	—	—	36
	2011	—	—	—	36
	2012	—	—	—	36
<b>Number of visits to primary care providers per 100 members</b>					
<b>Massachusetts</b>	<b>2010</b>	<b>329</b>	<b>836</b>	<b>330</b>	<b>317</b>
	<b>2011</b>	<b>321</b>	<b>809</b>	<b>323</b>	<b>310</b>
	<b>2012</b>	<b>317</b>	<b>807</b>	<b>323</b>	<b>304</b>
Comparison group	2010	383	841	344	386
	2011	375	830	344	375
	2012	397	824	357	402
<b>Number of visits to specialists per 100 members</b>					
<b>Massachusetts</b>	<b>2010</b>	<b>247</b>	<b>122</b>	<b>121</b>	<b>290</b>
	<b>2011</b>	<b>244</b>	<b>115</b>	<b>121</b>	<b>284</b>
	<b>2012</b>	<b>228</b>	<b>106</b>	<b>118</b>	<b>265</b>
Comparison group	2010	251	97	120	298
	2011	246	100	119	290
	2012	228	89	116	267

### **Medicare**

For Massachusetts and the comparison group, the percentage of Medicare acute inpatient discharges with a follow-up visit within 14 days increased over the baseline period (*Table 5-2*). The percentage of dual Medicare-Medicaid enrollees who had acute inpatient discharges with a follow-up visit within 14 days increased by 17.5 percent in Massachusetts and nearly doubled in the comparison group (90.0 percent increase). The percentage of acute inpatient discharges with a follow-up visit within 14 days for other Medicare enrollees in Massachusetts was similar in Massachusetts and the comparison group.

**Table 5-2. Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Massachusetts and comparison group**

Measure	Year	Overall	Medicare-Medicaid	Other Medicare
<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>				
<b>Massachusetts</b>	<b>2010</b>	<b>32</b>	<b>40</b>	<b>31</b>
	<b>2011</b>	<b>39</b>	<b>37</b>	<b>39</b>
	<b>2012</b>	<b>50</b>	<b>47</b>	<b>51</b>
Comparison group	2010	36	30	37
	2011	41	39	42
	2012	51	57	50
<b>Number of visits to primary care providers per 100 beneficiaries</b>				
<b>Massachusetts</b>	<b>2010</b>	<b>456</b>	<b>506</b>	<b>440</b>
	<b>2011</b>	<b>469</b>	<b>521</b>	<b>452</b>
	<b>2012</b>	<b>472</b>	<b>522</b>	<b>455</b>
Comparison group	2010	455	446	457
	2011	459	486	450
	2012	460	500	447
<b>Number of visits to specialists per 100 beneficiaries</b>				
<b>Massachusetts</b>	<b>2010</b>	<b>390</b>	<b>335</b>	<b>408</b>
	<b>2011</b>	<b>390</b>	<b>337</b>	<b>408</b>
	<b>2012</b>	<b>396</b>	<b>346</b>	<b>413</b>
Comparison group	2010	447	324	487
	2011	443	348	473
	2012	447	358	476

The number of visits to a primary care provider per 100 covered persons increased slightly over time for both Massachusetts and the comparison group. The number of visits to a specialist per 100 visits was stable for Massachusetts and for the comparison group.

The number of visits to primary care providers and specialists per 100 covered persons increased slightly over the baseline period for both the dual Medicare-Medicaid enrollees and other Medicare enrollees in Massachusetts. Though Medicare-Medicaid enrollees in the comparison group had a large increase in the number of visits to primary care providers (12.1 percent) and specialists (10.5 percent), the other Medicare enrollees in the comparison group had a decrease in visits to primary care physicians (2.2 percent) and specialists (2.3 percent).

### 5.3.4 Quality of care

#### Commercially insured

**Table 5-3** presents the rates of hospitalization per 100,000 covered persons in the overall, acute, and chronic Prevention Quality Indicator (PQI) composite measures for the adult (19–64) population. Using the overall PQI composite hospitalization rate, which includes 12 of the 14 individual PQIs, the baseline rate of hospitalization in 2012 was 420 per 100,000 covered persons for Massachusetts and 430 for the comparison group. In Massachusetts, the rate of hospitalization using the acute PQI composite (which includes such conditions as pneumonia and dehydration) was less than half of the overall rate (190 hospitalizations per 100,000 covered persons) in 2012, and the rate of hospitalization using the chronic PQI composite (which includes such conditions as hypertension, diabetes complications, and chronic obstructive pulmonary disease) was 240 per 100,000 covered persons. The comparison group rates for both the acute and chronic PQI were identical to the rates for Massachusetts in 2012.

**Table 5-3. Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Massachusetts and comparison group**

Measure	Commercially insured			Medicare		
	2010	2011	2012	2010	2011	2012
<b>Rates of hospitalization for composite AHRQ Prevention Quality Indicator (PQI) conditions</b>						
<b>Overall composite</b>						
Massachusetts	520	520	420	1,980	1,960	1,880
Comparison group	450	470	430	1,900	1,930	1,860
<b>Acute condition composite</b>						
Massachusetts	260	250	190	1,000	1,000	960
Comparison group	210	230	190	960	990	930
<b>Chronic condition composite</b>						
Massachusetts	270	280	240	1,100	1,080	1,030
Comparison group	240	240	240	1,050	1,040	1,030
<b>Percent of children who turned 15 months during the year and had 0 well-child visits during their first 15 months of life</b>						
Massachusetts	—	1	2	—	—	—
Comparison group <sup>a</sup>	—	2	2	—	—	—
<b>Percent of children who turned 15 months during the year and had 6 or more well-child visits during their first 15 months of life</b>						
Massachusetts	—	65	64	—	—	—
Comparison group	—	56	61	—	—	—

Note: AHRQ = Agency for Healthcare Research and Quality

<sup>a</sup> Due to the small sample size of children who turned 15 months in a given year, we were unable to apply propensity score weights to the comparison group for the well-child visit measure. We report the unweighted values for the three comparison states combined.

In Massachusetts, 65 percent of infants had 6 or more well-child visits in the first 15 months of life in 2011 as compared to 56 in the comparison group (Table 5-3). There was a one percentage point decrease decline in the percentage of infants with 6 or more well-child visits from 2011 to 2012 in Massachusetts but a 5 percentage point gain in the comparison group.

### **Medicare**

Medicare patients had higher levels of utilization per 100,000 covered persons during the baseline period than that of commercially insured patients, as expected. In Massachusetts, the PQI composite hospitalization rate was 1,880 in 2012, compared with 1,860 per 100,000 covered persons in the comparison group. The overall rate declined over time in both Massachusetts and the comparison group. The acute PQI rate in 2012 was 960 in Massachusetts and 930 in the comparison group per 100,000 covered persons. Finally, the chronic PQI measure was identical in Massachusetts and the comparison group, 1,030 per 100,000 covered persons, in 2012.

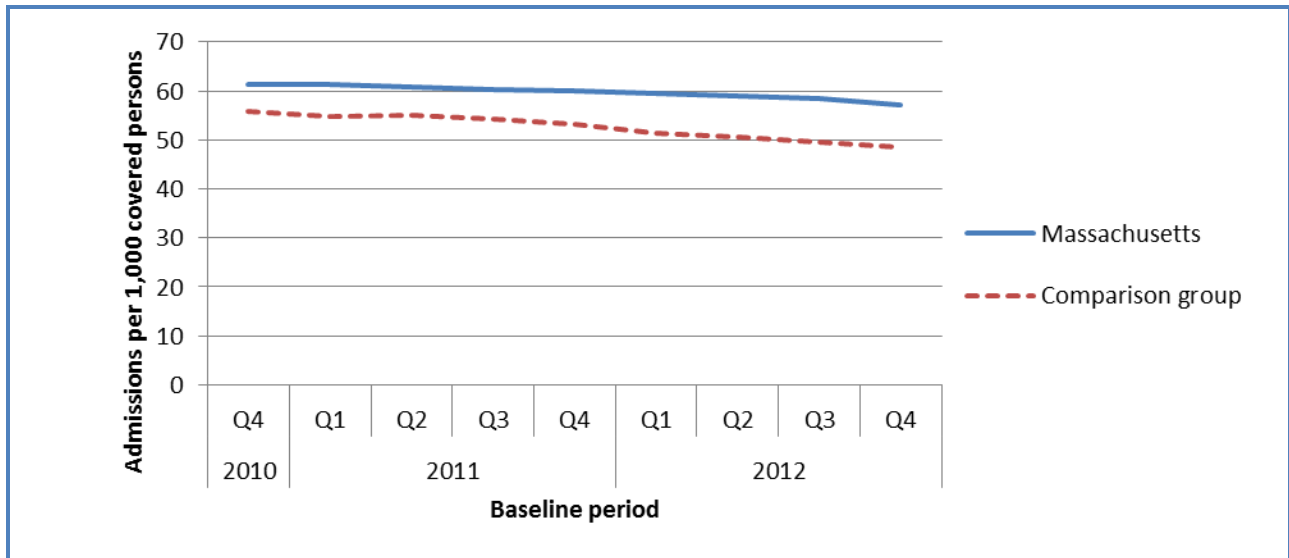
### **5.3.5 Utilization**

#### **Commercially insured**

The rate of all-cause acute care hospitalizations per 1,000 covered persons (*Figure 5-1*) showed a decreasing trend in the baseline period in Massachusetts (7 percent) and the comparison group (13 percent), with the highest rate among infants for each year (*Table 5-4*). The number of all cause ER visits per 1,000 covered persons declined during the base period in Massachusetts (4 percent); the comparison group's rate did not change (*Figure 5-2*). The trend in infant ER visits slightly increased in both Massachusetts and the comparison group, whereas children and adult ER visits generally declined (with the exception of a slight adult increase in the comparison group) (Table 5-4). The number of ER visits not leading to a hospitalization per 1,000 covered persons declined over the baseline period in Massachusetts (3 percent), but increased in the comparison states (1 percent) (*Figure 5-3*). Trends were similar to the all-cause ER visit rate among the different age groups (Table 5-4). The number of discharges (per 1,000 discharges) leading to a hospital readmission within 30 days increased in Massachusetts (1 percent) and decreased in the comparison group (6 percent) (*Figure 5-4*). The absolute rates in the final quarter 2012 were 120 per 1,000 in Massachusetts and 123 per 1,000 in the comparison group.



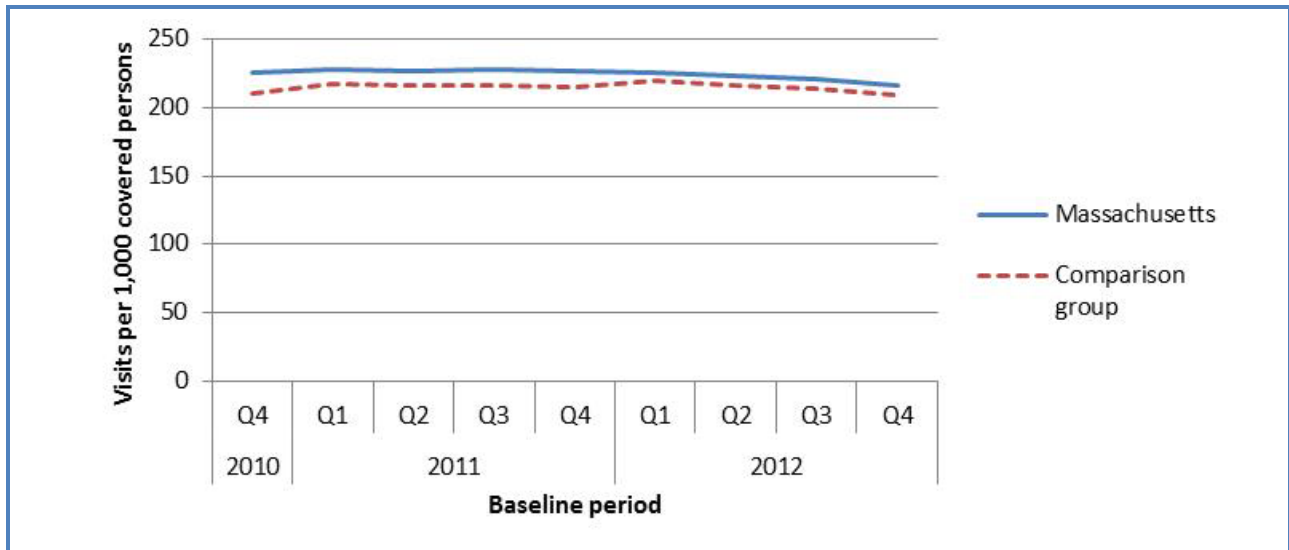
**Figure 5-1. All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Massachusetts and comparison group**



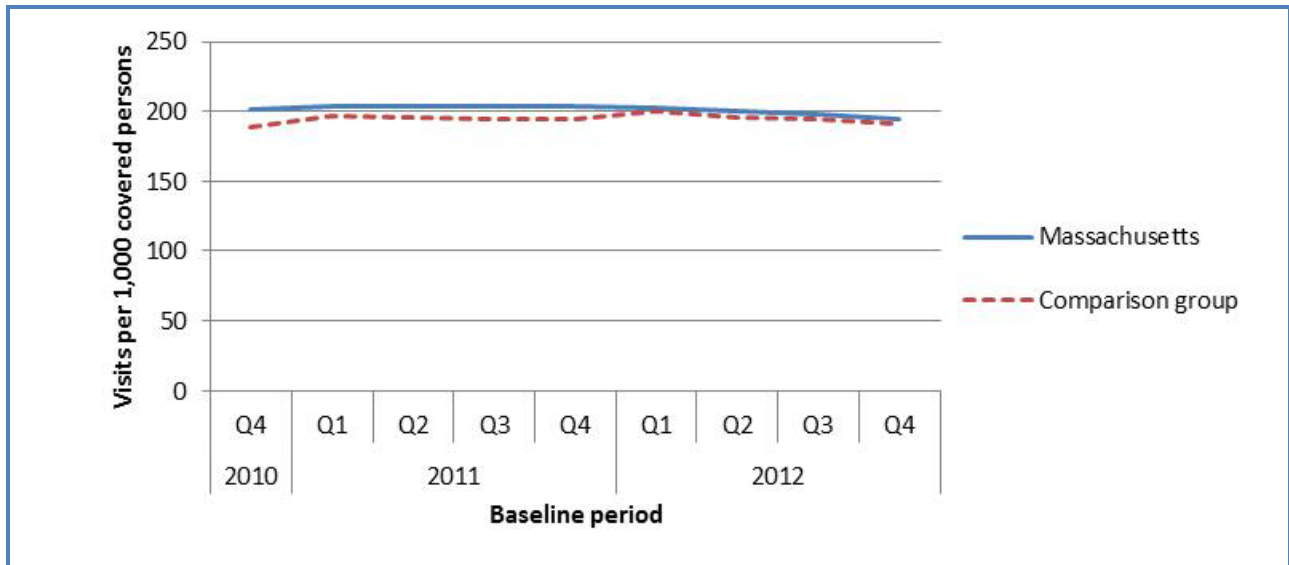
**Table 5-4. Utilization measures for the commercially insured population in MarketScan by age group, Massachusetts and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 members</b>									
Massachusetts	543	567	559	19	18	17	63	62	58
Comparison group	504	469	465	17	17	16	60	57	51
<b>All-cause emergency room visits per 1,000 members</b>									
Massachusetts	387	384	391	219	219	207	223	225	215
Comparison group	293	306	301	199	201	191	212	217	213
<b>Emergency room visits that did not lead to hospitalization per 1,000 members</b>									
Massachusetts	346	340	351	207	208	196	196	199	191
Comparison group	264	275	271	189	190	182	188	194	192

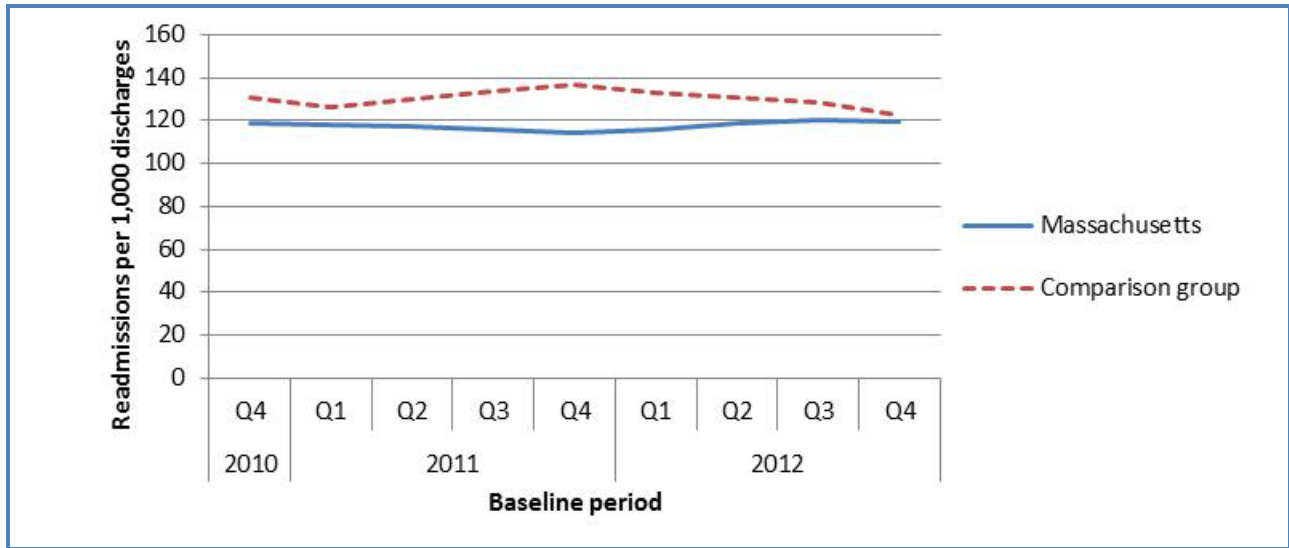
**Figure 5-2. All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Massachusetts and comparison group**



**Figure 5-3. Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Massachusetts and comparison group**



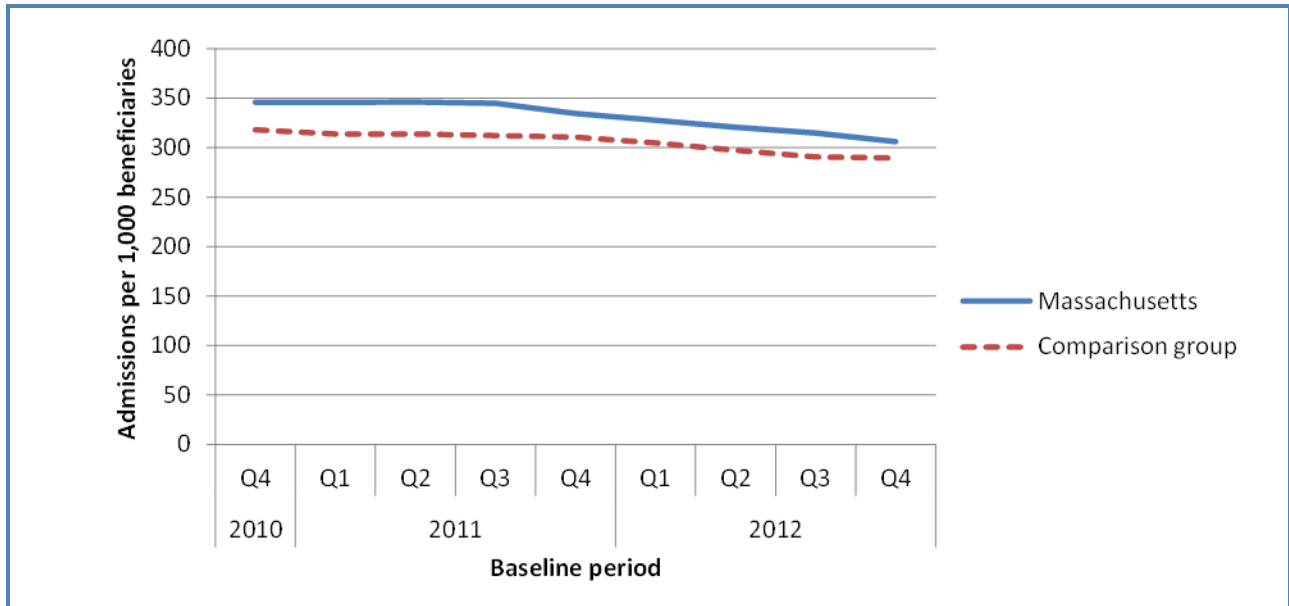
**Figure 5-4. Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Massachusetts and comparison group**



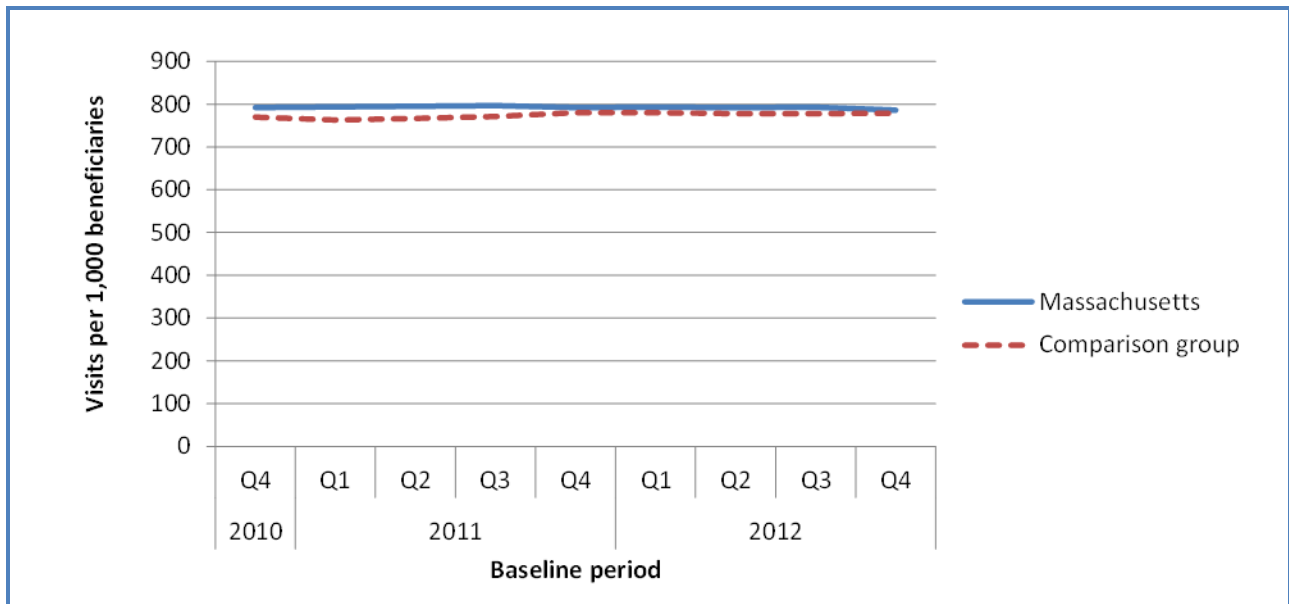
**Medicare**

For Massachusetts and the comparison group, the rate of all-cause inpatient hospital admissions decreased over the baseline period (*Figure 5-5*). The number of all-cause ER visits per 1,000 covered persons remained virtually unchanged over time for both Massachusetts and comparison group (*Figure 5-6*). The number of ER visits that not leading to a hospitalization per 1,000 covered persons increased over the baseline period for both Massachusetts (4.2 percent) and the comparison group (4.4 percent) (*Figure 5-7*). The number of discharges leading to a hospital readmission within 30 days per 1,000 discharges decreased in both Massachusetts (4.3 percent) and the comparison group (2.3 percent) (*Figure 5-8*). Trends in these utilization measures over the baseline period were similar for both dual Medicare-Medicaid enrollees and other Medicare enrollees (*Table 5-5*).

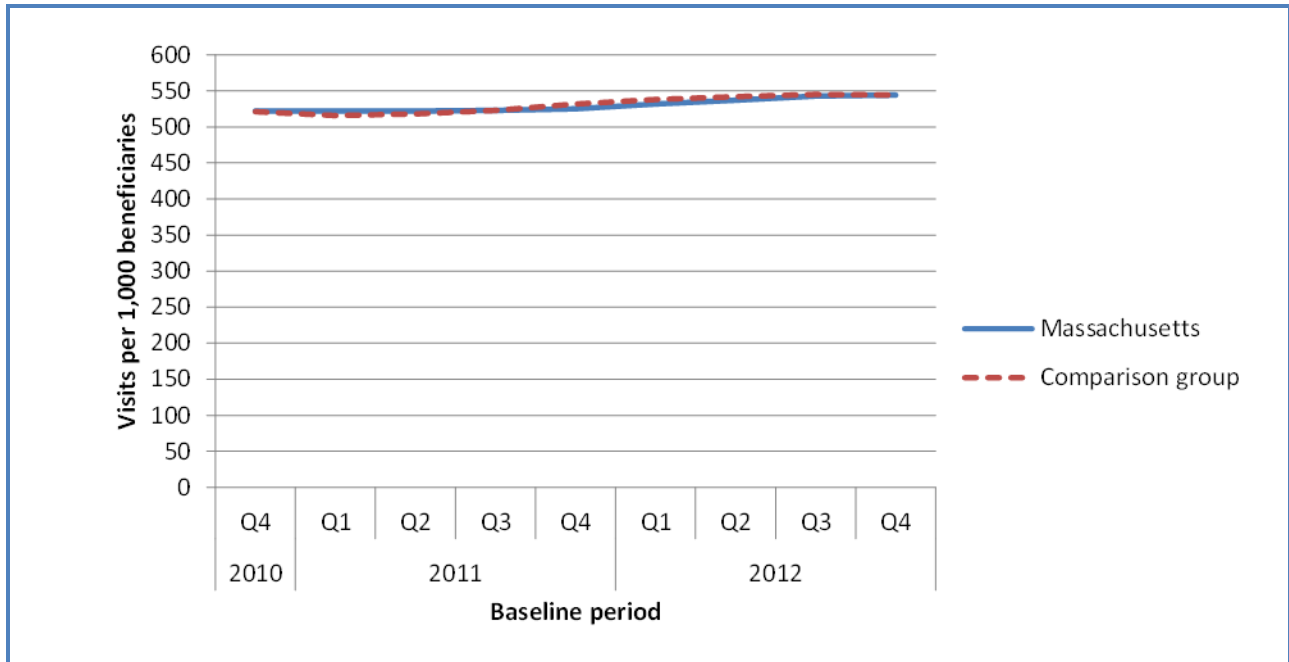
**Figure 5-5. All-cause hospital admissions per 1,000 Medicare beneficiaries, Massachusetts and comparison group**



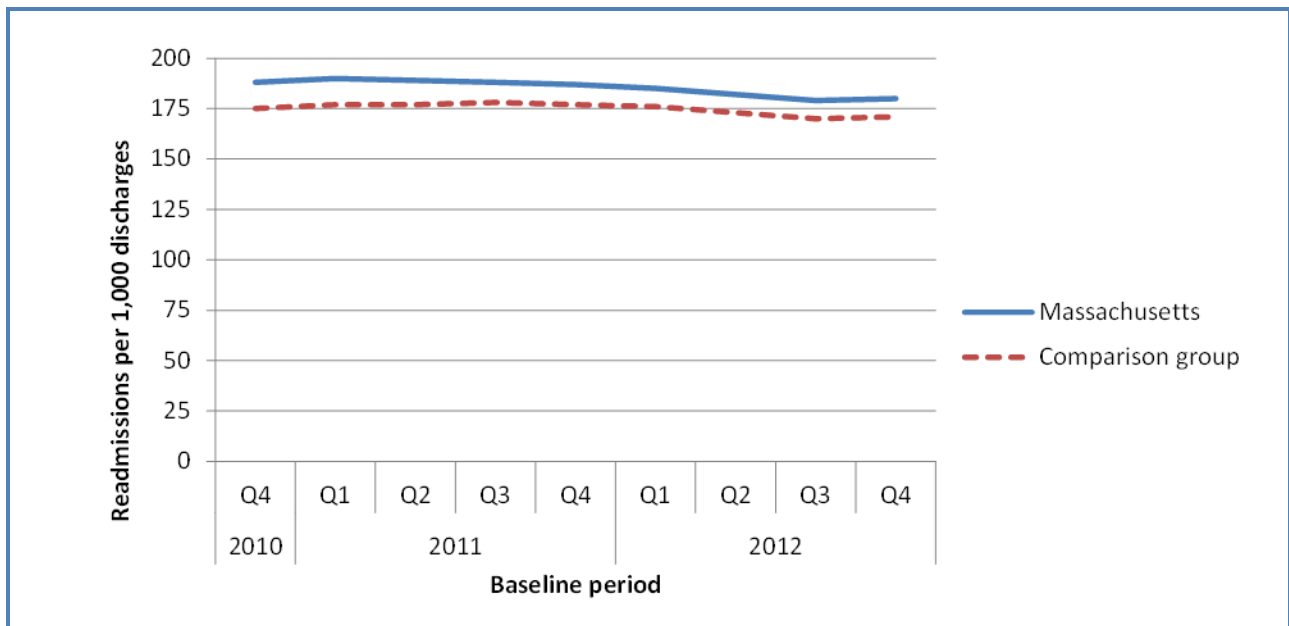
**Figure 5-6. All-cause emergency room visits per 1,000 Medicare beneficiaries, Massachusetts and comparison group**



**Figure 5-7. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Massachusetts and comparison group**



**Figure 5-8. Readmissions per 1,000 discharges for Medicare beneficiaries, Massachusetts and comparison group**



**Table 5-5. Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Massachusetts and comparison group**

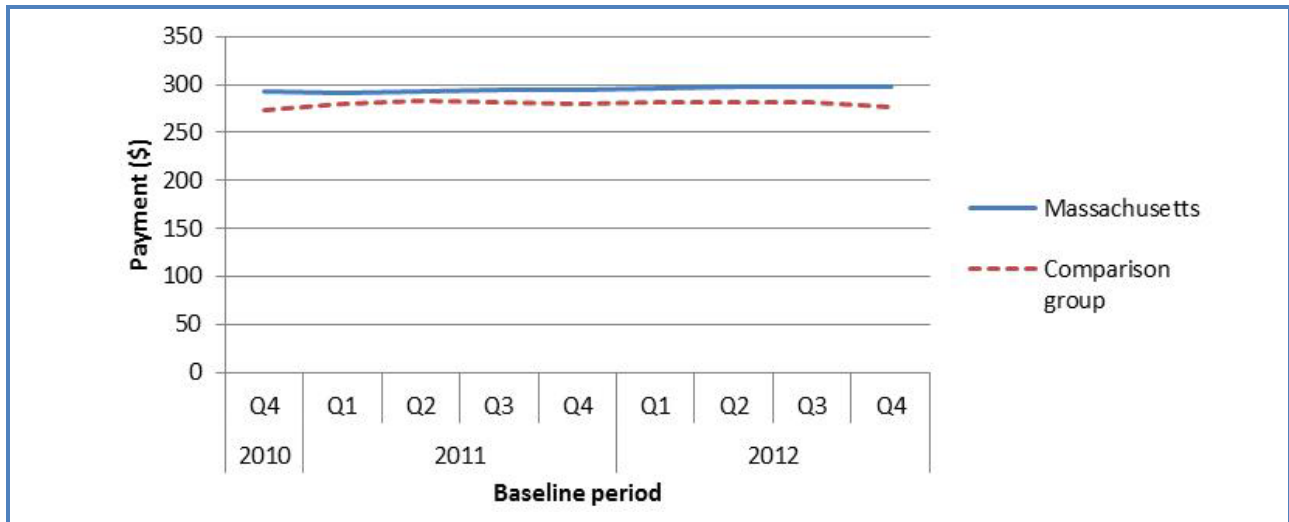
Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 beneficiaries</b>						
Massachusetts	417	403	372	323	313	285
Comparison group	430	419	398	282	276	255
<b>All-cause emergency room visits per 1,000 beneficiaries</b>						
Massachusetts	1,336	1,331	1,338	616	617	607
Comparison group	1,403	1,424	1,439	565	574	568
<b>Emergency room visits that did not lead to hospitalization per 1,000 beneficiaries</b>						
Massachusetts	990	988	1,025	370	376	389
Comparison group	1,026	1,050	1,078	358	366	374
<b>Readmissions per 1,000 discharges</b>						
Massachusetts	217	214	205	175	176	169
Comparison group	211	206	202	162	165	158

### 5.3.6 Expenditures

#### *Commercially insured*

Total payments per member per month (PMPM) increased at similar rates in Massachusetts and the comparison group. Between 2010 and 2012, overall payments increased by 1.7 percent in Massachusetts and 1.5 percent in the comparison group (*Figure 5-9*). The quarterly PMPM overall payments ranged from a high of \$298 in third quarter 2012 to a low of \$290 in first quarter 2011 in Massachusetts and from a high of \$283 in second quarter 2011 to a low of \$273 in fourth quarter 2010 in the comparison group. Trends for the child and adult population were very similar in both Massachusetts and the comparison group (*Table 5-6*). However, the trends in infant payments diverged, with Massachusetts payments increasing by 16 percent and comparison group payments decreasing by the same proportion. Payments were highest among infants for each baseline year, likely due to both the high cost of neonatal care and relatively low sample size.

**Figure 5-9. Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group**



**Table 5-6. Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Massachusetts and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Total <sup>a,b</sup></b>									
<b>Massachusetts</b>	<b>682</b>	<b>763</b>	<b>791</b>	<b>146</b>	<b>149</b>	<b>155</b>	<b>329</b>	<b>329</b>	<b>330</b>
Comparison group	705	634	592	113	123	122	316	322	319
<b>Inpatient facility</b>									
<b>Massachusetts</b>	<b>360</b>	<b>404</b>	<b>431</b>	<b>24</b>	<b>23</b>	<b>23</b>	<b>78</b>	<b>78</b>	<b>79</b>
Comparison group	406	382	320	20	22	21	77	78	76
<b>Other facility</b>									
<b>Massachusetts</b>	<b>66</b>	<b>65</b>	<b>67</b>	<b>40</b>	<b>40</b>	<b>41</b>	<b>124</b>	<b>122</b>	<b>122</b>
Comparison group	44	45	50	32	34	35	107	112	119
<b>Professional</b>									
<b>Massachusetts</b>	<b>256</b>	<b>282</b>	<b>296</b>	<b>81</b>	<b>85</b>	<b>90</b>	<b>128</b>	<b>128</b>	<b>129</b>
Comparison group	227	232	223	62	67	66	131	132	124
<b>Outpatient prescription <sup>c</sup></b>									
<b>Massachusetts</b>	<b>15</b>	<b>14</b>	<b>18</b>	<b>23</b>	<b>22</b>	<b>24</b>	<b>65</b>	<b>64</b>	<b>67</b>
Comparison group	13	14	12	24	25	25	73	75	72

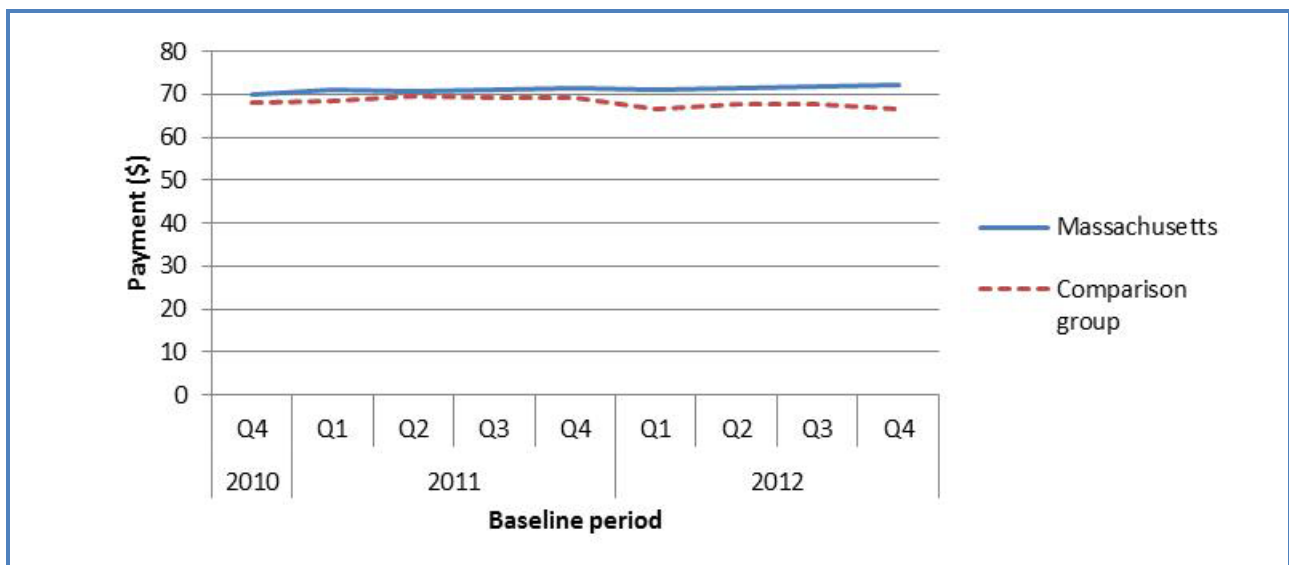
<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

<sup>b</sup> The inpatient, non-inpatient, and professional component expenditures do not add up exactly to the total expenditures because the inpatient component expenditure value does not include inpatient payments included in the outpatient MarketScan table, but the total expenditure value includes all payments.

<sup>c</sup> Denominator only includes members with drug claims captured in MarketScan.

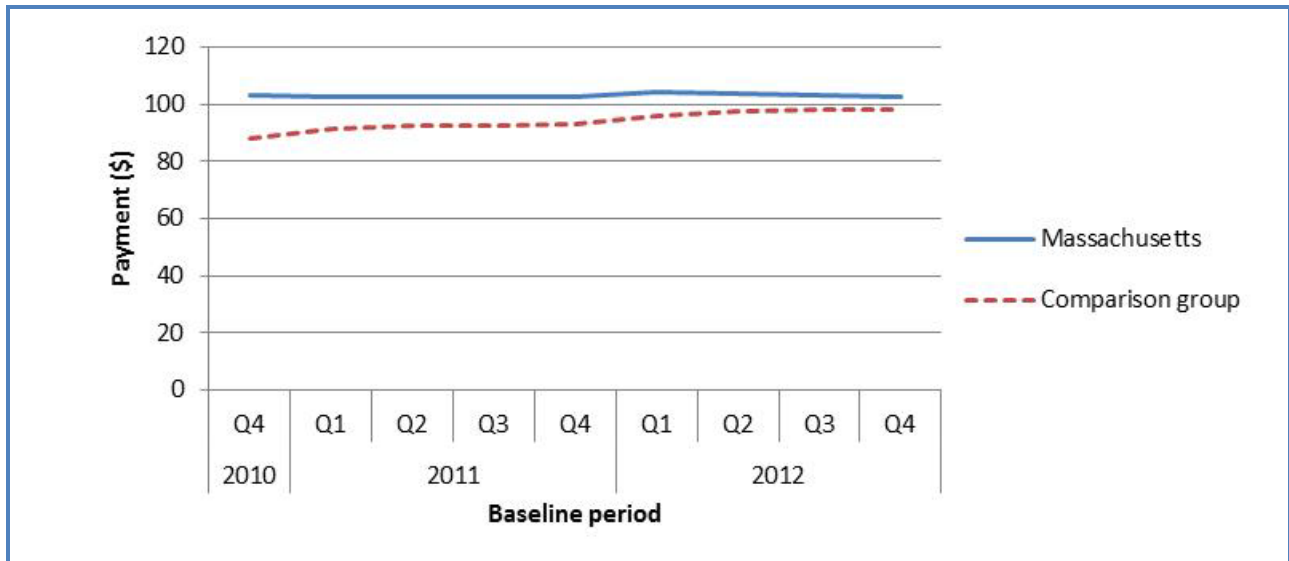
The trend in overall PMPM payments differed from inpatient facility payments (*Figure 5-10*); between 2010 and 2012, PMPM inpatient facility payments declined 1.5 percent in Massachusetts and increased by 2.9 percent in the comparison group. Massachusetts' quarterly PMPM payments to inpatient facilities ranged from \$70 to \$72 over the baseline period, while the comparison group's payments ranged from \$67 to \$69. Inpatient facility PMPM payments represent approximately 23 percent of the total payments in Massachusetts and 26 percent in the comparison group. Infant inpatient PMPM payments increased by 19.7 percent in Massachusetts, but decreased by 21.2 percent in the comparison group (Table 5-6). Payments to non-inpatient facilities (skilled nursing facilities and outpatient) declined by 0.6 percent in Massachusetts, but increased by 11.7 percent in the comparison group (*Figure 5-11*); similar trends were observed for all age groups. Payments for professional services grew by 3.3 percent in Massachusetts, but declined by 3.3 percent in the comparison groups in the baseline period (*Figure 5-12*). The same trend persisted across all three age groups, with the highest rate of increase among the infant population in Massachusetts (15.6 percent) (Table 5-6). Outpatient prescription PMPM payments increased in Massachusetts (3.7 percent) but remained unchanged in the comparison group (*Figure 5-13*). Prescription payments for the infant population in Massachusetts increased by 20 percent, compared to a 7.7 percent decline in the comparison group.

**Figure 5-10. Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group**

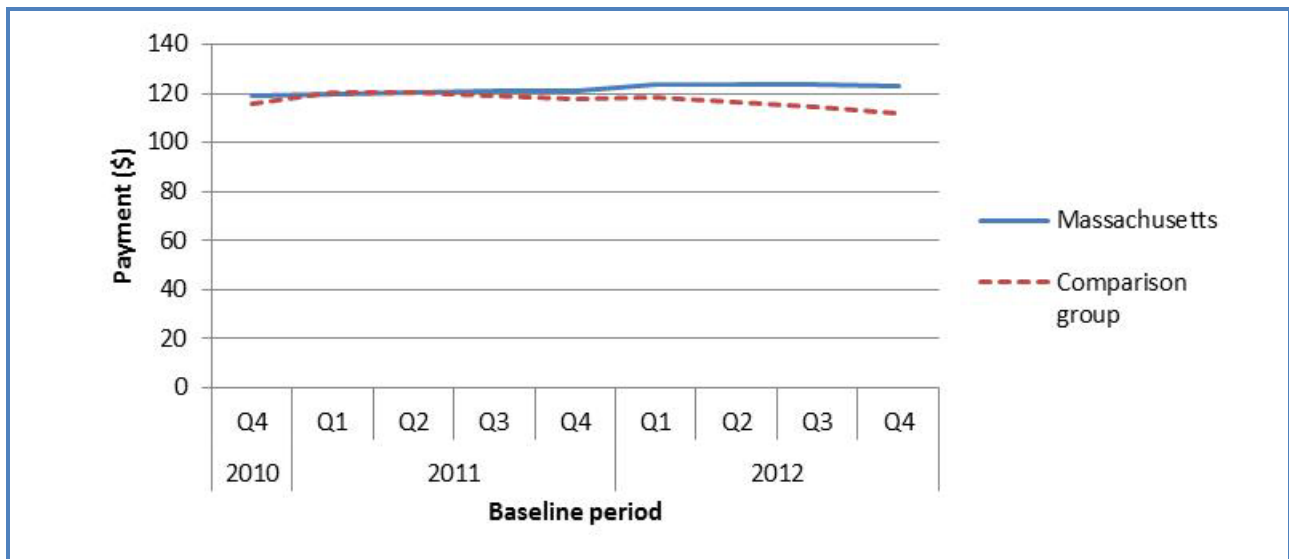




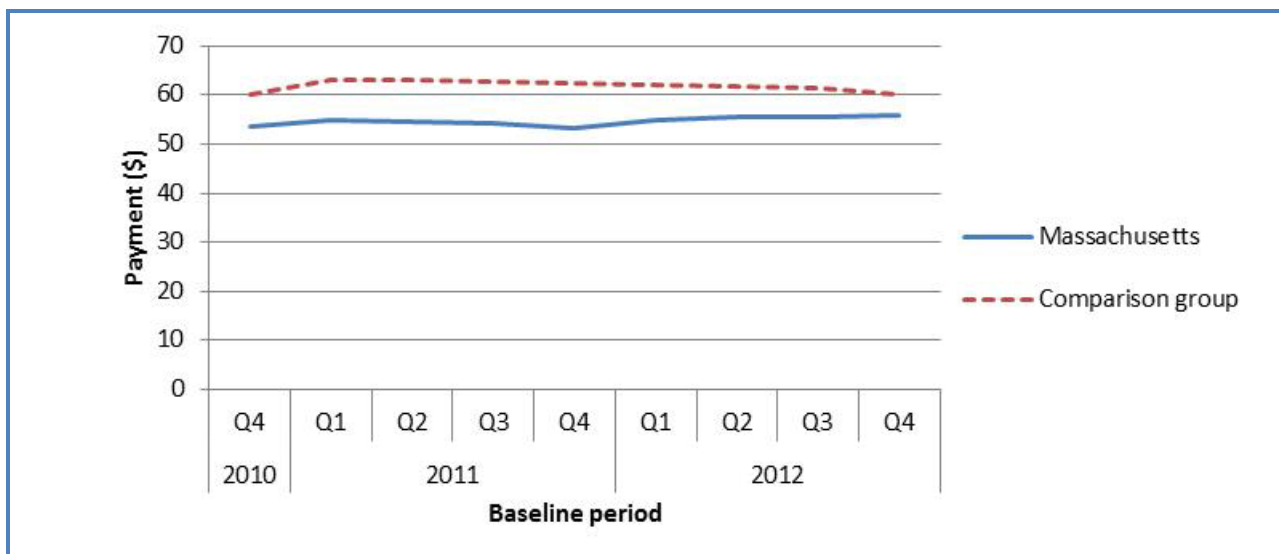
**Figure 5-11. Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group**



**Figure 5-12. Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group**



**Figure 5-13. Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Massachusetts and comparison group**

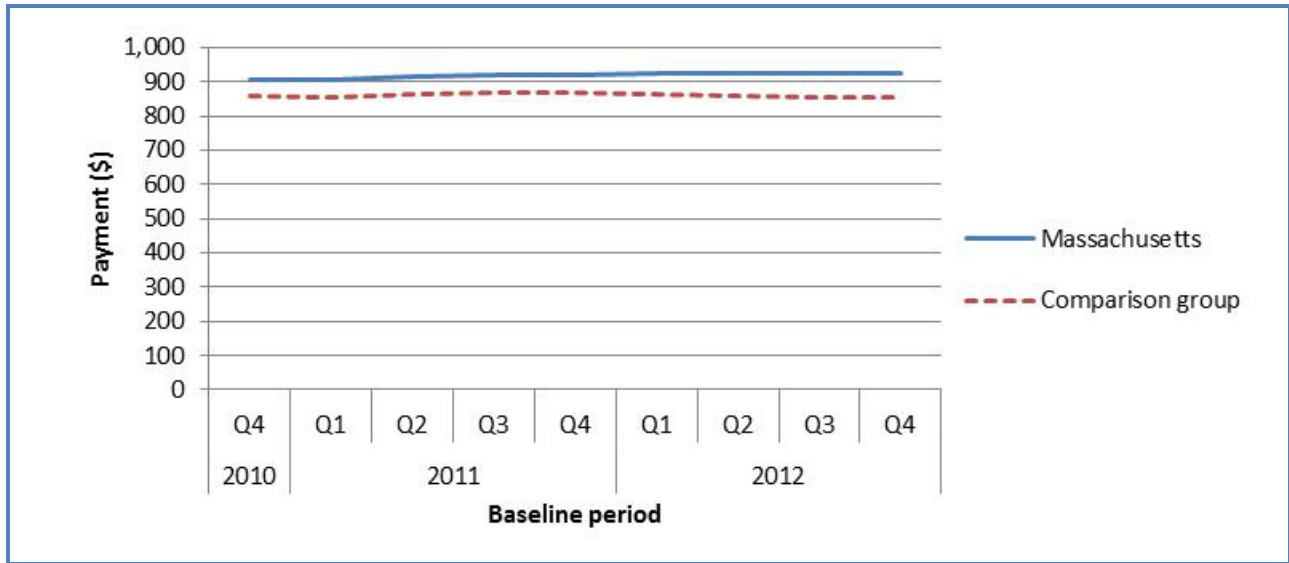


### Medicare

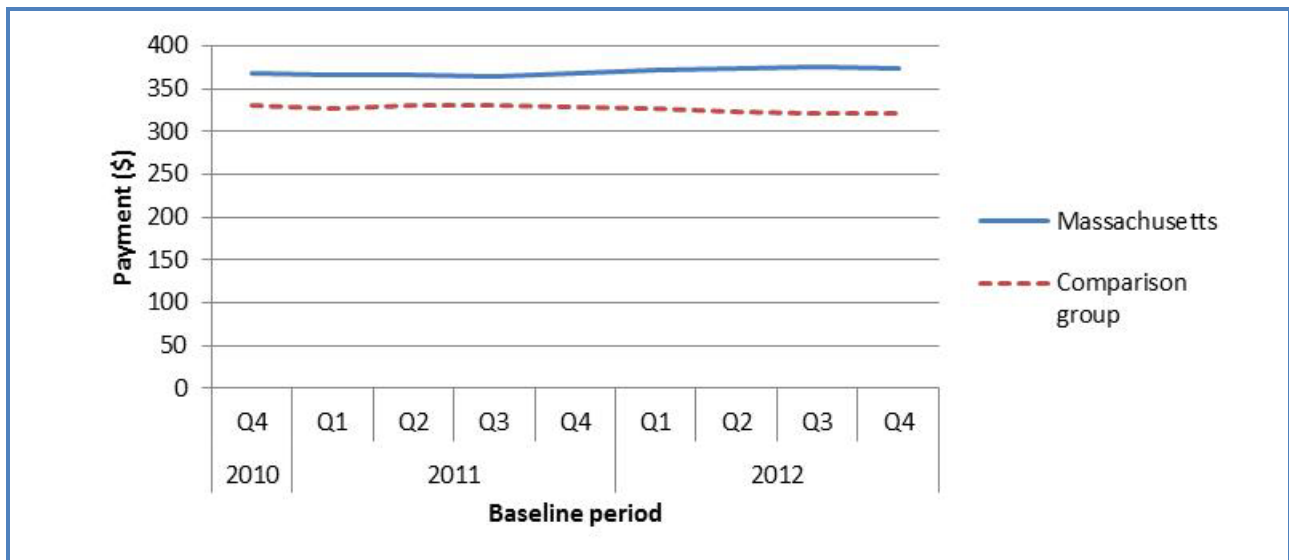
Total Medicare PMPM payments increased by 2.2 percent over the baseline period for Massachusetts, but declined by 0.3 percent in the comparison group (*Figure 5-14*). Massachusetts' total PMPM payments were consistently higher than the comparison group for all baseline quarters. Inpatient facility payments in Massachusetts increased by 1.6 percent from \$368 PMPM in first quarter 2010 to \$374 PMPM in fourth quarter 2012 (*Figure 5-15*). The comparison group's inpatient hospital PMPM declined by 2.9 percent over the same period. During the baseline period, Massachusetts' PMPM payments to facilities for other inpatient facility care increased by approximately 3.8 percent, similar to that for the comparison group (3.1 percent) (*Figure 5-16*). Professional payments remained stagnant for both Massachusetts and the comparison group (*Figure 5-17*).

Total PMPM payments for dual Medicare-Medicaid enrollees were approximately 25 percent higher than for other Medicare enrollees in Massachusetts and 465 percent higher in the comparison group (*Table 5-7*). Compared to Massachusetts, the comparison group had higher PMPM payments for dual Medicare-Medicaid enrollees and lower PMPM payments for other Medicare enrollees. Medicare-Medicaid enrollees had similar PMPM payments in Massachusetts and the comparison group for inpatient, non-inpatient, and professional services.

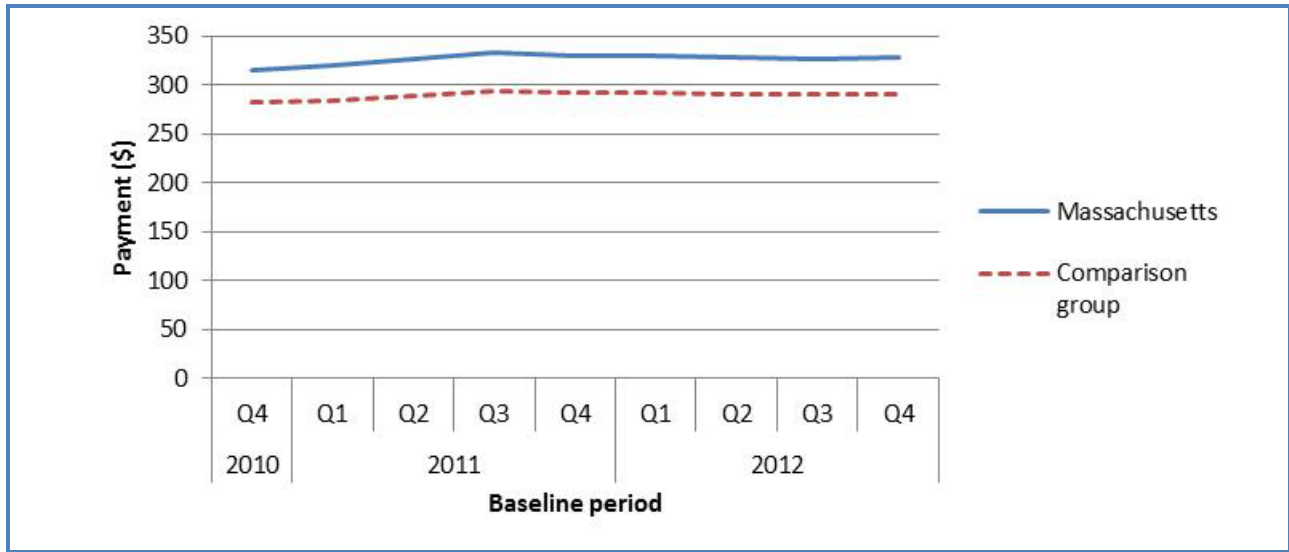
**Figure 5-14. Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group**



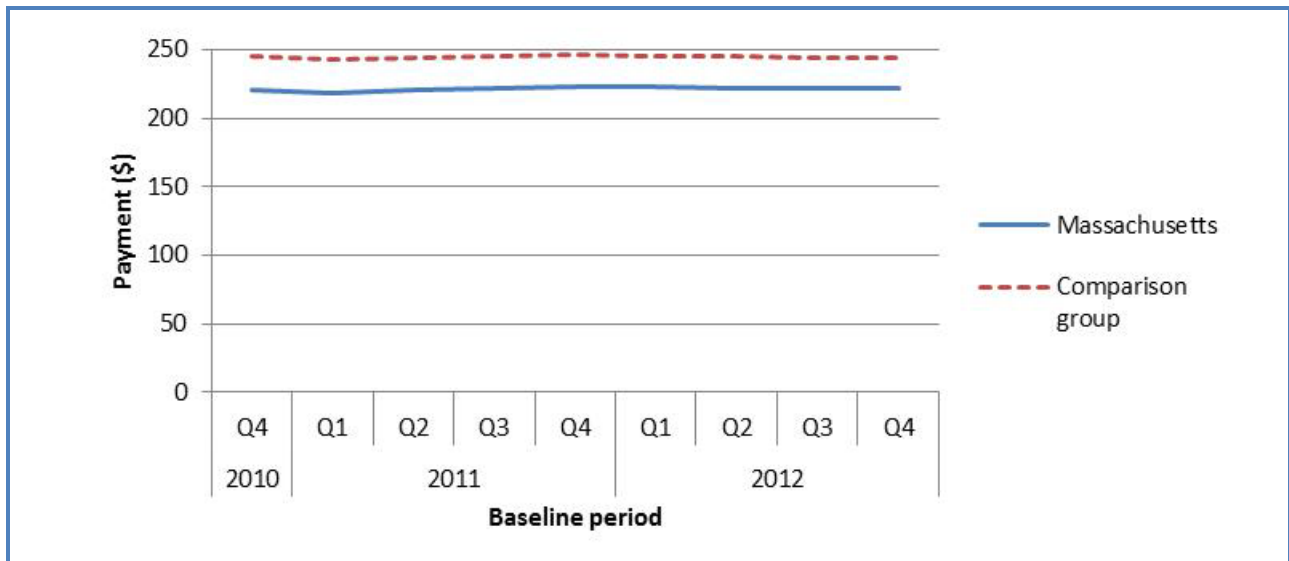
**Figure 5-15. Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group**



**Figure 5-16. Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group**



**Figure 5-17. Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Massachusetts and comparison group**



**Table 5-7. Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Massachusetts and comparison group**

Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Total</b>						
<b>Massachusetts</b>	<b>1,067</b>	<b>1,076</b>	<b>1,086</b>	<b>851</b>	<b>869</b>	<b>872</b>
Comparison group	1,115	1,122	1,125	775	784	770
<b>Inpatient facility</b>						
<b>Massachusetts</b>	<b>462</b>	<b>459</b>	<b>471</b>	<b>337</b>	<b>338</b>	<b>342</b>
Comparison group	461	456	452	289	287	279
<b>Other facility</b>						
<b>Massachusetts</b>	<b>360</b>	<b>372</b>	<b>372</b>	<b>301</b>	<b>316</b>	<b>314</b>
Comparison group	367	380	385	255	264	261
<b>Professional</b>						
<b>Massachusetts</b>	<b>245</b>	<b>245</b>	<b>243</b>	<b>212</b>	<b>216</b>	<b>215</b>
Comparison group	288	286	288	231	233	229

## 5.4 Massachusetts Synthesis

Massachusetts’ SIM Initiative is a multifaceted initiative involving coordination of many agencies and their related stakeholders. Massachusetts achieved several major milestones during its first year of the SIM Initiative—including the launch of PCPR, selection of e-Referral pilot sites, and early progress on the development of Community Links LTSS tools. The SIM funds will enable Massachusetts to implement many of the payment and delivery system reforms already mandated through Chapter 224 by developing needed infrastructure, capacity building, and other service supports necessary to enable enhanced care coordination, robust data sharing and analytics, and program evaluation.

Stakeholders expressed mixed impressions about the SIM Initiative. Though they were aware of health reform efforts across the state in varying degrees, less was known about the SIM Initiative as a whole. This is in part due to the mixture of projects across the SIM Initiative and the integration of SIM activities within the larger efforts of Chapter 224. However, the state has embarked on strategies to increase engagement of stakeholders within various projects under the SIM Initiative. These engagements will continue to be critical as the state proceeds with implementation of the Initiative, particularly to achieve designated goals for payer, provider, and consumer participation across the state.

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## 6. Minnesota

### 6.1 Overview of Minnesota Model

The primary focus of Minnesota’s SIM Initiative—the Minnesota Accountable Health Model—is to expand the number of providers participating in and patients served by accountable care organizations (ACOs) and other accountable provider mechanisms (such as health care homes [HCHs] and models focused on specific health conditions). The purpose is to encourage improved population health, improved patient experience, and lower costs. Minnesota will use its SIM Initiative award to:

- Spread, expand and/or accelerate existing delivery system reform models, including Integrated Health Partnerships (IHPs) and HCHs (including Behavioral Health Homes)
- Align and evolve ACO payments across payers
- Expand and build health information technology (health IT) infrastructure and use among health care providers, focusing on health information exchanges (HIEs)
- Develop Accountable Communities for Health (ACH) models designed to test integrated, community-based care models inclusive of both health and social services
- Support providers through learning collaboratives and other practice transformation activities

Under its SIM Initiative, Minnesota is leveraging and coordinating a range of existing policy and state-level mechanisms to accelerate statewide reform. These include the 2008 health care reform initiative, which resulted in important legislation that expanded health IT and placed an emphasis on consumer-driven health care and public and private sector activities to promote delivery system transformation—such as Minnesota’s HCHs; the state’s multi-payer medical home initiative; the Community Care Team pilot, a precursor to ACHs; and IHPs, a Medicaid ACO-like program formerly known as the Health Care Delivery System demonstration.

### 6.2 Minnesota Site Visit and Focus Group Report

#### 6.2.1 Overview of site visit and focus groups

The Minnesota site visit team conducted the first round of site visit interviews over 3 days, from March 19 through March 21, 2014. We conducted 26 interviews with the following categories of key stakeholders: (1) Minnesota SIM leadership and staff, (2) insurers and payers, (3) Minnesota SIM community advisory and multi-payer alignment task force members, and (4) health care providers. The intent of the interviews was to clarify the state’s approaches and strategies for delivery system transformation and gain a better understanding of stakeholders’ planning and implementation experiences during the first year of the SIM award. Discussions

were typically held in the offices or locations of the interviewees. We also observed a joint community advisory and multi-payer alignment task force meeting.

To collect baseline consumers' and providers' perspectives and experience on care coordination and care management, RTI and its subcontractor, The Henne Group (THG), conducted focus groups of Medicaid beneficiaries and providers in Minnesota. Four focus groups (two consumer and two provider) were conducted in Duluth on July 14, with an additional four (two consumer and two provider) conducted in Minneapolis on July 15. Recruiting was conducted by THG based on recruitment lists provided by Minnesota state staff. In total, we spoke with 27 consumers and 28 providers. Providers included physicians, nurse practitioners, physician assistants, and registered nurses.

### 6.2.2 Delivery system and payment models

The site visit discussions offered an excellent opportunity to gather additional detail and perspectives on key elements of the Minnesota SIM Initiative. (*Appendix Table D-5* provides a tabular overview of the Minnesota model.) A nearly universal perspective we heard during the site visit was that the Minnesota SIM Initiative is largely a mix of different but related initiatives that build on health care reform work already under way prior to the SIM award. The Minnesota project tended to be referred to as “SIM,” though we sometimes heard the initiative called by its formal name. The Minnesota SIM Initiative was often described in the context of the following goals:

- Spread, expand, and/or accelerate existing reform models, including ACOs, particularly Medicaid ACOs (now termed IHPs)
- Expand partnerships and/or increase alignment between providers, payers, insurers, and communities
- Focus first on the Medicaid population, including sub-populations that drive costs—particularly behavioral health, clinically complex, and rural populations
- Improve care coordination and data sharing among multi-payers and health care providers

One state official commented that “SIM has many flowers blooming.... We need to let the flowers bloom and see what is needed/successful based on that.”

The Minnesota SIM Initiative was also frequently described as growing out of the state's 2008 health care reform initiative, building on existing health IT investments and some penetration in ACOs and consumer driven health care. The SIM cooperative agreement offers additional funding and serves as a catalyst to build upon this prior work—expanding and accelerating new models focused on the Medicaid population, though also serving behavioral



health, clinically complex, rural, safety net, and other populations, and providing additional coordination among payers. One state official commented that the SIM cooperative agreement offered an opportunity for “investment in neglected areas,” such as Medicaid.

As described by our interviewees, the SIM cooperative agreement in Minnesota will fund a range of specific activities, including:

- **Expansions of Integrated Health Partnerships.** For Minnesota, IHP is the new terminology for Medicaid ACOs. Under the SIM Initiative, Minnesota would like to expand the IHP program by four new organizations per year.
- **Health information technology support.** Minnesota has a long history of investment and policy to support diffusions of health IT. Information presented in the joint task force meeting on March 19, 2014 reported that Minnesota plans to devote approximately \$9.5 million of its SIM funding to health information systems and data analytics. Much of this funding will focus on contractor resources for data analytics to support expanded IHPs. Requests for proposals (RFPs) for data analytic support will focus on the needs of specific provider groups and will not be used for public reporting.
- **Establishment of Accountable Communities for Health.** According to interviewees, there is general agreement in Minnesota that local communities should play a greater role in the transformation of health care. Community advocates in particular noted that the definition of “health care” really needs to be expanded to include services such as shelter, food, and other services that—while not traditionally considered health care—clearly impact the health of individuals. ACH will test different models for how local constituencies might influence, and potentially even direct, some part of health care resources on a local level. Definitions for ACHs have been left purposefully open, so these new entities can develop more organically. An RFP to solicit for ACHs, planned for fall 2014, was under development at the time we conducted the site visit.

### ***Governance and project administration***

The Minnesota SIM cooperative agreement is administered jointly through two state agencies: the Minnesota Department of Health and the Department of Human Services. These two work together frequently, so collaboration on the SIM Initiative is based on established relationships. However, the official SIM awardee is the Department of Human Services, so ultimate responsibility rests with this organization. State officials and other stakeholders described the shared responsibility for the SIM Initiative as productive and functional, even though these agencies have different cultures. We were told, however, that the success of this shared governance structure is based on a foundation of long-standing relationships between these organizations and an overall environment in Minnesota that stresses collaboration. Some state officials described the relationship between the two agencies as functional and cooperative; others described some conflict and competition.

A range of stakeholders, particularly state officials, expressed some frustration with lack of support from the Minnesota state legislature for provisions that would help the SIM Initiative. For example, Minnesota has very strict protection regulations for individual private information—described as more restrictive than federal Health Insurance Portability and Accountability Act (HIPAA) regulations. These Minnesota regulations make sharing of patient health information among providers and use of data tools such as the state’s all-payer claims database much more difficult, if not impossible in some cases. Efforts to create an exemption for SIM activities have not yet been passed by the legislature, and these continued restrictions create a disconnect between Minnesota’s active health IT investments and ability to use the data collected.

State officials also reported frustration regarding the level of effort they believe they are devoting to SIM administration. We heard that the amount of time devoted to responding to CMS inquiries, meeting reporting requirements, attending meetings, and other administrative functions was far greater than Minnesota staff anticipated. State officials also perceived some changes in the goals and requirements of SIM funding after the award was made. As one official said, “It felt like we were reapplying.” In particular, they did not anticipate resistance from CMS in describing the Minnesota SIM Initiative as explicitly building on existing health care reform work in the state. Minnesota state officials felt they had been chosen as a SIM Test state because they had existing initiatives to build upon, but at the same time faced pressure to invest SIM funding on completely new, SIM-specific activities—that is, initiatives that could be attributed to the SIM Initiative alone, not a continuation of existing activities. This continues to cause some frustration among the Minnesota SIM team’s state officials. Officials also described some conflict between Minnesota’s practice of executing fixed-price, deliverable-based contracts, and CMS’ emphasis on detailed scopes of work and descriptions of activities. This different approach to contracting work funded by the SIM cooperative agreement contributed to delays for Minnesota, according to some state officials.

Finally, state officials reported that greater than expected resources needed to manage the SIM cooperative agreement led them to make slower than expected progress on some SIM activities, and created the need to bring additional administrative staffing resources to the Initiative.

### ***Care coordination, care management, and primary care strategies***

Minnesota plans to leverage the SIM cooperative agreement to increase the level of care coordination, care management, and other primary care strategies, and to expand these models toward statewide implementation—though focusing in the short run on the Medicaid population. Interviewees highlighted the state’s history of encouraging and implementing ACO models for the Medicare and commercial populations. Minnesota operated six Medicaid ACO demonstration projects, known as the Health Care Delivery Systems and Hennepin Health and

now termed IHPs. Under the SIM Initiative, Minnesota plans to expand IHPs by four organizations per year, with a goal of nine new IHPs statewide.

Though generally referred to as ACOs, state officials and providers clarified that the term really refers only to the overall structure of IHPs. Under Minnesota's vision, IHPs would be Medicaid ACOs in that they would have some level of financial risk for patients attributed to these models. However, stakeholders anticipated that IHPs would in turn contract selectively with HCH providers for general populations and/or to manage specific clinical conditions, including behavioral health. In this way, IHPs would use care coordination and management strategies developed within HCHs to form the basis of clinical management for IHPs. To some extent, this model of ACOs working together with provider HCHs is already occurring within the commercial population, driven by large insurers/payers and Medicare ACOs.

We heard from some state officials, providers, and payers that Minnesota HCHs are a strong standard to build from, and that buy-in for coordinated care is well established. In particular, one state official told us the existing provider webs and networks established by provider HCHs can now really take off because of the SIM Initiative. With the additional funding and attention, HCH providers are expanding to include behavioral health and long-term care providers, moving into underserved and rural areas of the state, developing community partnerships, and involving consumers. This acceleration and expansion is driven by the anticipation that IHPs and other non-Medicaid ACOs will be looking to work with an increased pool of HCHs to offer the care coordination and management elements of the reform models. One state official told us that, under the SIM Initiative's practice transformation focus, they have "dollars to do rapid HCH expansion," with the expectation that Minnesota will add 53 HCHs under the Initiative. This expansion focus will include support, particularly in infrastructure, health IT, and data sharing, to help clinics with limited resources become HCHs. SIM funds will also support HCH practice facilitation, both for those already functioning as HCHs and for practices that aspire to become one. Minnesota recertifies HCHs annually.

Other stakeholders had a different perspective. A provider representative thought HCHs were an initiative that was being disregarded or downplayed under the SIM Initiative, possibly because of difficulties in getting a successful payment system in place—that the state was moving into "something new." A purchaser representative said Minnesota was not placing enough emphasis on successful HCH models, trying to figure out how to address problems and improve them rather than moving on to a new model.

Focus group discussions with both Medicaid beneficiaries and providers yielded a range of perspectives on care coordination, care management, and primary care. We noted distinct differences in satisfaction with health care as reported by Medicaid beneficiaries in the two Minnesota cities. In Duluth, they reported numerous problems getting their providers to listen to their health concerns—including such issues as inability to control reported pain, difficulty

getting prescriptions refilled, and health care providers that did not listen to their concerns. Access to providers was not reported as a systematic issue, though Duluth beneficiaries also described providers that did not have time to talk to them. A number were frustrated that they had to go in for office visits to get what they believed were routine prescription refills. Some reported their doctors and health care providers knew them; others disagreed. A few Medicaid beneficiaries in Duluth reported discussions with their providers about strategies to improve their health, but none appeared to have followed specific recommendations to lose weight or stop smoking. One reported contact with a health care “coach,” though this program was driven by the insurer not the doctor’s office. Despite getting recommendations for vaccinations (such as flu shots), most reported they did not get them (“I got one once and I was really sick...Never again”). They also described regularly going to the emergency room (ER) or urgent care facilities when they got sick. None recognized the terms health care home, medical home, or accountable care organization. Medicaid beneficiaries from Duluth described health care in their area as a “sick” system. They reported changes in the last year, including: ERs and urgent care offices feeling more “rushed,” getting crazy numbers of tests, feeling “lost” under Medicaid.

By comparison, Medicaid beneficiaries in Minneapolis were more likely to report satisfaction with their health care. Most reported having a provider they looked to for their primary care. Most reported their doctors “knew them,” knew when they had seen specialists, and were aware of all their medications. In contrast to Duluth, Medicaid beneficiaries in Minneapolis described far more positive contacts with providers: “He goes the extra mile....He puts me on that table and checks all my insides” or “I like my doctor....he isn’t quick to just put a pill in my mouth.” About half reported their primary care providers had spoken to them about ways to improve their health care, including losing weight, changing their diets, and stopping smoking; but few had followed through with these recommendations. For example, some Medicaid participants said they did not take their prescription medications despite urging by their primary care physicians (“She knows I don’t like to take a lot of pills”). The most common concerns we heard in Minneapolis related to lack of access to dental care and overly complex and lengthy documents describing coverage and participating providers (“We get a whole phonebook packet of stuff every year”). Despite more positive views about the health care system, Minneapolis Medicaid beneficiaries still reported using emergency rooms and urgent care facilities on a regular basis, because of their convenience and quick service. Asked about recent changes in health care in their areas, beneficiaries reported increases in provider administrative staff, increases in number of social workers, and increased access to providers.

Provider focus group participants, which included both physicians and nurse practitioners, described general awareness and some limited experience with care coordination and management strategies. Responses from providers in Minneapolis suggested the models were more widespread there than in Duluth. Most Minneapolis providers in the focus groups were either participating, or were developing, some type of care coordination type model such as an ACO or health care home. While providers seemed generally open minded about these new

models, they also were not quite sure whether the change would improve health care. Most providers in both cities described practices where directives and compliance with health insurer requirements drove their decisions and time spent on care—a major frustration. We heard in both cities that providers simply did not have sufficient time to spend with their patients.

### **Payment reform**

While care coordination and management strategies provided through HCHs were described as key strategies, we heard few specifics regarding related provider payment reforms. The Minnesota SIM team established a multi-payer task force that has participation from the state's major payers, purchasers, and insurers. Task force members include representatives from Blue Cross and Blue Shield of Minnesota, HealthPartners, the University of Minnesota, Department of Health, Hennepin County Health Department, St. Mary's Health Clinics, UCare, the Minnesota Office of Management and Budget, the Minnesota Department of Health, Minnesota Health Action Group, PrimeWest Health, Medica, the Indian Health Board of Minneapolis, Inc., and Itasca Medical Care.

One purpose of the task force is to establish some alignment among state payers with regard to payment methodology, develop a model for provider performance reports, and improve clinical data sharing to support care coordination. Based on our interviews with state officials and payers, the likely form of an aligned payment methodology will focus on performance-based payment. We did hear consistent agreement on the desire for better payment alignment among Minnesota payers, but details on the steps to accomplish this shared vision were limited.

We were told by state officials that their goal is eventually to develop a payment arrangement to support infrastructure for the ACHs, ensuring their sustainability. In particular, they are interested in shared-savings models. One state official noted they still need to figure out where payers fit into the SIM Initiative, but that possible future payment changes may impact a wide range of organizations: "Everyone will have to have a little skin in the game." We also heard disappointment that SIM funding was insufficient to support direct payment incentives to encourage providers to form IHPs, other ACOs, and ACO-like arrangements. Discussions and descriptions regarding IHPs and ACOs clearly envisioned some level of risk-based and/or performance-based payments. But beyond these general concepts, our sense from the site visit discussions was that more specific plans and goals for payment reform were still being developed—a lack of focus that concerned one provider representative.

Focus group discussions among providers in Duluth and Minneapolis touched upon payment reform issues. While providers in both cities understood the logic of performance-based payments, most were skeptical of how this might work in practice. A few providers expressed concern about the accuracy of data that would be used for these purposes. Others, particularly primary care providers, expressed reservations about how they could be asked to do more than they were already doing.

### 6.2.3 Enabling strategies

#### *Physician, consumer, and stakeholder engagement*

The Minnesota SIM team has two key task forces to support stakeholder engagement: the Multi-Payer task force and the Community Advisory task force. The task forces, whose meetings are open to the public, operate independently but also hold joint meetings. Members represent their constituencies and bring issues to the SIM team. During the joint task force meeting we observed, state officials noted they are not hearing from all important stakeholders (health care trade associations and some major health delivery were specifically noted as absent), so expanded engagement appears to be an ongoing effort. According to state officials, the “conversation is spreading.”

Discussions with commercial payers suggested that, while there is some engagement and involvement, the focus of the Minnesota SIM Initiative is clearly on Medicaid through the expansion of IHPs. One commercial payer noted that its SIM role is to facilitate and encourage the growth of ACOs—particularly among Medicaid-focused IHPs in more rural areas and behavioral health homes—and HCHs that provide care coordination within ACOs.

Consumer and community engagement will be facilitated through the creation of ACHs. The concept of ACHs evolved from a model known as Community Care Teams (CCTs). CCTs were a Minnesota pilot project to see how integrated health care models might be operationalized and implemented. ACHs build on this prior work. The specific structure and functions of ACHs has been left purposefully open to definition by community organizations that respond to future RFPs. One state official noted that the vision for ACH is as a partnership among citizens, community providers, and health care providers, grounded in a range of community organizations; ACHs would develop partnerships and be responsible for setting goals and coordinating care around a target population (though the definition of the target population is still a deliberately open question). The populations targeted by an ACH can be defined in many ways—geography, clinical goals, and/or local public health goals. The Minnesota SIM team will be testing whether better outcomes can be achieved by partnering ACOs with collaborative ACHs. Provider and community stakeholders described a vision of ACHs in which non-medical system determinants of health (such as access to housing, food and nutrition, and other social services) would be addressed within ACHs. One provider also described a potential model in which communities would oversee, redirect, and control financial resources currently allocated only under the medical system. Others described ACHs with coordinating and advisory functions rather than any financial or other specific accountability.

#### *Health information technology*

Continued investment in health IT is a major focus of Minnesota’s SIM Initiative. Funding will support e-health grants, which will focus on: (1) developing ground-up, provider driven roadmaps for functioning HIEs and (2) efforts to address privacy issues. These e-health grants will not fund purchase of electronic health record (EHR) or other systems implementation.

As one state official noted, “Most SIM things are happening in e-health... We’ve made a long way in these efforts, but they are operating in silos, not one goal in the state. SIM is about bringing these initiatives together and helping us achieve system transformation.”

One payer described the focus of health IT in Minnesota as enabling greater consistency in performance measures and data standards. Another was more skeptical about the relatively high level of investment in health IT, raising concerns: “Do we really know what the need is, how much it will cost...and what is it trying to solve?” Many individuals made a clear assumption that improved communication, plus coordination between health care providers and between providers and patients, will translate into improved health care outcomes.

Health IT was a key topic of interest to focus group participants. Medicaid beneficiaries in Duluth reported access to and use of a Web-based health care portal (“My Health”) where they could get results of lab tests and ask questions. Most enrollees who used the portal were unable to report any specific changes in their health status or health care supported by access to this portal. Minneapolis beneficiaries also reported access to patient portals, though use of these tools tended to prompt additional visits rather than answer questions.

Providers in the focus groups generally expressed reservations about the value of health IT as a tool in their practices. In both cities, most of them reported that EHRs were a major burden that took a great deal of time, often at the expense of time with patients. Providers often felt as if they were buried in their laptops rather than actually speaking face to face with patients. The learning curve for EHR implementation was described as very steep and some providers continued to have problems operating the systems adopted. Providers also reported that their systems relied too much on templates and took a great deal of time to customize. They did report that data could be shared efficiently, but only within organizations and within the same system. The cost of EHR systems was reported as a major barrier to small independent practices in both Duluth and Minneapolis.

## **6.2.4 Summary of findings**

### ***Operational model activities and progress***

Minnesota state officials described steady but somewhat slower progress than they anticipated on some SIM activities. They reported struggling with the administrative requirements of operating the cooperative agreement and the need to bring on additional staff. We were told that four new SIM staff were hired (including two project managers), with an additional two to three positions planned. Recent operational activities include meetings of the ACH advisory sub-group and a webinar on SIM 101. The state has released one key RFP (to solicit for the next expansion of IHPs). Additional RFPs for e-health (for IHP analytic support, e-health roadmaps, and privacy) will be released soon. The RFP to solicit and fund ACHs is still under development, and because of the purposefully undefined nature of these community organizations, may be challenging.

### **Stakeholder participation**

From the perspective of state officials, the Multi-Payer and Community task forces are a primary mechanism for stakeholder participation in the SIM Initiative. Our discussions with payer, provider, and community representatives suggested there may be some room for additional participation and engagement, though these processes are still emerging. At this stage, community stakeholders reflected that they are hoping for more discussion and consideration of non-medical determinants of health: “Start to push ourselves out of medical model. We need to get global metrics on obesity and smoking.” Provider stakeholders seem to be concerned about payment and having sufficient resources in a reformed system. Payers and commercial populations seem less engaged and invested in coordination and alignment than the state seems to desire.

### **Quality of care**

Our discussions with state officials, payers, and consumers clearly indicate that improvement in health care quality has been a focus in Minnesota. Most often cited by all stakeholders were quality metrics developed by the Minnesota Community Measurement organization. Both payers and providers said they already coordinate and use these metrics and would like to continue to align with these models. Our discussions with state officials also suggested that data analytic support for IHPs (to be funded through awards from a specific RFP) will focus on using electronic and other data sources to monitor and improve quality of care for Medicaid enrollees. In funding these IHP-focused data analytic grants, the SIM Initiative will be able to support smaller providers in using data for quality of care monitoring and improvement purposes.

### **6.2.5 Successes, challenges, and lessons**

State officials reported frustration and concern regarding the level of effort they believe they are devoting to SIM award administration. We heard that the amount of time devoted to responding to CMS inquiries, meeting reporting requirements, attending meetings, and other administrative functions was far greater than Minnesota staff anticipated.

Some interviewees felt that Minnesota’s strict privacy laws, while not insurmountable, would be an obstacle to achieving greater data sharing.

Stakeholders also acknowledged that the funding, while significant, is not sufficient to achieve all, or even most, of Minnesota’s health care goals. Some noted that while this funding has attracted many interested stakeholders, there is a danger in trying to appease everyone and spreading resources too thin. One interviewee felt the state needed to have more focused goals and clearly define success lest the dollars “disappear like a drop in the ocean.”



## 6.3 Minnesota Baseline Outcomes

This section summarizes information on baseline outcomes for Minnesota’s insured population, including: (1) provider and payer participation, (2) populations reached, (3) care coordination, (4) quality of care, (5) health care utilization, and (6) health care expenditures. Data on the first two measures come from our site visits and the Minnesota SIM Initiative team’s operational reports; the other measures are derived from claims data. Future reports will include claims-based measures for Medicaid, Medicare, and commercially insured populations. However, because Medicaid claims data were not available for this report, we present outcomes for only the commercially insured population represented in the MarketScan and Medicare databases. The data are restricted to the fee-for-service population, and expenditure measures exclude patient cost-sharing. We present data for Minnesota and its propensity score-adjusted comparison group, comprising data from three states: Colorado, Idaho, and Washington. We define the baseline period as 2010 to 2012. The graphs contain the weighted (by the eligibility fraction) average outcomes for the population included in the MarketScan and Medicare data for Minnesota and the weighted (by the eligibility fraction and propensity score) average outcomes for the comparison group. All quarterly outcomes are calculated as 12-month rolling averages. Appendix B provides more detailed specifications on the methods and measures.

### 6.3.1 Provider and payer participation

As Minnesota continues to implement its SIM Initiative, the state’s primary provider-oriented focus will be to increase the number of IHPs by four organizations per year, with a goal of nine statewide. The state now has a total of nine IHPs covering more than 145,000 recipients. The delivery systems that began participating on January 1, 2013, are:

1. Children’s Hospitals and Clinics of Minnesota
2. CentraCare Health System
3. Essentia Health
4. Federally Qualified Health Center Urban Health Network (FUHN)
5. North Memorial Health Care
6. Northwest Metro Alliance (a partnership between Allina Health and HealthPartners)

The delivery systems that began participating in 2014 are:

7. Hennepin Healthcare System (Hennepin County Medical Center Hospital and Clinics)
8. Mayo Clinic

## 9. Southern Prairie Community Care

Our discussions with payer and provider representatives during the March 2014 RTI site visit suggested there may be some room for additional participation and engagement, though these processes are still emerging. Specifically, interviewees named providers—especially those in rural and safety net facilities and behavioral health and social services providers—as stakeholders the state should more intensely engage. One key state official said that, given the short time frame they had to develop and submit their SIM Initiative proposal, there was less time than they would have liked to really consult and engage stakeholders. Provider stakeholders seem to be concerned about payment and having sufficient resources in a reformed system. Payers and commercial plans seem less engaged and invested in coordination, in part because they do not seem to know how to operationalize the concept or are unsure what is expected of them. Some private payers seemed to feel they are already engaged in reforms consistent with the SIM Initiative and they are not entirely certain how they fit into the state’s plan.

### 6.3.2 Populations reached

As the Minnesota SIM Initiative is implemented, the state plans to focus first on the Medicaid population, including sub-populations that drive costs. Sub-populations of particular interest include behavioral health, the clinically complex, and rural populations.

As of mid-2014, Minnesota reports that a total of 145,000 Medicaid enrollees are served under IHPs.

### 6.3.3 Care coordination

#### *Commercially insured*

The percentage of acute inpatient discharges with a follow-up visit within 14 days among the adult population increased slightly for Minnesota but remained stable for the comparison group over the baseline period (*Table 6-1*). The number of visits to a primary care physician per 100 covered persons decreased in Minnesota, but increased slightly for the comparison group. The number of visits to a specialist per 100 visits declined substantially among the comparison group, but decreased only slightly for Minnesota. For both Minnesota and the comparison group, infants and adults had a higher rate of visits to a primary care provider than adults (though the rate for infants was substantially higher than for either children or adults); overall rates tended to decrease slightly over the baseline period. For specialists, in contrast, adults had substantially higher rates of visits to for Minnesota and the comparison group, with rates generally decreasing over the baseline period.

**Table 6-1. Care coordination measures for the commercially insured population in MarketScan by age group, Minnesota and comparison group**

Measure	Year	Overall	Infant	Child	Adult
<b>Percent of inpatient discharges that had a follow-up visit within 14 days for members 18 years and older</b>					
<b>Minnesota</b>	<b>2010</b>	—	—	—	<b>32</b>
	<b>2011</b>	—	—	—	<b>33</b>
	<b>2012</b>	—	—	—	<b>34</b>
Comparison group	2010	—	—	—	33
	2011	—	—	—	34
	2012	—	—	—	33
<b>Number of visits to primary care providers per 100 members</b>					
<b>Minnesota</b>	<b>2010</b>	<b>284</b>	<b>665</b>	<b>250</b>	<b>285</b>
	<b>2011</b>	<b>281</b>	<b>648</b>	<b>255</b>	<b>280</b>
	<b>2012</b>	<b>275</b>	<b>656</b>	<b>246</b>	<b>274</b>
Comparison group	2010	319	724	276	322
	2011	320	704	272	326
	2012	324	714	277	330
<b>Number of visits to specialists per 100 members</b>					
<b>Minnesota</b>	<b>2010</b>	<b>141</b>	<b>86</b>	<b>76</b>	<b>167</b>
	<b>2011</b>	<b>140</b>	<b>83</b>	<b>75</b>	<b>165</b>
	<b>2012</b>	<b>134</b>	<b>80</b>	<b>73</b>	<b>158</b>
Comparison group	2010	224	101	112	272
	2011	213	89	104	257
	2012	196	93	98	233

### Medicare

For Minnesota and the comparison group, the percentage of acute inpatient discharges with a follow-up visit within 14 days increased steadily over the baseline period (*Table 6-2*), with rates for Minnesota higher than for the comparison group in all 3 years. The number of visits to a primary care physician (per 100 covered persons) was relatively stable in Minnesota, though exhibiting a slight decrease from 2010 to 2011 before returning to the 2010 level in 2012. The comparison group rates were also generally stable, showing only a slight decrease from 2011 to 2012. In both Minnesota and the comparison group, the number of visits to specialists per 100 covered persons changed little in absolute terms during the baseline period, though rates for Minnesota increased slightly while rates for the comparison group decreased slightly. Medicare-Medicaid enrollees in Minnesota had much higher rates of visits to primary care providers than other Medicare enrollees, though relative rates for visits to specialists were very similar across both groups. Medicare-Medicaid enrollees exhibited lower rates of 14-day follow-

up from an inpatient discharge in Minnesota relative to other Medicare beneficiaries. Patterns were similar for the comparison group.

**Table 6-2. Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Minnesota and comparison group**

Measure	Year	Overall	Medicare-Medicaid	Other Medicare
<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>				
<b>Minnesota</b>	<b>2010</b>	<b>45</b>	<b>40</b>	<b>47</b>
	<b>2011</b>	<b>49</b>	<b>44</b>	<b>50</b>
	<b>2012</b>	<b>61</b>	<b>57</b>	<b>61</b>
Comparison group	2010	36	35	36
	2011	41	38	43
	2012	51	47	52
<b>Number of visits to primary care providers per 100 beneficiaries</b>				
<b>Minnesota</b>	<b>2010</b>	<b>401</b>	<b>470</b>	<b>390</b>
	<b>2011</b>	<b>393</b>	<b>458</b>	<b>380</b>
	<b>2012</b>	<b>400</b>	<b>473</b>	<b>384</b>
Comparison group	2010	385	584	351
	2011	385	523	358
	2012	382	475	363
<b>Number of visits to specialists per 100 beneficiaries</b>				
<b>Minnesota</b>	<b>2010</b>	<b>325</b>	<b>327</b>	<b>324</b>
	<b>2011</b>	<b>326</b>	<b>330</b>	<b>325</b>
	<b>2012</b>	<b>327</b>	<b>334</b>	<b>325</b>
Comparison group	2010	371	407	364
	2011	371	367	371
	2012	369	339	375

### 6.3.4 Quality of care

#### *Commercially insured*

*Table 6-3* presents the rates of hospitalization per 100,000 covered persons in the overall, acute, and chronic Prevention Quality Indicator (PQI) composite measures. For the overall PQI composite, which includes 12 of the 14 individual PQIs, the 2012 baseline rate of hospitalization per 100,000 covered persons was 310 for Minnesota and 360 for the comparison group, both having decreased from 2010 to 2012. The Minnesota 2012 rate of hospitalization using the acute PQI composite (which includes conditions such as pneumonia and dehydration) was roughly half the overall rate (150 hospitalizations per 100,000 covered persons) and slightly lower than its 2010 level, while the rate of hospitalization using the chronic PQI composite (which includes conditions such as hypertension, diabetes complications, and chronic obstructive pulmonary disease) was 170 per 100,000 covered persons and remained constant over the baseline period. Rates for the latter two PQI measures fell for the comparison group over the period.

**Table 6-3. Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Minnesota and comparison group**

Measure	Commercially insured			Medicare		
	2010	2011	2012	2010	2011	2012
<b>Rates of hospitalization for composite AHRQ Prevention Quality Indicator (PQI) conditions</b>						
<b>Overall composite</b>						
<b>Minnesota</b>	<b>320</b>	<b>340</b>	<b>310</b>	<b>1,640</b>	<b>1,690</b>	<b>1,630</b>
Comparison group	400	400	360	1,710	1,710	1,640
<b>Acute condition composite</b>						
<b>Minnesota</b>	<b>160</b>	<b>180</b>	<b>150</b>	<b>850</b>	<b>870</b>	<b>800</b>
Comparison group	200	200	170	910	910	850
<b>Chronic condition composite</b>						
<b>Minnesota</b>	<b>170</b>	<b>170</b>	<b>170</b>	<b>880</b>	<b>910</b>	<b>910</b>
Comparison group	200	200	190	890	890	870
<b>Percent of children who turned 15 months during the year and had 0 well-child visits during their first 15 months of life</b>						
<b>Minnesota</b>	—	<b>3</b>	<b>3</b>	—	—	—
Comparison group <sup>1</sup>	—	5	5	—	—	—
<b>Percent of children who turned 15 months during the year and had 6 or more well-child visits during their first 15 months of life</b>						
<b>Minnesota</b>	—	<b>50</b>	<b>56</b>	—	—	—
Comparison group	—	46	49	—	—	—

Note: AHRQ = Agency for Healthcare Research and Quality

<sup>1</sup> Due to the small sample size of children who turned 15 months in a given year, we were unable to apply propensity score weights to the comparison group for the well-child visit measure. We report the unweighted values for the three comparison states combined.

In 2012, 56 percent of infants in Minnesota had 6 or more well-child visits in the first 15 months of life as compared to 49 percent for the comparison group (*Table 6-3*). There was an increase in these rates from 2011 to 2012 for both Minnesota and the comparison group. The rate of infants who had 0 well-child visits in the first 15 months of life remained constant for both Minnesota and the comparison group.

### **Medicare**

The PQI composite rates for the Medicare population, as expected given the higher level of health risk among this population, are roughly three times those for the commercial population (*Table 6-3*). For the overall PQI composite, the 2012 baseline rate of hospitalization for Medicare beneficiaries in Minnesota was 1,630 per 100,000 covered persons and 1,640 for the comparison group. Both Minnesota and the comparison group exhibited a net decrease in these rates from 2010 to 2012, though the decrease for Minnesota was smaller. The rate of

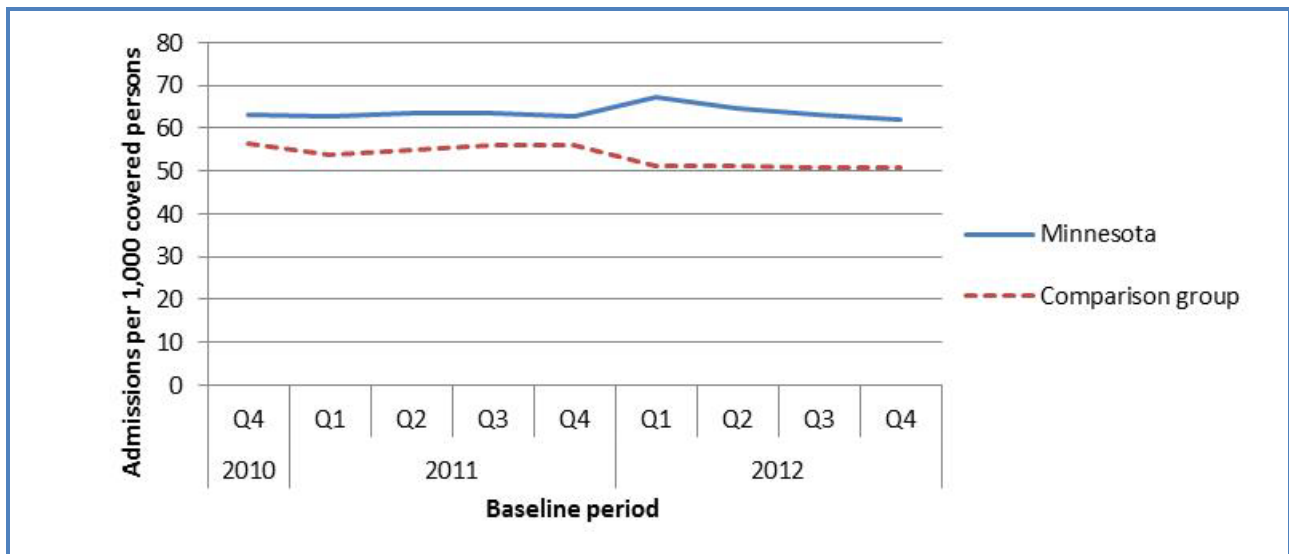
hospitalization using the acute PQI composite was again roughly half the overall rate for Minnesota in 2012 (800 hospitalizations per 100,000 covered persons) and lower than in 2010, while the rate of hospitalization using the chronic PQI composite was 910 per 100,000 covered persons and higher than in 2010 (though not than in 2011). Rates on the latter measures fell for the comparison group over the period.

### 6.3.5 Utilization

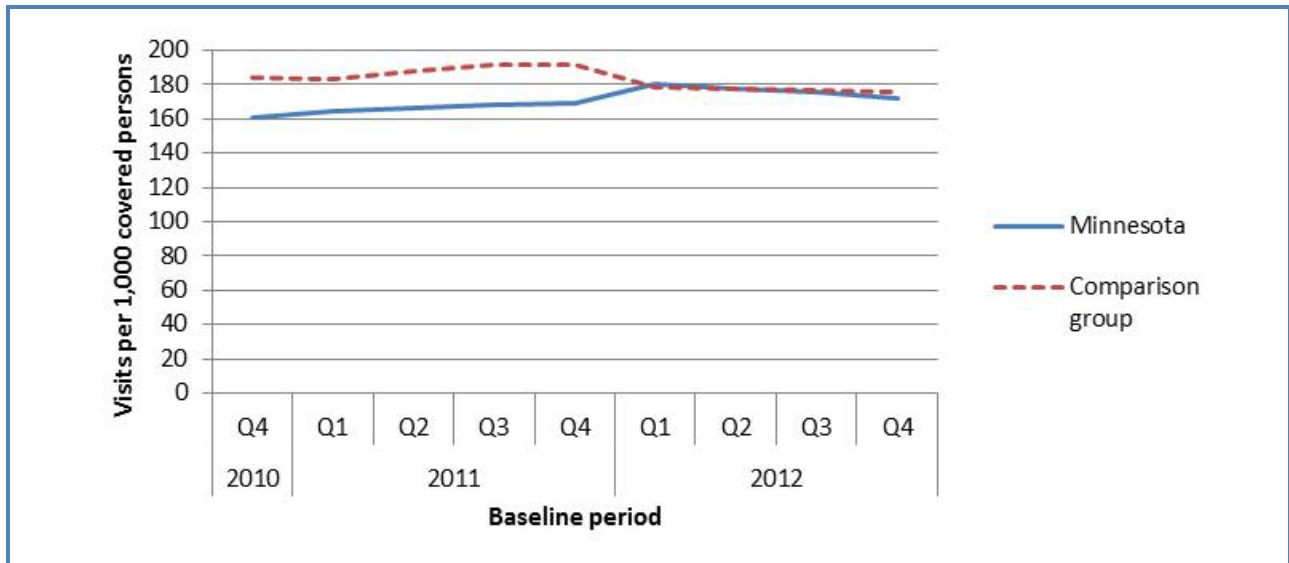
#### Commercially insured

For Minnesota and the comparison group, the rate of all-cause inpatient hospital admissions decreased over the baseline period (*Figure 6-1*). The number of all-cause ER visits per 1,000 covered persons increased slightly for Minnesota but decreased for the comparison group (*Figure 6-2*). Patterns were similar across all age groups, with the highest rates for infants (*Table 6-4*). The number of ER visits per 1,000 covered persons not leading to a hospitalization increased steadily for Minnesota, but exhibited an increase followed by a decrease for the comparison group (*Figure 6-3*). Once again, these trends were found across all age groups (*Table 6-4*). For both Minnesota and the comparison group, the number of discharges leading to a hospital readmission within 30 days per 1,000 discharges increased from 2010 to 2011 and then decreased (*Figure 6-4*).

**Figure 6-1. All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Minnesota and comparison group**



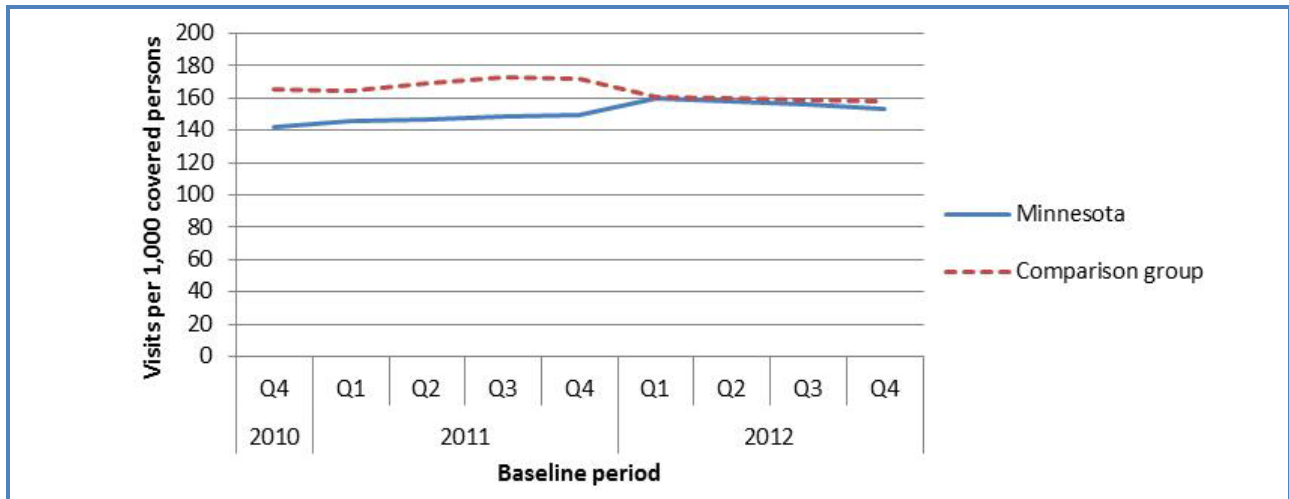
**Figure 6-2. All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Minnesota and comparison group**



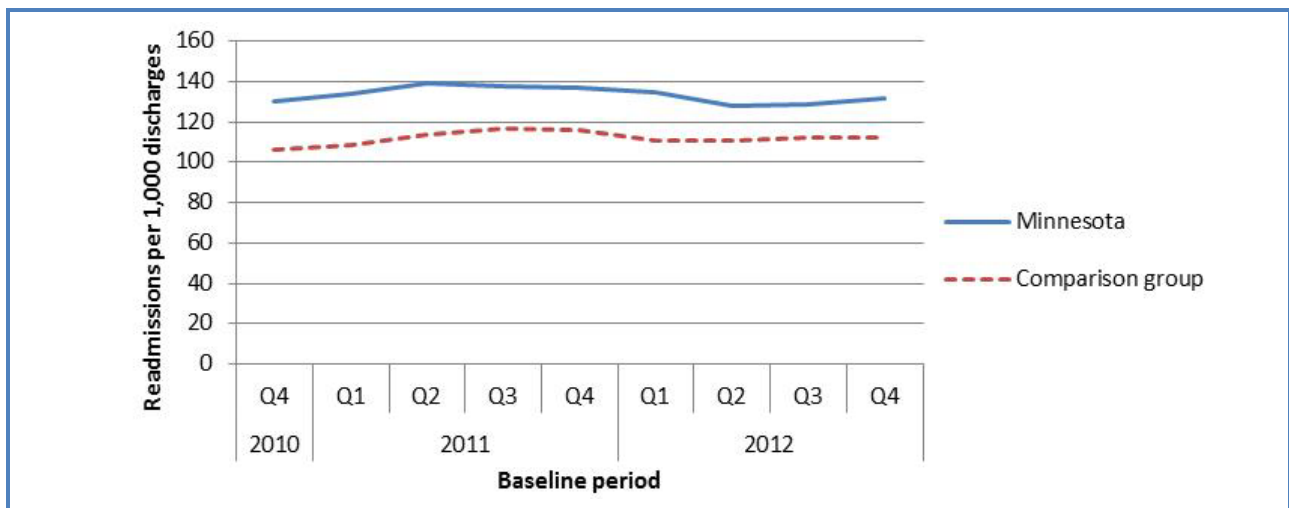
**Table 6-4. Utilization measures for the commercially insured population in MarketScan by age group, Minnesota and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 members</b>									
Minnesota	579	581	592	18	19	18	64	63	62
Comparison group	493	496	493	17	17	15	59	59	52
<b>All-cause emergency room visits per 1,000 members</b>									
Minnesota	373	382	412	160	172	167	154	161	167
Comparison group	366	365	336	177	181	165	181	190	175
<b>Emergency room visits that did not lead to hospitalization per 1,000 members</b>									
Minnesota	338	347	373	150	161	156	133	139	145
Comparison group	334	338	309	167	172	156	160	168	155

**Figure 6-3. Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Minnesota and comparison group**



**Figure 6-4. Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Minnesota and comparison group**



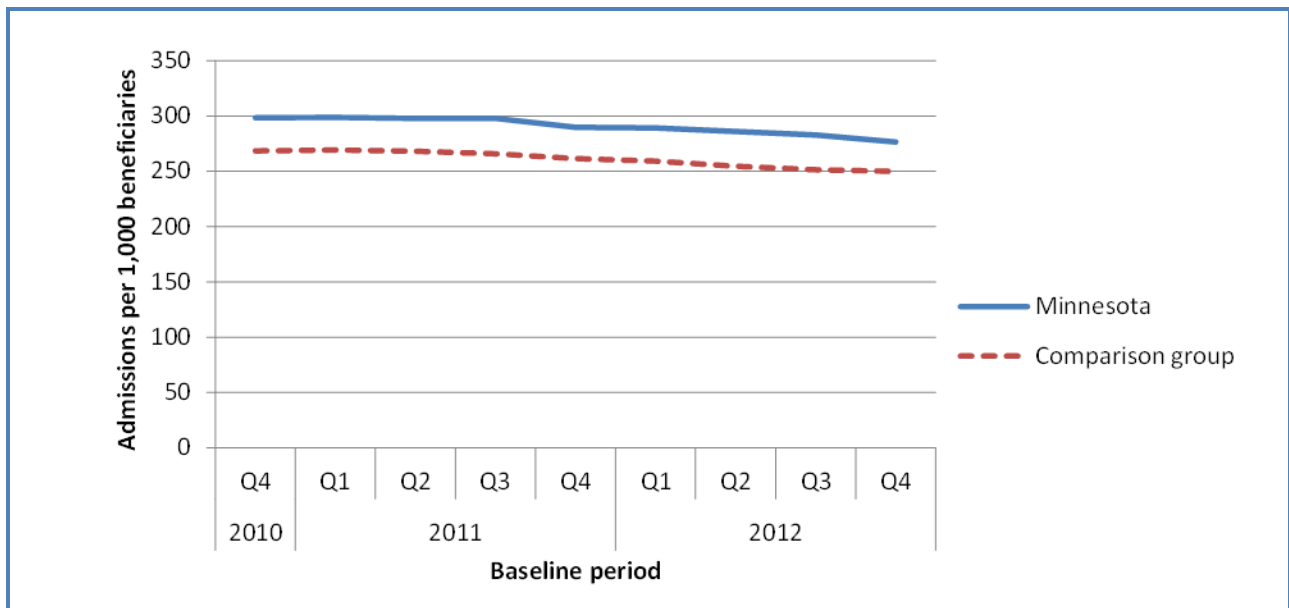
**Medicare**

For Minnesota and the comparison group, the rate of all-cause inpatient hospital admissions decreased over the baseline period, in both instances by about 20 fewer admissions per 1,000 members (*Figure 6-5*). The number of all-cause ER visits per 1,000 covered persons increased substantially for Minnesota (from 627 to 686 visits), however, with the comparison group exhibiting a more moderate increase (*Figure 6-6*). The number of ER visits not leading to a hospitalization per 1,000 covered persons also increased substantially in Minnesota (increasing from 454 to 517 per 1,000 members), with comparison group rates again increasing more slowly

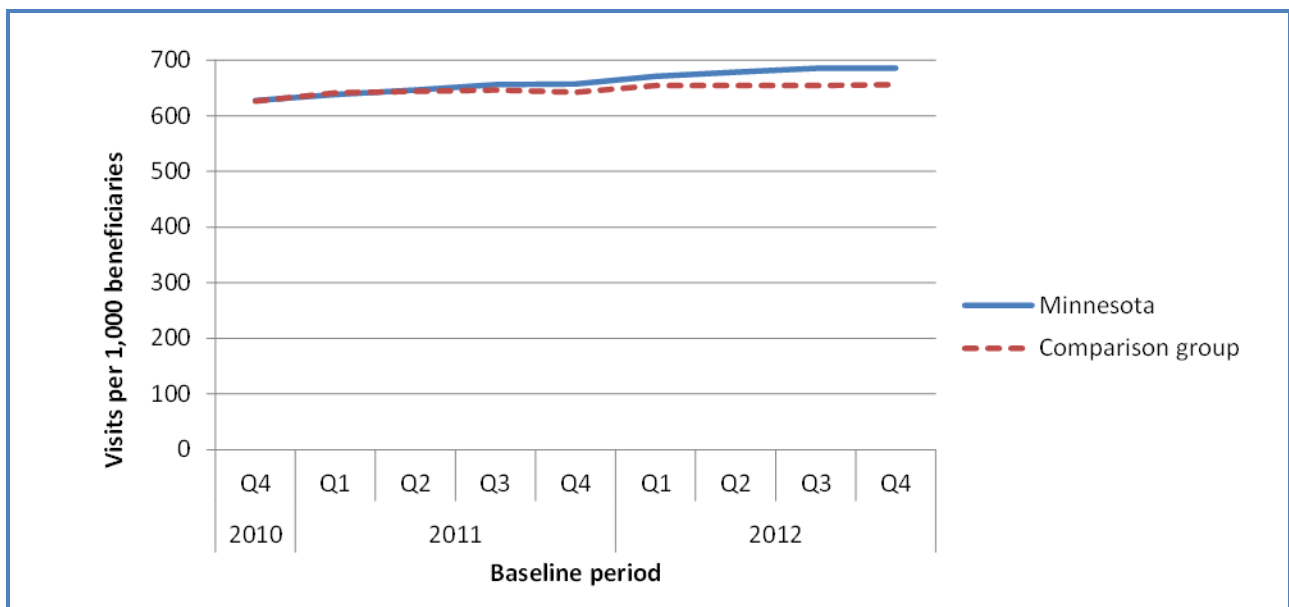


(Figure 6-7). The number of discharges leading to a hospital readmission within 30 days per 1,000 discharges remained relatively flat (Figure 6-8). Trends in these utilization measures over the baseline period were similar for both dual Medicare-Medicaid enrollees and other Medicare enrollees (Table 6-5).

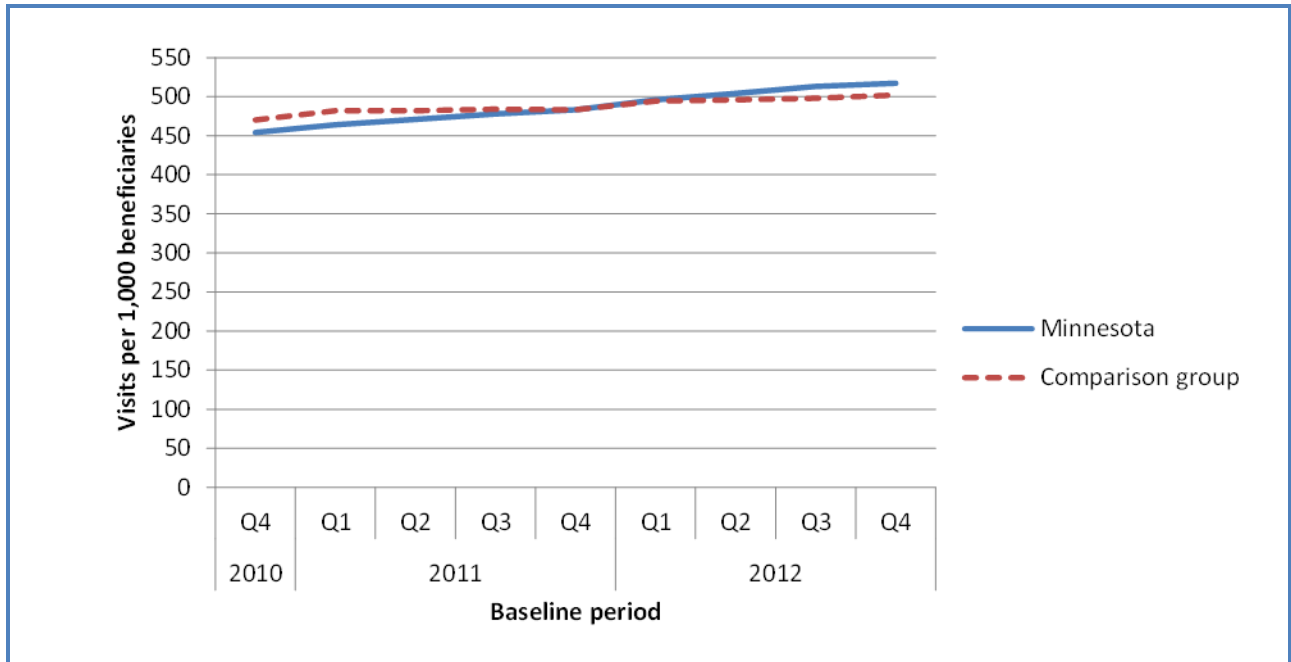
**Figure 6-5. All-cause hospital admissions per 1,000 Medicare beneficiaries, Minnesota and comparison group**



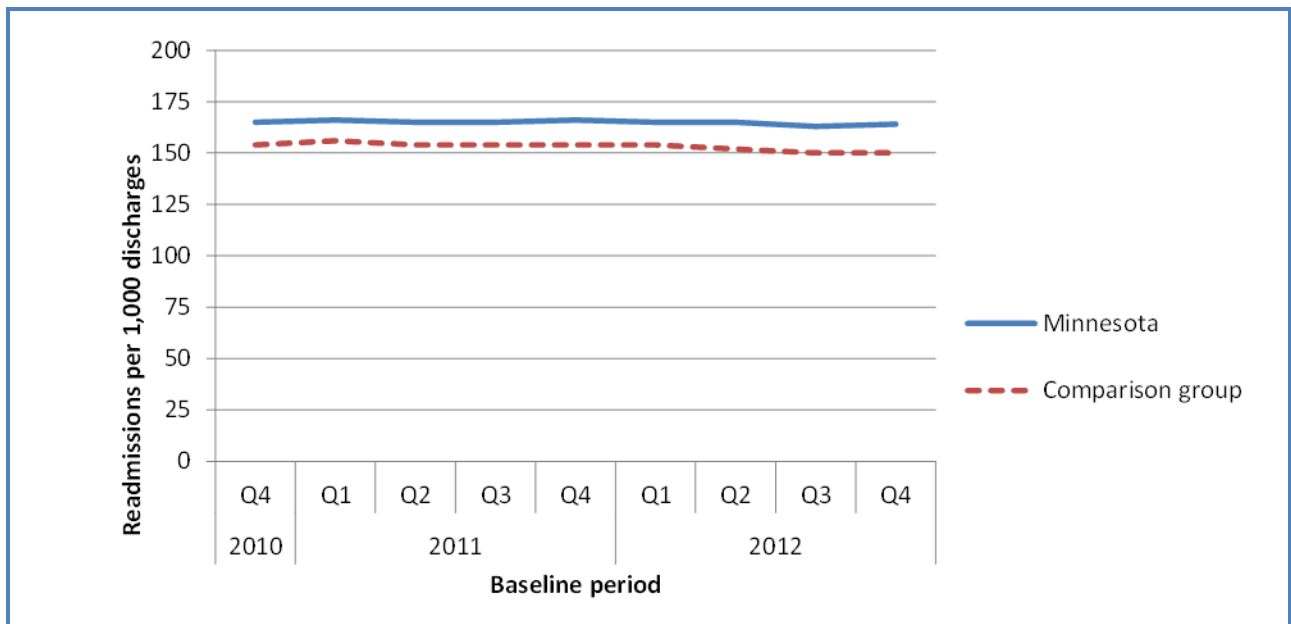
**Figure 6-6. All-cause emergency room visits per 1,000 Medicare beneficiaries, Minnesota and comparison group**



**Figure 6-7. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Minnesota and comparison group**



**Figure 6-8. Readmissions per 1,000 discharges for Medicare beneficiaries, Minnesota and comparison group**



**Table 6-5. Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Minnesota and comparison group**

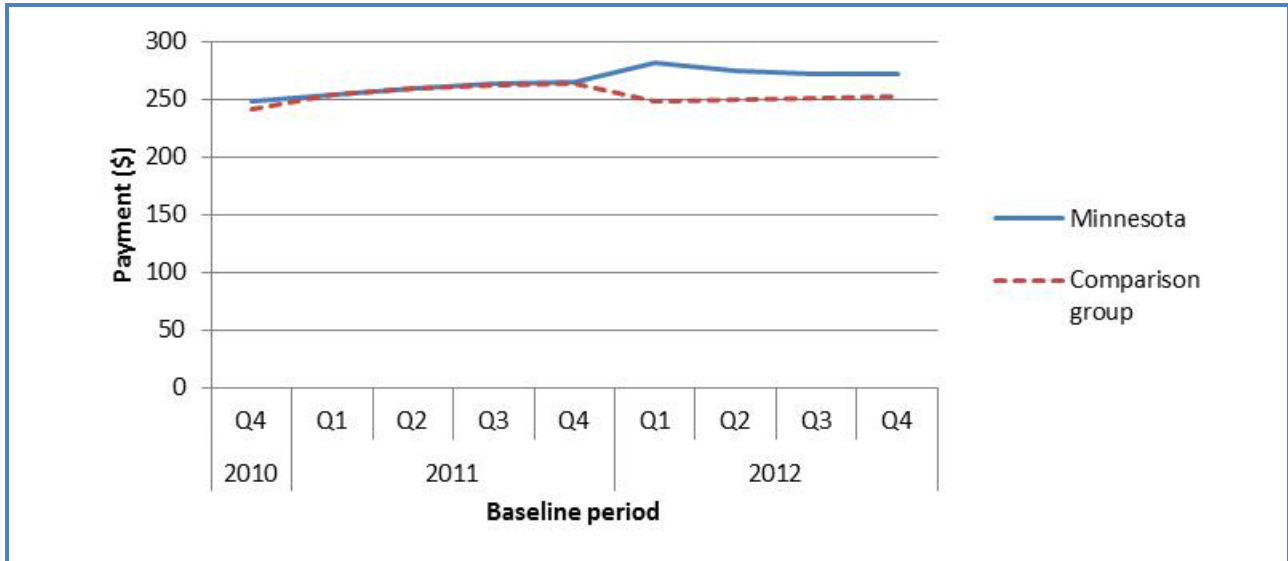
Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 beneficiaries</b>						
Minnesota	383	369	349	284	274	261
Comparison group	384	373	352	249	240	229
<b>All-cause emergency room visits per 1,000 beneficiaries</b>						
Minnesota	1,261	1,284	1,336	517	535	547
Comparison group	1,324	1,309	1,315	507	514	518
<b>Emergency room visits that did not lead to hospitalization per 1,000 beneficiaries</b>						
Minnesota	999	1,025	1,088	360	377	395
Comparison group	1,063	1,046	1,066	370	374	383
<b>Readmissions per 1,000 discharges</b>						
Minnesota	217	211	207	152	153	152
Comparison group	192	190	184	140	140	137

### 6.3.6 Expenditures

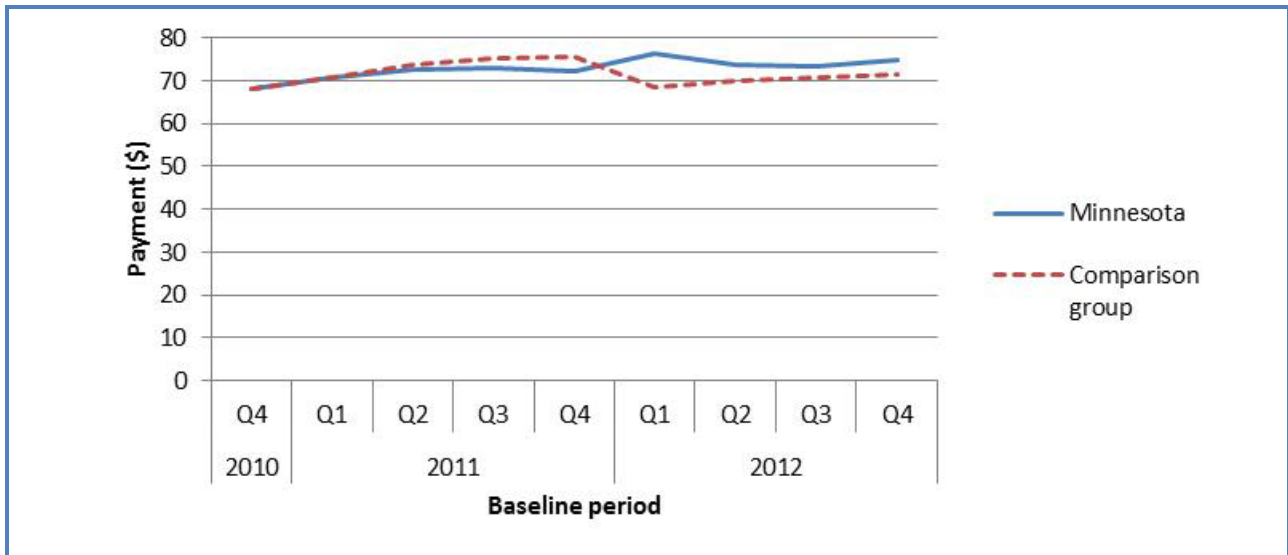
#### *Commercially insured*

Total payments increased slightly over the baseline period for Minnesota and the comparison group (*Figure 6-9*). Minnesota’s total per member per month (PMPM) payments began the baseline period at the same level as the comparison group, but increased more consistently by quarter. Total PMPM payments for the comparison group increased from 2010 to 2011, and then decreased in 2012. These relative patterns for Minnesota and the comparison group were repeated for all types of service, with the exception of outpatient prescriptions. Inpatient hospital facility payments for Minnesota increased slightly, from \$68 PMPM in first quarter 2010 to \$75 PMPM in fourth quarter 2012 (*Figure 6-10*). During the baseline period, Minnesota’s payments to other facilities increased from \$58 PMPM to \$67 PMPM. By comparison, payments for other facility care for the comparison group increased from \$76 PMPM to \$80 PMPM—a lower rate of increase but exhibiting overall higher levels (*Figure 6-11*). Professional payments increased for Minnesota, exhibiting both a higher rate of increase and higher levels relative to the comparison group (*Figure 6-12*). Outpatient prescription payments for Minnesota increased only slightly over the baseline period, whereas the comparison group showed higher levels and a higher rate of increase (*Figure 6-13*). The trends for the infant, child, and adult populations generally followed the slight to moderately increasing overall trends for both Minnesota and the comparison group (*Table 6-6*).

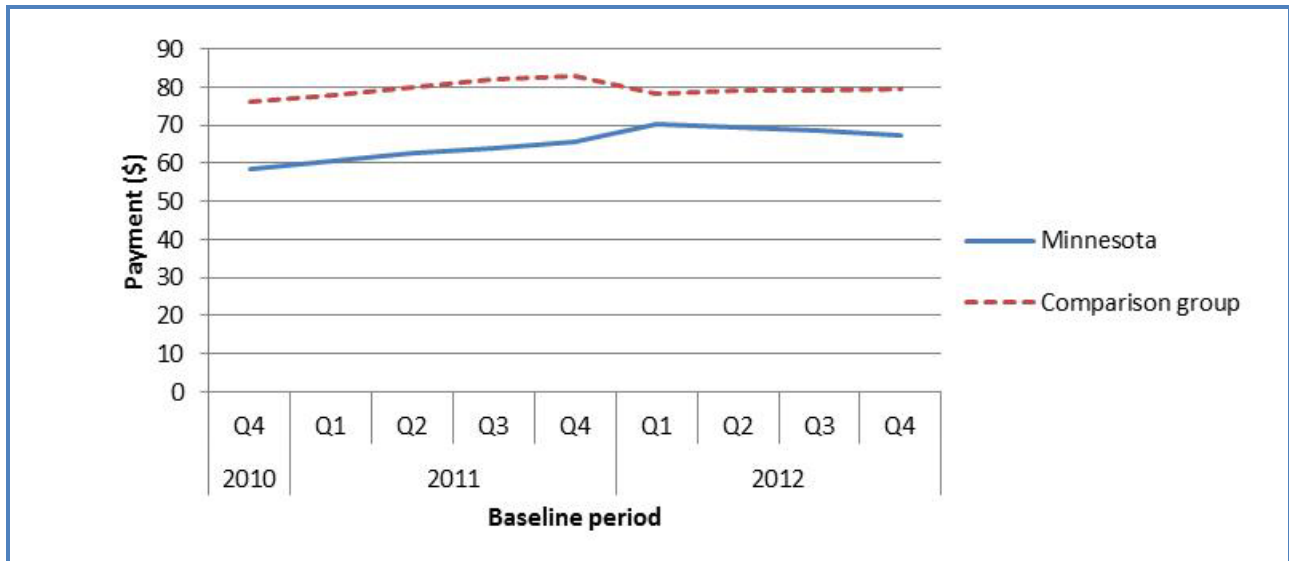
**Figure 6-9. Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group**



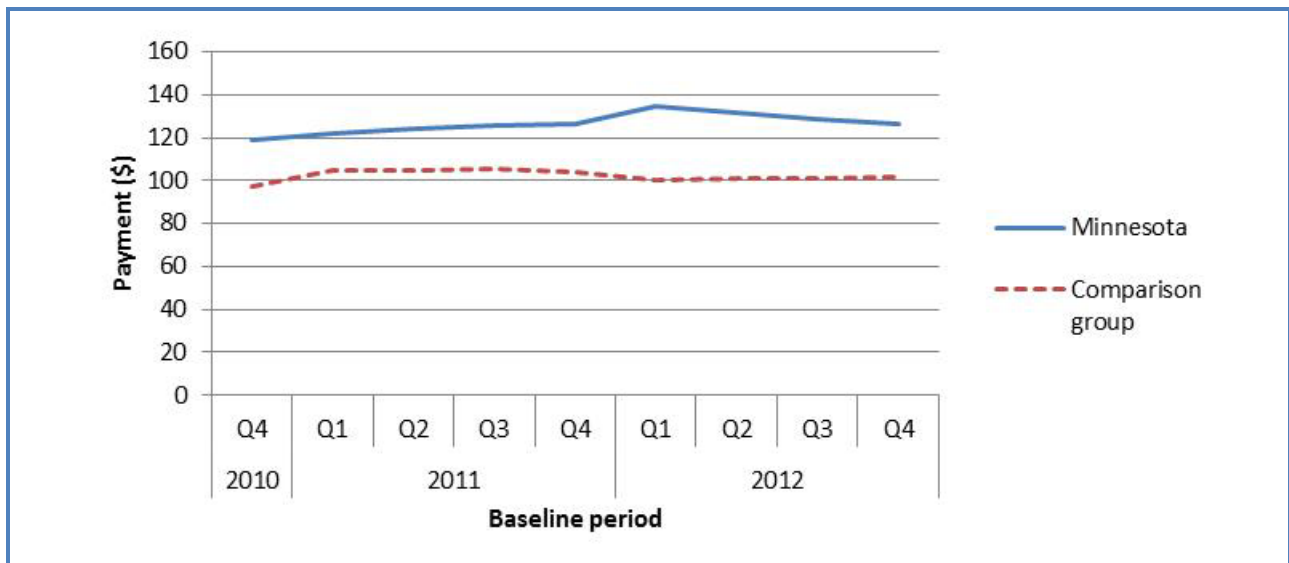
**Figure 6-10. Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group**



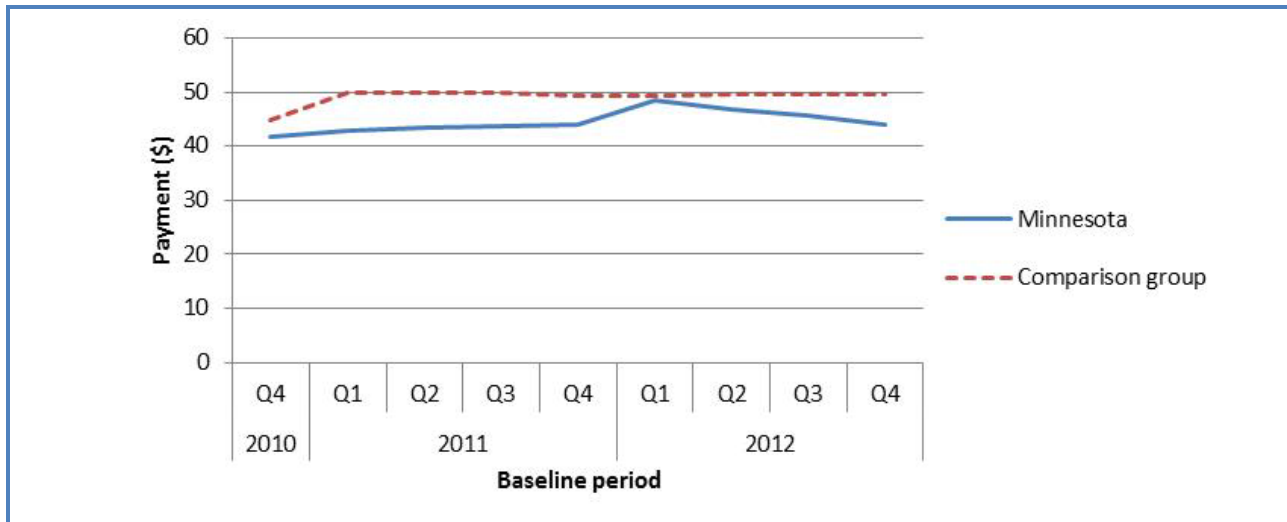
**Figure 6-11. Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group**



**Figure 6-12. Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group**



**Figure 6-13. Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Minnesota and comparison group**



**Table 6-6. Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Minnesota and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Total<sup>a,b</sup></b>									
<b>Minnesota</b>	<b>773</b>	<b>766</b>	<b>856</b>	<b>117</b>	<b>136</b>	<b>136</b>	<b>281</b>	<b>297</b>	<b>303</b>
Comparison group	622	712	694	105	116	114	284	304	290
<b>Inpatient facility</b>									
<b>Minnesota</b>	<b>442</b>	<b>442</b>	<b>469</b>	<b>25</b>	<b>29</b>	<b>30</b>	<b>73</b>	<b>76</b>	<b>79</b>
Comparison group	347	424	399	24	27	25	77	84	79
<b>Other facility</b>									
<b>Minnesota</b>	<b>50</b>	<b>56</b>	<b>58</b>	<b>28</b>	<b>32</b>	<b>34</b>	<b>70</b>	<b>78</b>	<b>80</b>
Comparison group	54	61	60	33	37	37	93	100	95
<b>Professional</b>									
<b>Minnesota</b>	<b>260</b>	<b>282</b>	<b>291</b>	<b>64</b>	<b>73</b>	<b>71</b>	<b>136</b>	<b>141</b>	<b>142</b>
Comparison group	211	233	227	47	52	51	113	120	116
<b>Outpatient prescription<sup>c</sup></b>									
<b>Minnesota</b>	<b>10</b>	<b>17</b>	<b>10</b>	<b>19</b>	<b>21</b>	<b>22</b>	<b>51</b>	<b>53</b>	<b>53</b>
Comparison group	12	10	8	17	19	19	57	61	61

<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

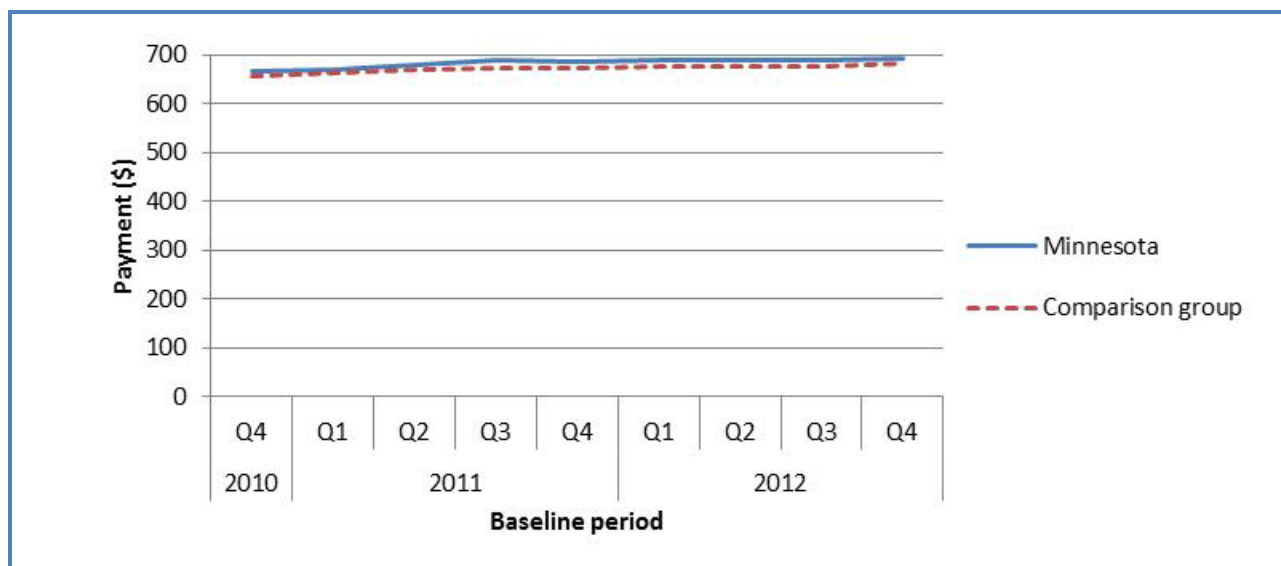
<sup>b</sup> The inpatient, other facility, and professional component expenditures do not add up exactly to the total expenditures because the inpatient component expenditure value does not include inpatient payments included in the outpatient MarketScan table, but the total expenditure value includes all payments.

<sup>c</sup> Denominator only includes members with drug claims captured in MarketScan.

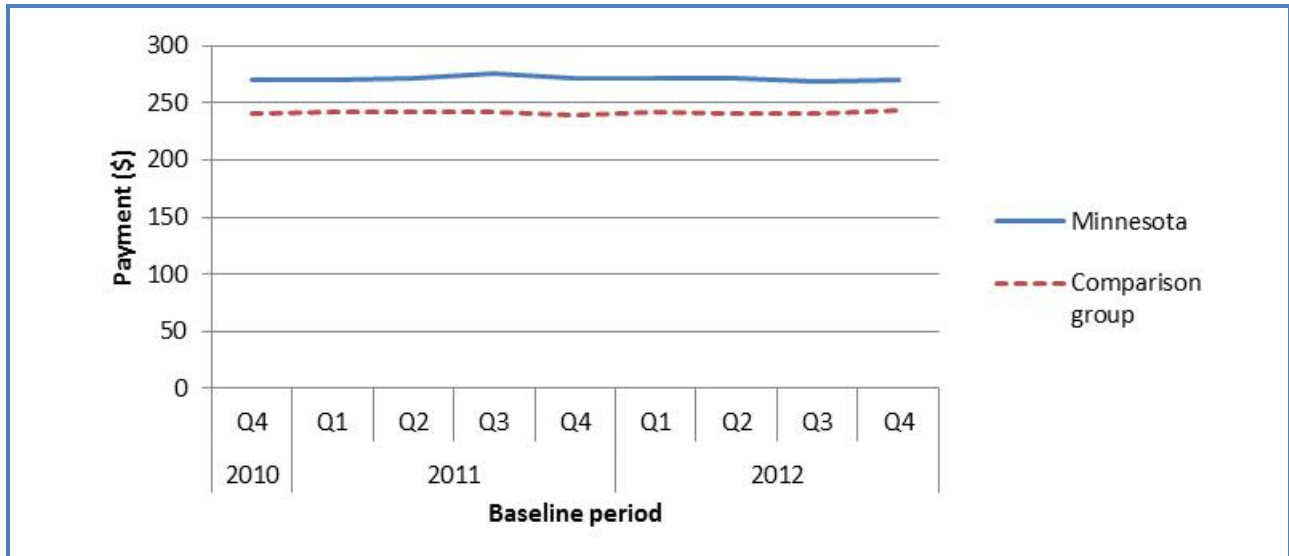
## Medicare

Total Medicare payments increased steadily over the baseline period for Minnesota and the comparison group (**Figure 6-14**). Minnesota's total PMPM payments were consistently higher, by about \$10, relative to the comparison group for all three baseline years. Inpatient hospital facility payments in Minnesota decreased slightly, from \$271 PMPM in 2010 to \$270 PMPM in 2012, but decreased for the comparison group (**Figure 6-15**). Minnesota's payments for other facility care increased by approximately \$20 PMPM, similar to that for the comparison group (**Figure 6-16**). Professional payments increased for both Minnesota and the comparison group (**Figure 6-17**). Among dual Medicare-Medicaid enrollees, all types of service exhibited similar steady increases over time, with the exception of average inpatient facility payments (**Table 6-7**). PMPM payments for both Medicare-Medicaid enrollees and other Medicare enrollees fell in Minnesota over the baseline period (a declining trend also noted among the total population).

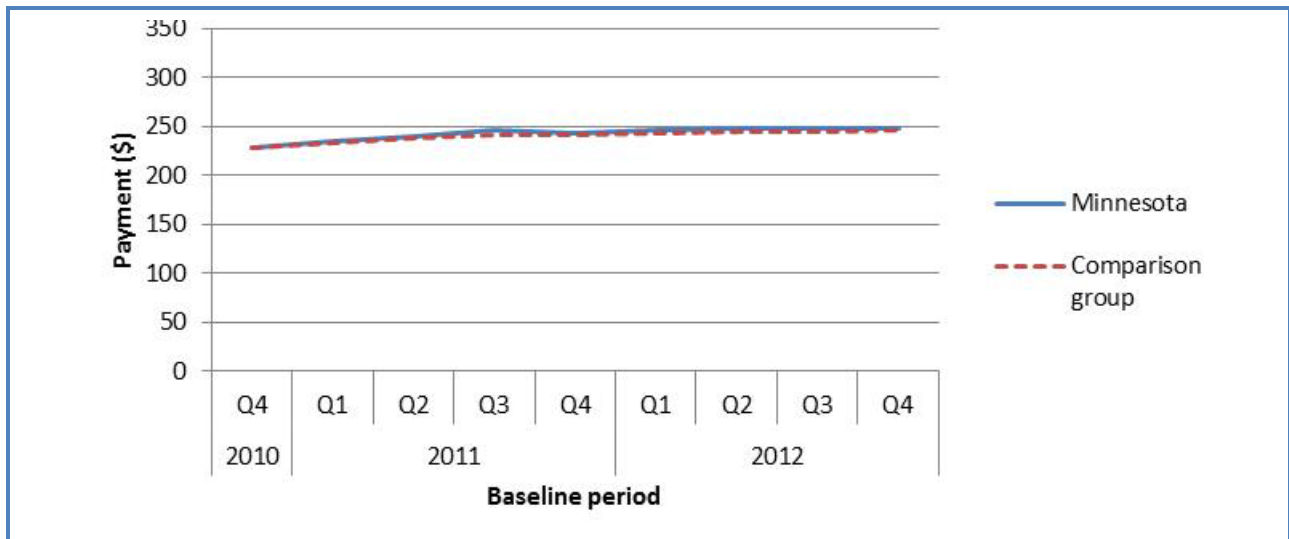
**Figure 6-14. Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group**



**Figure 6-15. Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group**

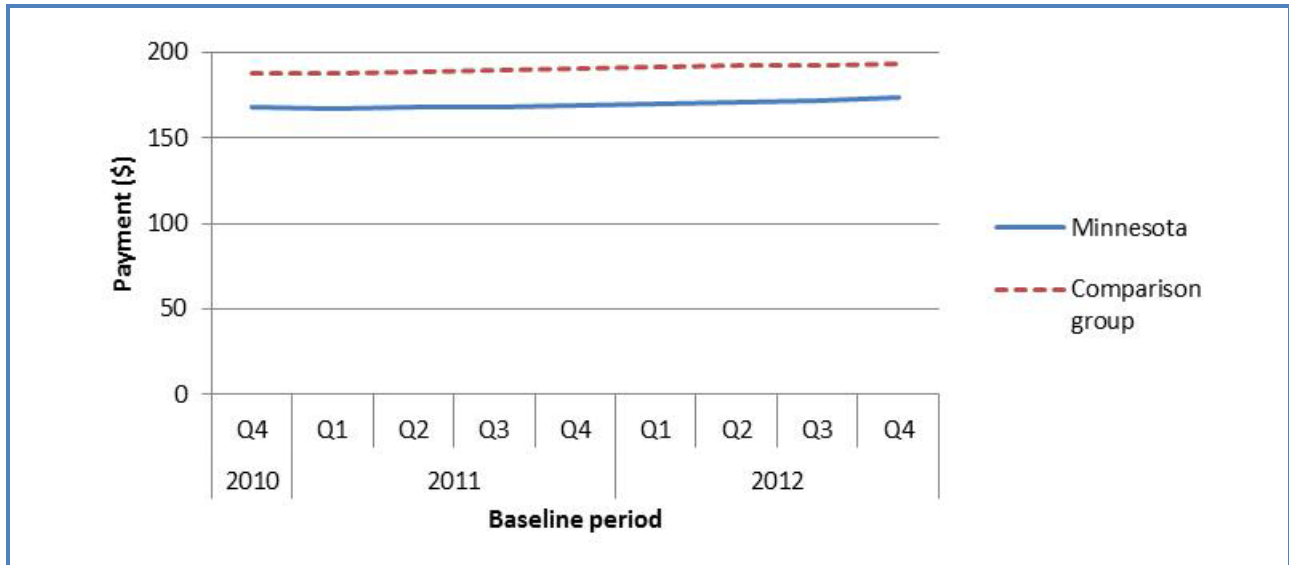


**Figure 6-16. Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group**





**Figure 6-17. Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Minnesota and comparison group**



**Table 6-7. Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Minnesota and comparison group**

Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Total</b>						
<b>Minnesota</b>	<b>813</b>	<b>831</b>	<b>834</b>	<b>642</b>	<b>656</b>	<b>661</b>
Comparison group	902	909	915	616	627	636
<b>Inpatient facility</b>						
<b>Minnesota</b>	<b>371</b>	<b>377</b>	<b>368</b>	<b>253</b>	<b>252</b>	<b>249</b>
Comparison group	360	354	355	221	218	220
<b>Other facility</b>						
<b>Minnesota</b>	<b>246</b>	<b>258</b>	<b>263</b>	<b>226</b>	<b>241</b>	<b>245</b>
Comparison group	330	346	346	211	222	226
<b>Professional</b>						
<b>Minnesota</b>	<b>196</b>	<b>196</b>	<b>203</b>	<b>163</b>	<b>163</b>	<b>168</b>
Comparison group	212	210	213	183	187	190

## 6.4 Minnesota Synthesis

Minnesota has made significant progress toward implementation of its SIM initiative and is placing an emphasis on expanding and accelerating integration of its Medicaid population into IHPs. Toward that goal, the state released an RFP to solicit for these expanded organizations. The state is also moving forward with a range of health IT support for use by IHPs and other providers to facilitate care coordination. State officials reported some initial frustrations during the start-up of Minnesota's SIM cooperative agreement, with more resources than anticipated devoted to managing the project and responding to CMS requests for reporting and other information. The state addressed these issues by hiring additional support staff.

Minnesota's rates of care coordination activities, including inpatient follow-up and visits to primary care providers, were generally higher than both its comparison group and other Test states, suggesting a potentially higher level of care coordination at baseline relative to other Test states. This higher rate at baseline may present some challenge to Minnesota to continue and accelerate these increased rates as it expands use of care coordination strategies among a larger proportion of its Medicaid and other populations.

Since overall PMPM expenditures and utilization for both the commercial MarketScan and Medicare populations were trending upward over the baseline period, Minnesota's SIM Initiative has an opportunity to reverse these general trends. MarketScan PMPM total expenditures increased in Minnesota from \$242 PMPM to \$271 PMPM, while Medicare PMPM expenditures increased from \$667 PMPM to \$692 PMPM, with similar but slower rates of increase among Minnesota's comparison group. Consistent with these expenditure trends, utilization trends, with the single exception of all-cause hospital admissions, grew faster in Minnesota relative to its comparison group for both MarketScan and Medicare populations—suggesting considerable opportunity to move toward efficient use of care outside the inpatient setting.

## 7. Oregon

### 7.1 Overview of Oregon Model

Oregon's vision for its SIM Initiative is to further support the acceleration of health care transformation and the spread of its recently implemented Medicaid delivery and payment model to new populations—state employees, public educators, and qualified health plan enrollees. The goal is to eventually bring in commercially insured individuals under the model, thereby aligning payment and delivery across the vast majority of health care payers in the state. Operating within a global budget, coordinated care organizations (CCOs) are responsible for the integration and coordination of physical, mental, behavioral, and dental health care for Medicaid and Children's Health Insurance Program enrollees, with the goal of improving health and lowering costs at every point in the health care system.

Building on the Medicaid experience with CCOs, Oregon will transition state employees into a coordinated care model (CCM) in January 2015. Oregon's SIM Initiative also entails development and support of the Transformation Center, which aims to spread best practices among CCOs, health plans, and providers by supporting learning collaboratives and a Council of Clinical Innovators. Other Center functions include, but are not limited to, disseminating clinical standards and supports, developing strategies to engage community stakeholders, working with Oregon Health Authority's (OHA's) Office of Equity and Inclusion to promote policies to support health equity and address social determinants of health, and using data and statistics supplied by the OHA's Office of Health Analytics to provide timely data to improve targeting and the delivery of health care services. SIM Initiative funds are also supporting technical assistance to primary care physicians in adoption of practices consistent with the state's Patient-Centered Primary Care Home (PCPCH)—a central ingredient to CCM. The PCPCH scoring criteria are broadly similar to the National Committee for Quality Assurance's Primary Care Medical Home criteria, with the most notable differences being in the planning for and coordination of end-of-life care.

Other SIM efforts include encouraging consensus building to support payment reform across all payers and engaging consumers in their care.

### 7.2 Oregon Site Visit and Focus Group Report

#### 7.2.1 Overview of site visit and focus groups

The Oregon site visit team conducted the first round of site visit interviews during the week of March 3, 2014. A total of 29 individuals were interviewed, including state officials (16); payers (4); and representatives of consumer, provider, and business groups (9). The intent of the interviews was to clarify the state's approaches and strategies for delivery system

transformation and gain a better understanding of stakeholders' planning and implementation experiences during the first year of the SIM award.

To gather baseline information on providers' and consumers' perspectives and experiences with care coordination and care management, nine focus groups were held in the cities of Portland, Albany, and Salem during the week of March 10, 2014. We conducted five provider focus groups—three with primary care physicians caring for state employees and two with long-term services and supports (LTSS) providers serving Oregon Medicaid enrollees. We conducted four consumer groups—two with Medicaid enrollees who use LTSS and two with state employees insured through the Public Employees Benefit Board (PEBB), specifically, PEBB Statewide. In total, 34 providers and 34 consumers participated in the focus groups.

## 7.2.2 Delivery system and payment models

### *Model overview*

*Appendix Table D-5* provides a summary description of the models and strategies being tested in Oregon under its SIM Initiative. Central to Oregon's SIM project, included in several SIM components, is the spread of the state's CCM beyond the Medicaid program to other populations—including employees covered by PEBB and the Oregon Educators Benefit Board (OEBB) and individuals enrolled in qualified health plans (QHPs) offered through the state's Marketplace (Cover Oregon). The goal is to have two million Oregonians enrolled in coordinated care arrangements by July 2016.

CCM was first implemented in Oregon's Medicaid program under Oregon's 2012 amendment to its Medicaid Section 1115 waiver. Almost all Oregon's Medicaid beneficiaries are enrolled in one of the 16 CCOs operating statewide. CCOs will ultimately be responsible for providing physical, behavioral, and dental services to Medicaid enrollees; LTSS, however, are excluded. Continued advancement of CCOs has been partially supported by the SIM funds, because state officials consider CCOs' success to be crucial to the spread of CCM. One initiative under Oregon's SIM Initiative calls for the state to develop a Medicare-Medicaid administrative alignment to better coordinate care, with the goals of improving health outcomes and lowering health care costs for dual Medicare-Medicaid enrollees. Although they are not required to enroll in CCOs, some 55 percent of Oregon's Medicare-Medicaid enrollees have done so.

Key elements of the spread of CCM include: (1) statewide development of PCPCHs, (2) adoption of alternative payment methodologies by CCOs that currently operate under global budgets and by most other payers as the model spreads, and (3) increased coordination between LTSS and physical and mental health services.

Another health care system transformation strategy funded in full or in part by Oregon's SIM award is establishing the Transformation Center, which, among other things, provides

technical assistance to CCOs and facilitates collaboration among CCOs, providers, and payers through learning collaboratives. Oregon's SIM funds are also supporting more robust state data collection and health analytics capabilities, including development of CCO-metrics and enhancements to the All-Payer, All-Claims (APAC) database. Other SIM-funded efforts include implementing the Emergency Department Information Exchange (EDIE) in hospitals across the state, and launching several new Regional Health Equity Coalitions designed to reduce health disparities. Finally, a long-term goal of the SIM Initiative is to improve population health for all Oregonians. Toward this end, Oregon is requiring CCOs to work closely with local public health departments on integrating public health activities with broader system transformation.

### ***Governance and project administration***

Under the direction and strategic leadership of the Governor John Kitzhaber and support from the legislature, state agencies, and the private sector, Oregon has long been working on health care reform. As one interviewee noted, the timing of the SIM Initiative was perfect in allowing Oregon to carry on and accelerate transformation activities already in motion. The OHA is the SIM Initiative lead agency, with its Office for Oregon Health Policy and Research (OHPR) solely responsible for managing the SIM award. According to a state official, the Governor's Office "trusts" OHA with SIM management as long as the work is "aligned with the Governor's vision and direction for the overall health system transformation." The principal investigator for Oregon's SIM Initiative reports directly to the Center for Medicare and Medicaid Innovation (the Innovation Center) and to the director of OHA and the Oregon Health Policy Board, the policy making and oversight body of OHA. The principal investigator and her grants management team manage all administrative aspects of Oregon's SIM project and are responsible for submitting reports, data, and other information requested by the Innovation Center.

OHA also houses most other state officials working on the SIM Initiative. Officials come from a variety of offices across OHA, including but not limited to the Office of Health Analytics, the Office of Information Systems, the Office of Health Equity and Equity Coalitions, the PCPCH program, the Public Health Division, the Division of Medical Assistance, PEBB, and OEBC. One official commented that this organizational structure contributes to SIM staff having close working relationships, which adds to ease of communication and productive collaboration. Key units within OHA important to the SIM Initiative include: the Transformation Center, launched in July 2013; the Office of Health Analytics, charged with enhancing Oregon's data and analytic capabilities, including various SIM evaluations; and the PCPCH program, focused on providing and enhancing technical assistance through its private vendor, the Patient-Centered Primary Care Institute.

Importantly, although the bulk of Oregon's SIM activity is housed at OHA, SIM staff collaborate extensively with other state agencies—including the Department of Human Services, the Division of Consumer and Business Services (which includes Oregon Insurance Division),

and Cover Oregon—and with the Governor’s Office and the Oregon legislature. OHA also contracts with private vendors to support SIM activities, including the Institute of Healthcare Improvement.

### ***Specifics of care coordination, care management, primary care strategies, and payment reform***

Coordination of care across a wide spectrum of services—physical, behavioral, dental, and LTSS—is a main goal of Oregon’s SIM activities. But some services, particularly LTSS, are proving more difficult to integrate than others. State officials reported that, although originally envisioned by the Governor to be included in CCOs’ service package, LTSS were ultimately excluded due to pressure from LTSS providers and consumer advocates. Given that Medicaid enrollees account for such a large portion of LTSS users, it is likely that new care delivery systems developing under the SIM Initiative for other populations will similarly have LTSS services excluded from the main service package. In lieu of full integration of LTSS, Oregon is using SIM funds to partially fund the employment of long-term care innovator agents, who are intended to improve coordination between acute care and LTSS providers—although how that will happen is still under development. In contrast, there appears to be more support for the integration of behavioral and oral health care services with physical health care—although specifics on how this integration will work are also still under development.

An important component of CCM is Oregon’s PCPCH program, which was established in 2009 before the SIM Initiative. Clinics, group practices, and solo practitioners can apply for recognition as a PCPCH by scoring high enough on a set of 55 measurement criteria organized into six core attributes: access to care, accountability, comprehensive whole-person care, continuity, coordination and integration, and person- and family-centered care. Ten measures are classified as “must-pass.” Practices are awarded points depending on which of the remaining 45 criteria they meet and then assigned one of three tiers of PCPCH recognition.

OHA has worked with a coalition of public and commercial payers, and nearly all payers have agreed to use the PCPCH tier designations in creating payment incentives. The notable exception is Medicare. Importantly, however, payers have leeway as to when they will begin issuing payments and the amount and type of payment they will make. The ability to modify the PCPCH scoring criteria using the multi-payer process, an important lever to encourage further integration, is one Oregon has pursued and will continue to pursue under its SIM Initiative. Examples of changes to the criteria for 2014 include the addition of points available for preventive service reminders; medication reconciliation; and quality improvement systems involving staff, patients, and families.

Payment reform under Oregon’s SIM Initiative will take several forms. First, the widespread adoption of PCPCH and expansion of per member per month (PMPM) payments tied to PCPCH tiers are seen as a step to incentivize patient-centered care. Second, the decision by

the Governor to impose a 3.4 percent global cap on PEBB premium payment increases in 2015, along with the goal of incentivizing alternative payment methodologies in the 2015 PEBB plan offerings, are seen as important components of spreading CCM beyond Medicaid.

### 7.2.3 Enabling strategies

Owing to the wide range of activities in Oregon’s SIM Initiative, the state is using a multitude of strategies and policies to help achieve project goals. Major ones are discussed below.

#### *Provider engagement*

**Transformation Center.** Established in July 2013, the Transformation Center is designed to bring Oregon’s major health care stakeholders together in a partnership to help spread innovation to providers and other stakeholders. Most immediately, the Transformation Center serves to facilitate collaboration among CCOs, providers, and payers engaging in CCM and to propel the spread of innovation and improved care. Learning collaboratives are the core of the Transformation Center’s work. As of the site visit in March 2014, the Transformation Center had organized four collaboratives, which entailed hosting meetings and webinars and convening steering committees. The first two collaboratives specifically target CCOs. One is to be devoted to CCOs’ medical directors, behavioral health directors, and quality coordinators; the other is to support CCOs’ community advisory councils. The third learning collaborative developed and hosted by the Transformation Center is devoted to complex care for high-risk patients, with a variety of topics pertaining to this population planned. Its first meeting was on trauma-informed care in primary care settings. Finally, the fourth collaborative is for innovator agents. While two of the learning collaboratives established so far focus on CCOs, state officials reported that the center plans to expand its targeting to PEBB and other payers as it spreads the CCM.

The Transformation Center also recently provided assistance to CCOs in dental care integration. The center is currently engaged in an environmental scan of behavioral health integration, to identify areas of technical assistance necessary for CCOs as they move toward integrating both of these services with physical health. The center is also using SIM funds to establish the Council of Clinical Innovators—a group of provider “champions” who will deliver provider-to-provider consultations on transformation in their local areas.

**Patient-Centered Primary Care Home Program.** Another way Oregon has engaged providers is through its PCPCH program. To date, much of the SIM funding has been used to expand the program’s technical assistance and outreach efforts to practices—which now include learning collaboratives, practice facilitation services, and online tools for primary care practices to become PCPCHs. As mentioned, OHA has contracted with the Patient-Centered Primary Care Institute to provide this technical assistance.

**Long-term services and supports providers.** Apart from engaging primary care providers in its transformation efforts, Oregon is seeking to involve LTSS providers using SIM funding. A principal strategy for accomplishing this is through hiring LTSS innovator agents, as noted, whose principal mission is to facilitate coordination between CCOs and LTSS providers. As of March 2014, Oregon has hired seven LTSS agents, three of whom are supported by SIM funds.

### ***Payer engagement***

With SIM support, Oregon Health and Science University's Evidence-Based Practice Center convened and facilitated a primary care multi-payer payment work group that met several times during 2013. OHA plans to continue engaging payers with other multi-payer reform efforts that extend beyond primary care. Another way Oregon is trying to engage payers is through the Oregon Health Leadership Council, a group that brings together providers and payers and was originally conceived by the Oregon Business Council. The council is considered by the state to be an especially important player for its influence among payers and the business community.

### ***Other stakeholder engagement***

To help facilitate the spread of CCM, engagement of PEBB members is important. Toward that end, beginning in 2013, PEBB members who selected a certified PCPCH had a lower cost-share. Also, incentive payments were made to PEBB providers who sought a higher PCPCH certification. In addition, PEBB and labor unions such as the Service Employees International Union convened listening sessions around the state to educate members on CCM and PEBB's process to select health plans for 2015. The first round of the PEBB listening sessions was held in spring 2013, and another round was held during the fall 2013 open enrollment period for PEBB members. State and PEBB officials indicated that these meetings were intended to disabuse PEBB members of the notion that the CCM was a Medicaid product and to assuage fears that their benefits would be restricted under the new model. Going forward, in 2015, PEBB will use premium share incentives to encourage members to pick plans that include more elements of CCM.

### ***Health information technology and other infrastructure investments***

The health information technology (health IT) investments supported under Oregon's SIM award have focused on two sets of activities. First, the state is helping to develop data sharing capacity and interoperability among providers in CCOs, facilitating care coordination and performance monitoring. Payer and provider stakeholders provide guidance to a staff work group developing the so-called "Phase 1.5" health IT/health information exchange (HIE) system to become operational in 2015, supporting CCOs. The state has also partnered with the Oregon Health Leadership Council to implement EDIE in all 59 Oregon acute care hospitals. Among other functions, the EDIE technology will inform treating physicians about the complex care



needs of “frequent flyers” when they visit emergency rooms (ERs), and will notify patients’ health plans, CCOs, and providers of the ER visit.

The second health IT investment area is development of data analytic capacity at the state level. SIM funds are being used to support the APAC database and its use in interactive dashboards. The Office of Health Analytics, for example, has developed a multi-payer quarterly dashboard to track utilization, cost, quality, coverage, and access trends over the entire state. It has also contracted with an outside vendor to create an interactive dashboard—the Accountable Care Data System—which will allow CCOs to track outcomes over time and between subgroups of members both within and across CCOs.

## 7.2.4 Summary of findings

### *SIM operational model activities and progress*

**SIM organization.** Among state officials we spoke with, it was universally acknowledged that OHA’s OHPR was the office spearheading the SIM Initiative. In addition, it was also consistently recognized by state officials and external stakeholders that the major driving force and “vision” behind Oregon’s health care transformation, including the SIM Initiative, was the Governor John Kitzhaber. Although OHPR is SIM’s organizational hub, state and non-government stakeholders told us that OHPR and OHA have strong and close partnerships with other state agencies (such as the Department of Human Services and the Department of Insurance) and held contracts with entities outside state government to help develop and implement its many SIM activities. While the Oregon Legislature authorizes the budget for the Initiative and has generally endorsed the state’s ongoing health system transformation, the legislature was described by several state stakeholders as not engaged in the SIM Initiative from a policy perspective.

Among external stakeholders, many were not familiar with the SIM Initiative by name and thus did not have a clear understanding of its organizational and operational structure. All along, however, it was Oregon’s intent to use SIM grant funding to support and accelerate its existing health system transformation efforts—and as such, external stakeholders viewed SIM-funded activities as synonymous with the state’s ongoing health care transformation work, rather than a separate effort. Importantly, many external stakeholders were aware of, or had participated in, some SIM-funded activities, including the Transformation Center’s learning collaboratives and long-term care innovator agents.

**Progress to date.** State officials told us that, for the most part, they have met their SIM timeline to date. In addition, their expectation was that they would generally stay the course for the SIM Initiative’s duration. In large part, this optimism seems to stem from having a Governor with a clear vision of what he wants to achieve with transformation—a vision that enjoys bipartisan support in the Oregon Legislature, as noted by several officials.

Chief among Oregon's SIM accomplishments state officials highlighted was setting up the Transformation Center, which was generally viewed favorably by most state and non-government stakeholders. Launching the Transformation Center entailed recruiting and hiring staff (including innovator agents), executing contracts with vendors, and developing and convening four learning collaboratives as described above.

Another important milestone noted by state officials was release of a request for proposals (RFP) for health plans to provide health benefits to state employees and their families in 2015; this incentivizes (but does not require) plans to provide CCM elements. While we were on site, state officials were reviewing 10 proposals from responding health plans. These officials were pleased with the interest the proposal request generated and said they got "traditional players to offer less traditional things."

Another important SIM marker Oregon officials highlighted was the continued spread of PCPCH. Indeed, Oregon's goal of recognizing 500 practices as PCPCHs by 2015 was achieved in the first quarter of 2014, nearly a full year earlier than expected. State officials estimate that this constitutes about two-thirds of practices that would be considered for such recognition. Related to advancing PCPCH, state officials noted that SIM funds supported a Multi-payer Primary Care Strategy work group, which culminated in nearly all commercial and public payers (except Medicare) signing a December 2013 agreement—in which they agreed to change their contracting relationships with primary care providers and offer structured payments that use the state's PCPCH recognition standards to support primary care homes.

Establishment of the Office of Health Analytics within OHA was another SIM accomplishment state officials emphasized. This involved reorganizing and consolidating offices across OHA and hiring new dedicated staff. Among the projects the office has worked on to date are designing metrics for CCOs and enhancing and maintaining the APAC database, which helped populate Oregon's first multi-payer dashboard released in March 2014. The office has started working on crafting quality metrics that will align across all market segments the SIM Initiative hopes to ultimately touch—Medicaid enrollees in CCOs, PEBB and OEBC members, and Cover Oregon enrollees.

While highlighting these and other successes, state officials readily acknowledged slippage implementing some SIM activities, in part due to "distractions" from Affordable Care Act implementation. For example, some SIM data work was delayed because staff had to help with system problems associated with the launch of Cover Oregon in October 2013. While noting that about 60 percent of Oregon's dual Medicare-Medicaid enrollees have chosen to enroll in CCOs, the administrative alignment of Medicare and Medicaid for these individuals in CCOs (another SIM activity) was also noted as being somewhat behind.

A PEBB Board representative commented that the state also may be behind in its communication and engagement with state employees over the rollout of CCM for PEBB members, scheduled for fall 2014. At the time of our site visit (early March 2014), communication and educational activities about CCM seem to have been sparse. A state official, however, acknowledged that more robust messaging to PEBB members is in order and indicated that a formal communication plan will be developed once the PEBB contracts are in place. Although some elements of CCM are already in the PEBB health benefit plan (e.g., lower co-pays for PEBB members selecting a PCPCH-certified physician), state officials and external stakeholders expect some pushback from the PEBB community. One anticipated issue is that PEBB members will ask “what are you really trying to do?” under the new model. As officials noted, they need to be prepared to prove to PEBB members that the CCM approach is more than just saving money. As a PEBB representative noted, there was significant resistance among some state employees when, in 2011, the state introduced the Health Engagement Model, which provided financial incentives for PEBB members to engage in improving their health—cautioning that adding CCM elements to the PEBB plan could potentially meet with comparable resistance.

**Clarity on SIM model going forward.** Among Oregon officials, there was collective consensus on the direction the Oregon SIM Initiative is headed. A centerpiece of the state’s SIM Initiative is the spread of CCM, with the most immediate step being putting CCM elements in the 2015 RFPs for PEBB. Contracts with health plans for PEBB are expected to be executed in time for open enrollment in fall 2014. The importance of continued rollout of CCM to OEBB members and Cover Oregon enrollees in 2015 was similarly clear to state officials. Other major pieces of the SIM Initiative that also seem clear in the minds of Oregon officials include continued spread of PCPCH, expanding the Transformation Center’s reach, and enhancing the state’s data analytical capacity to improve transparency.

Although state officials appeared certain where they are going with many of the major components of the SIM Initiative, particular elements and details seemed to be less articulated, with state leadership describing these elements as somewhat in flux and saying they continue to work through them. Among the issues state officials were grappling with was which policy levers can be used to accomplish a sustainable rate of premium growth for health plans in the private market—especially those outside the purview of the Department of Insurance, such as self-insured employer plans. Another challenge is identifying a core set of metrics that aligns the state’s different health care markets and pay for outcomes, while at the same time developing metrics specific to each market segment that meet the state-federal alignment. Officials also questioned how best to integrate mental and physical health at the primary care practice level.

**External stakeholders SIM participation and perceptions.** On the whole, external health care stakeholders thought Oregon health care officials were diligent and inclusive in their transformation activities, including those related to the SIM initiative. Indeed, several had

availed themselves of some SIM-supported endeavors, such as attending meetings put on by the Transformation Center. At the same time, external stakeholders expressed varying levels of engagement in transformation; they were also sometimes less sanguine about the success and viability of some of the state's transformation efforts.

**Engagement in transformation.** We heard widely divergent views on the extent to which external stakeholders were engaged in SIM transformation activities. Most commented that they were not involved in the SIM application process, and many, but certainly not all, have been only peripherally involved in the SIM Initiative. Indeed, one provider industry group representative stated having never seen a high-level schematic of what the state envisions under the Initiative. As mentioned earlier, this may be because the state has enveloped the SIM award in its overall health system transformation efforts, which are widely recognized among stakeholders, and has not publicized the SIM Initiative per se. Several also commented that some stakeholder groups are largely missing—including consumers, specialists, employers, and alternative providers (such as chiropractors and acupuncturists).

Several external stakeholders indicated that consumers need to be better engaged in the movement to CCM, and that the consumer advocacy community is less involved in the transformation effort than other types of stakeholders. They also reported that many consumers do not understand the medical home concept. One suggested that the Transformation Center could involve consumers in its learning collaboratives. As one stakeholder commented, the state needs “to focus on consumer education and engagement...People on the ground may not notice a difference from CCOs but without patients noticing a difference, how can CCOs improve user experience?” Consumer focus groups revealed mixed perceptions of the medical home model. Some reported noticing their providers were communicating more about their care, but others felt like “just a number” and that provider-to-provider communication was subject to delays.

**Transformation Center.** While external stakeholders were generally supportive of the Transformation Center, at least a couple were concerned that it is at risk of becoming too broad in scope and straying from its original mission. At the same time, others felt the Transformation Center has too narrowly focused its efforts on CCOs. Yet another felt that less money should go to the Transformation Center and more to the Patient-Centered Primary Care Institute to put “more money and boots on the ground to help practices.”

**Patient-Centered Primary Care Home Program.** Physician stakeholder groups reported that their members think PCPCH is a better model of care, and that they are engaged in clinical transformation. Stakeholders also acclaimed the success of the Patient-Centered Primary Care Institute in engaging a large number of practices. At least one stakeholder observed, however, that the number of certified practices would have been smaller had the state set a higher bar for certification, and that many certified practices have a lot of work to do to achieve true coordinated care.

While being engaged in changing how they practice, the focus groups indicated that providers may not recognize the SIM Initiative as a distinct effort. What CCOs are intended to do also did not resonate with at least one primary care provider: “I’m in a CCO, but I don’t know what that means.” Providers appeared on board with care coordination, but some noted that coordination presented high overhead costs, and that incentives for coordination were different for providers in large facilities than for independent practitioners.

Provider stakeholder groups also commented that the PCPCH movement has yet to thoroughly engage specialists. At present, “they are not part of [the] conversation,” primarily because much of the work to date has focused on primary care. The one exception to this was mental health providers, as there is movement to integrate these services with primary care. According to some stakeholders, the extent to which integration has taken place varies greatly across practices. Consequently, the notion of pushing the PCPCH model into a medical home “neighborhood” seems remote at this time. Indeed, consumers reported that communication between primary care providers and specialists needs improvement and that specialists and alternative providers are in general not as engaged in the transformation effort as are primary care providers.

**Integration of LTSS and CCOs.** Stakeholders indicated that the LTSS provider community is adamant about keeping LTSS services carved out from global budgets, believing that the current LTSS system in Oregon functions well. Diverse stakeholders—including nursing homes, Area Agencies on Aging, AARP, and the Service Employees International Union—were reportedly aligned in supporting carved-out LTSS services for Medicaid beneficiaries. One LTSS provider believed that shared savings between LTSS and the medical system would return disproportionately to the medical system. LTSS providers did voice support for greater coordination, however. They said LTSS providers offer a wealth of knowledge and experience around the social determinants of health and improved data sharing between medical and LTSS systems was greatly needed. One LTSS provider said it had been difficult to convince the medical system that LTSS providers are credible providers of care and should be allowed access to data. Others described themselves as the chief care coordinators and advocates for their patients.

**Spreading CCM to commercially insured.** A state official observed that employers were on board with CCM but business representatives were more cautious. They supported the state’s transformation activities and acknowledged that Oregon has been pushing toward integrated health care and global budgeting for years and these are “not new concept(s)”; but they believed that imposing a single approach on payers and insurers is not well founded. “What is important to Intel or Nike is different than what is important to the state.... There is no one-size-fits-all. The state can promote it, but I doubt commercial payers will ever go all-in.” Stakeholders also raised the issue about how the state will get self-insured employers to

participate in CCM, especially since they are outside many of the standard lines of state insurance regulation.

Another payer-related issue pertains to supporting PCPCH. Several stakeholders felt that the sustainability of PCPCH may depend on support from commercial payers—pointing out that in many cases commercial payers are benefiting from coordinated care without paying for it. The 2013 multi-payer summit on primary care resulted in an agreement by commercial payers to recognize PCPCHs, but external stakeholders observed that the language of the agreement did not specify how payers would fund PCPCH certification and reported not being satisfied with the language. One stakeholder said the agreement “had no teeth.” At the same time, another stakeholder described the multi-payer agreement as a major breakthrough.

While private employers voiced concern about some transformation activities, a PEBB stakeholder indicated that PEBB perceives itself as aligned with the state in pursuing the goals of the SIM Initiative, saying the Governor’s Office and OHA have generally worked well with PEBB. This stakeholder noted, however, that PEBB opposed the 4.4 percent expenditure cap for 2014 and a 3.4 percent cap in 2015 for health plan spending.

### **Quality of care**

In February 2014, Oregon reported early numbers showing that ER visits and spending among Medicaid members enrolled in CCOs went down compared to the period just before the new model was implemented. In addition, measures also indicated hospitalizations for persons with selected chronic conditions and all-cause hospital readmissions went down. Some state and external stakeholders noted that these have been the trends for a while, however, and that it is too early to ascertain what is driving the changes; they question, moreover, what the long-term impact on cost and quality will be.

### **7.2.5 Population health**

According to state officials, improving population health is the long-term goal of the CCM. They believe CCM eventually will enable them to “move” tobacco use and obesity rates but it will likely occur “more upstream” than the 3-year SIM window. That said, Oregon has undertaken several activities, such as funding four CCOs and local public health consortia under the SIM Community Prevention Program. Public health surveillance under the SIM Initiative will include fielding a Medicaid Behavioral Risk Factor Surveillance System in 2014, which will yield CCO-specific detailed information at the community level.

### **7.2.6 Successes, challenges, and lessons**

#### **Successes**

When asked about success of the SIM Initiative, most stakeholders said it helped the state jumpstart and scale its health system innovation efforts. Chief among accomplishments highlighted by the state officials was the launch of the Transformation Center. In less than a

year, the center hired staff, including innovator agents; convened four learning collaboratives; and launched other activities designed to facilitate collaboration among CCOs, providers, and payers. The center staff is particularly proud that it overcame the initial resistance of CCOs toward learning collaboratives, innovator agents, and the Transformation Center itself. Reportedly, CCOs are now appreciative of these learning opportunities and interested in more.

The PEBB health plan RFP process was also characterized as successful by state interviewees. It incorporated several major elements of the CCM and inquired what the bidders were doing to improve quality of care and population health, control costs, drive transformation, and move toward coordinated care approach in every market. Virtually all major carriers responded, including some CCOs and QHPs.

On the provider side, successes include more than half of Oregon primary care practices achieving PCPCH recognition as of December 2013, surpassing the state's projections. SIM funds have enhanced the scope and depth of technical assistance provided by the state. LTSS providers reported that, on the whole, the transformation process has helped build relationships between LTSS and the medical system—though the level of collaboration varies across CCOs and communities, and considerable skepticism remains about whether full alignment between the two systems can actually occur or even makes sense.

Finally, many non-government stakeholders praised state leadership, including the Governor and OHA, for skillfully managing the transformation process, keeping stakeholders well-informed and engaged, and providing clear direction and guidance. Some provider stakeholders, however, raised concerns that the state's vision may be too ambitious, and that the state lacks understanding of what it takes to transform the way medicine is practiced on the ground.

### **Challenges**

Oregon's SIM Initiative is a considerable undertaking, requiring buy-in and serious commitment and investment from many different stakeholders. Oregon has experienced much success to date, and most stakeholders are on balance optimistic about the activities the state is pursuing. That said, as is true in any endeavor of such scale, the state has encountered countless challenges, with more looming on the horizon.

**The state.** One issue that came up in almost every state official interview was what many identified as excessive grant reporting. Although the need for accountability of tax payer dollars is certainly well understood, many state officials felt the amount of reporting required by the Innovation Center is unnecessarily burdensome, non-innovative, and distracts from substantive transformation work. Some suggested that the lack of CMS' understanding of Oregon's SIM Initiative may contribute to frequent requests for information. One state official compared the relationship between CMS and OHA to that between OHA and CCOs. Just as

OHA must re-organize itself and adapt to the specific and changing realities of CCO work and have a “flexible handshake” with CCOs, CMS should also adapt and find new ways to allow OHA flexibility to do the work while maintaining accountability. Another stakeholder, however, noted that this type of pressure on state leadership, along with monetary levers, may help implement change where it otherwise may be difficult to do so.

Although OHA has made strides in bringing previously siloed programs together under a single state agency, vestiges of old organizational structures remain. One CCO representative, for example, told us that medical director meetings continue to be held separately for physical, mental, and dental health. Similarly, some rules and regulation have not been updated or revised to incorporate integrated care principles. Thus, work remains to break down these silos, starting at the state level and trickling down to the provider level.

Finding relevant technical assistance and resources supporting Oregon’s system-level (not clinic-level) transformation activities was also reported as challenging. Oregon officials reported that, to their knowledge, no other organization comparable to the Transformation Center in its system-level work exists in the country.

Alternative payments work has proved to be similarly challenging. Although Oregon succeeded in bringing all payers together last year, the resulting multi-payer agreement was characterized by many external stakeholders as limited. Both state and non-government stakeholders voiced concerns about bringing private payers and self-insured employer plans fully on board so the state’s effort can be sustained and broadened.

Other challenges state officials identified included alignment and standardization of metrics across all payers, data availability (particularly identifying comparison group to evaluate CCM effects) and possibly overcoming resistance from PEBB members toward CCM, including stigma that CCM is a Medicaid product.

**CCOs.** The pace of change, and the sheer amount of work involving changes in the operational processes and integration of behavioral and mental health, were identified as challenging by both CCO and provider stakeholders. One market observer noted that, although CCOs and providers are committed to clinical change, the ambitious schedule and lack of understanding at the state level of what is happening on the ground is fatiguing and frustrating for many. A CCO representative feared the energy devoted to building infrastructure, shouldering administrative burdens, and fulfilling reporting requirements had distracted from actually changing the delivery system. The influx of new members due to the expansion of the Medicaid program also posed an additional challenge for some CCOs already consumed by transformation work.

**Providers.** Practice transformation requires a major cultural change, not just from the physicians but from their staff. While primary care physicians generally approved of care



coordination, some reported struggling to implement the concept in practice. In particular, independent and small practice providers commented on the high overhead costs of hiring a referral coordinator. Indeed, some reported taking on referral coordination themselves. Coordination between labs and pharmacies was also identified as challenging. Many physicians described reporting on quality metrics as time-consuming and challenging, particularly because the indicators do not reflect patients' motivation to achieve better health. Provider associations also voiced concerns about being able to support the CCM without enhanced payments from all payers.

**Possible Future Challenges.** Looking ahead, state officials and delivery system stakeholders alike have long-term funding and sustainability of transformation on their minds. Buy-in from commercial payers and self-insured employers, and alignment with Medicare, are essential to continued spread of the CCM and ultimately achieving the SIM Initiative goals. To that end, according to many individuals we spoke with, it is crucial that CCOs show good results. Staff from the Transformation Center and the Patient-Centered Primary Care Institute also talked about developing sustainability plans and proving their value to all payers.

Staff from the Office of Health Analytics indicated that it may be challenging to evaluate the SIM outcomes and tease out which aspects of care coordination are the most effective in achieving desired results.

Some non-government stakeholders expressed a concern about how hospitals may be affected by CCM. Though CCOs in some communities have a close relationship with local hospitals, such collaboration is lacking in other communities. Some wondered if interventions and initiatives designed to reduce ER admissions and hospital visits could negatively impact hospital finances, particularly in those cases when hospitals do not have shared risk arrangements with CCOs. Potential hospital consolidation and closures could exacerbate access problems in rural areas.

### **Lessons**

According to state officials, Oregon pursued an aggressive communication strategy in engaging stakeholder groups throughout the planning and implementation periods. This approach, along with being able to demonstrate potential cost savings for the state and the overall health care system, has helped ensure continued engagement and support from stakeholders.

By focusing on system delivery, a state can affect its health care spending in a meaningful way over the long term.

One CCO representative told us the greatest wisdom of CCOs was to create the community dialogue around improving health, cost efficiency, and quality and access to care. While it certainly took considerable work to build trust and get the various players in a

community to sit at one table, this endeavor offered many lessons in relationship-building and aligning varied interests around one common goal.

Oregon also learned that large-scale health system transformation work requires a different approach; rather than acting in traditional roles of regulator and purchaser, the state needs to be a true partner and work collaboratively with CCOs and the delivery system on tackling problems and moving ahead. This wisdom can in turn be incorporated into grant and contracting arrangements. Innovation requires a flexible relationship between grantor and grantee and between the state and its contractors.

A state cannot undertake transformation by itself, nor can it sustain such an effort. Financial and non-financial support from other payers is essential.

A lesson emerging as Oregon negotiates the new PEBB contract is that the model of care should be tailored to the needs of the population. Because health needs of Medicaid beneficiaries are different from those of the state employees, for example, coordinated care approaches need to be flexible and easily adaptable across various populations.

### **7.3 Oregon Baseline Outcomes**

This section summarizes information on baseline outcomes for Oregon's insured population, including: (1) provider and payer participation, (2) populations reached, (3) care coordination, (4) quality of care, (5) health care utilization, and (6) health care expenditures. Data on the first two measures come from site visits and the Oregon SIM Initiative team's operational reports; the other measures are derived from claims data. Future reports will include claims-based measures for Medicaid, Medicare, and commercially insured populations. However, because Medicaid claims data were not available for this report, we present outcomes for only the commercially insured population represented in the MarketScan database and Medicare beneficiaries. The data are restricted to the fee-for-service population, and expenditure measures exclude patient cost-sharing. We present data for Oregon and its propensity score-adjusted comparison group, comprising data from three states: Washington, Colorado, and Michigan. We define the baseline period as 2010 to 2012. The graphs contain the weighted (by the eligibility fraction) average outcomes for the population included in the MarketScan and Medicare data for Oregon and the weighted (by the eligibility fraction and propensity score) average outcomes for the comparison group. All quarterly outcomes are calculated as 12-month rolling average. Appendix B provides more detailed specifications on the methods and measures.

#### **7.3.1 Provider and payer participation**

A key component to spreading the Coordinate Care Model of Oregon's SIM Initiative is increasing the number of clinics, group practices, and solo practitioners recognized as PCPCHs,

a program established in 2009. Physician stakeholder groups reported that their members think PCPCH is a better model of care, and that they are engaged in clinical transformation. Stakeholders also acclaimed the success of the Patient-Centered Primary Care Institute in engaging a large number of practices. A stated SIM Initiative goal was to increase the number of PCPCHs to 500 by 2015 and 600 by 2016. As of second quarter 2014, the state had already recognized 501 practices. However, even though almost all commercial payers in the state are party to the primary care multi-payer agreement, only one commercial insurer reported using PCPCH recognition in provider payment formulas in early March when we conducted the site visit. As one stakeholder commented, unless more payers begin to recognize PCPCHs, it will be difficult for providers to continue bearing the costs associated with the model.

We heard widely divergent views on the extent to which external stakeholders were engaged in other SIM Initiative transformation activities. Most commented that they were not involved in the SIM Initiative application process, and many, but certainly not all, have been only peripherally involved in the SIM Initiative. That said, stakeholders were universally aware of the state's transformation activities but did not know it as the SIM Initiative.

### 7.3.2 Populations reached

As the Oregon SIM Initiative spreads CCM beyond the Medicaid population currently served by CCOs, the state plans to focus first on the state employees covered by PEBB, then on public educators covered by the OEBC and persons who purchase QHPs in the state's marketplace. As mentioned above, about 900,000 Medicaid beneficiaries are already enrolled in CCOs. When the PEBB population is transitioned in January 2015, another 135,000 lives are expected to be enrolled, followed by an estimated 420,000 lives when OEBC and QHP enrollees are brought into the model. Eventually the state hopes that the CCM will spread to commercially insured populations and Medicare beneficiaries. By July 2016, it is Oregon's goal to have two million or more Oregonians receiving coordinated care. Eventually, the state aims to bring in commercially insured and Medicare-Medicaid enrollees. The state also plans to make improvements in care delivered to Medicaid beneficiaries by CCOs.

### 7.3.3 Care coordination

#### *Commercially Insured*

The percentage of acute inpatient discharges with a follow-up visit within 14 days among the commercially insured adult population in Oregon and its comparison group remained stable over the baseline period (*Table 7-1*). For Oregon, the number of visits to primary care providers per 100 members and the number of visits to specialists per 100 members both declined over the baseline period, whereas for the comparison group only visits to specialists declined from 2010 to 2012; primary care visits among the adult population increased. The declines in primary care and specialist visits were evident across all age groups in Oregon. Oregon had slightly higher rates of inpatient discharges that had a follow-up visit within 14 days and lower primary care and

specialist visit rates than the comparison group in all age groups, suggesting that care may have been slightly better coordinated in Oregon than in the comparison group prior to SIM testing.

**Table 7-1. Care coordination measures for the commercially insured population in MarketScan by age group, Oregon and comparison group**

Measure	Year	Overall	Infant	Child	Adult
<b>Percent of inpatient discharges that had a follow-up visit within 14 days for members 18 years and older</b>					
<b>Oregon</b>	<b>2010</b>	—	—	—	<b>35</b>
	<b>2011</b>	—	—	—	<b>36</b>
	<b>2012</b>	—	—	—	<b>36</b>
Comparison group	2010	—	—	—	33
	2011	—	—	—	33
	2012	—	—	—	33
<b>Number of visits to primary care providers per 100 members</b>					
<b>Oregon</b>	<b>2010</b>	<b>264</b>	<b>632</b>	<b>215</b>	<b>271</b>
	<b>2011</b>	<b>253</b>	<b>609</b>	<b>210</b>	<b>259</b>
	<b>2012</b>	<b>243</b>	<b>613</b>	<b>206</b>	<b>247</b>
Comparison group	2010	303	682	257	308
	2011	298	659	245	307
	2012	314	680	259	323
<b>Number of visits to specialists per 100 members</b>					
<b>Oregon</b>	<b>2010</b>	<b>206</b>	<b>63</b>	<b>92</b>	<b>248</b>
	<b>2011</b>	<b>193</b>	<b>61</b>	<b>89</b>	<b>231</b>
	<b>2012</b>	<b>188</b>	<b>60</b>	<b>88</b>	<b>225</b>
Comparison group	2010	225	84	108	271
	2011	221	78	103	264
	2012	205	72	97	243

### **Medicare**

For Oregon and the comparison group, the percentage of Medicare acute inpatient discharges with a follow-up visit within 14 days increased over the baseline period (**Table 7-2**). The number of visits to a primary care physician per 100 covered persons decreased by approximately 5 percent in Oregon but much less in the comparison group over the baseline period, while the number of visits to a specialist per 100 covered persons declined only slightly for both Oregon and the comparison group. For both Oregon and the comparison group, dual Medicare-Medicaid enrollees had a higher rate of visits to a primary care provider than other Medicare enrollees. In Oregon, Medicare-Medicaid enrollees had a lower rate of visits to specialists than other Medicare enrollees, while the comparison group’s visit rates were similar

for Medicare-Medicaid and other Medicare enrollees. The rate of follow-up after inpatient discharge was similar for Medicare-Medicaid and other Medicare enrollees (Table 7-2).

**Table 7-2. Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Oregon and comparison group**

Measure	Year	Overall	Medicare-Medicaid	Other Medicare
<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>				
<b>Oregon</b>	<b>2010</b>	<b>41</b>	<b>41</b>	<b>41</b>
	<b>2011</b>	<b>48</b>	<b>50</b>	<b>47</b>
	<b>2012</b>	<b>56</b>	<b>56</b>	<b>55</b>
Comparison group	2010	29	31	28
	2011	36	34	36
	2012	47	49	46
<b>Number of visits to primary care providers per 100 beneficiaries</b>				
<b>Oregon</b>	<b>2010</b>	<b>363</b>	<b>411</b>	<b>354</b>
	<b>2011</b>	<b>356</b>	<b>386</b>	<b>350</b>
	<b>2012</b>	<b>346</b>	<b>377</b>	<b>340</b>
Comparison group	2010	436	596	406
	2011	437	635	398
	2012	433	618	397
<b>Number of visits to specialists per 100 beneficiaries</b>				
<b>Oregon</b>	<b>2010</b>	<b>357</b>	<b>346</b>	<b>359</b>
	<b>2011</b>	<b>351</b>	<b>341</b>	<b>352</b>
	<b>2012</b>	<b>346</b>	<b>335</b>	<b>348</b>
Comparison group	2010	361	341	364
	2011	356	362	355
	2012	357	362	356

### 7.3.4 Quality of care

#### *Commercially insured*

**Table 7-3** presents the rates of hospitalization per 100,000 covered persons in the overall, acute, and chronic PQI composite measures. Oregon and its comparison group both experienced a drop in the overall and acute composite PQI measures. From 2010 to 2012, the overall composite for Oregon dropped from 310 to 270, and the acute composite dropped from 160 to 120. The corresponding measures in the comparison group fell from 490 to 420 in the overall composite and from 210 to 180 in the acute composite. In contrast, the chronic composite increased from 150 in 2010 to 160 in 2012 in Oregon, but declined from 290 to 240 in the

comparison group. In all three PQI composite measures and 3 baseline years, Oregon scored better than its comparison group.

**Table 7-3. Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Oregon and comparison states**

Measure	Commercially insured			Medicare		
	2010	2011	2012	2010	2011	2012
<b>Rates of hospitalization for composite AHRQ Prevention Quality Indicator (PQI) conditions</b>						
<b>Overall composite</b>						
<b>Oregon</b>	<b>310</b>	<b>300</b>	<b>270</b>	<b>1,600</b>	<b>1,580</b>	<b>1,510</b>
Comparison group	490	470	420	1,730	1,720	1,640
<b>Acute condition composite</b>						
<b>Oregon</b>	<b>160</b>	<b>140</b>	<b>120</b>	<b>800</b>	<b>800</b>	<b>740</b>
Comparison group	210	210	180	840	840	780
<b>Chronic condition composite</b>						
<b>Oregon</b>	<b>150</b>	<b>160</b>	<b>160</b>	<b>880</b>	<b>860</b>	<b>850</b>
Comparison group	290	270	240	990	970	940
<b>Percent of children who turned 15 months during the year and had 0 well-child visits during their first 15 months of life</b>						
<b>Oregon</b>	—	<b>4</b>	<b>5</b>	—	—	—
Comparison group <sup>a</sup>	—	4	5	—	—	—
<b>Percent of children who turned 15 months during the year who had 6 or more well-child visits during their first 15 months of life</b>						
<b>Oregon</b>	—	<b>54</b>	<b>50</b>	—	—	—
Comparison group	—	53	56	—	—	—

Note: AHRQ = Agency for Healthcare Research and Quality

<sup>a</sup> Due to the small sample size of children who turned 15 months in a given year, we were unable to apply propensity score weights to the comparison group for the well child visit measure. We report the unweighted values for the three comparison states combined.

In 2011 and 2012, approximately 5 percent of Oregon’s commercially insured children in the MarketScan database, who turned 15 months during the year and were continuously enrolled, had 0 well-child visits, and a little more than half had 6 or more well-child visits (*Table 7-3*). The numbers with 0 well-child visits were the same as those for the comparison group; but the fraction with more than 6 visits declined in Oregon, while it increased in the comparison group.

### Medicare

The PQI measures for the Medicare population are universally higher than for the commercially insured population and Oregon’s scores are all better than the comparison group’s score, with all improving over the baseline period (*Table 7-3*). The overall composite for Oregon

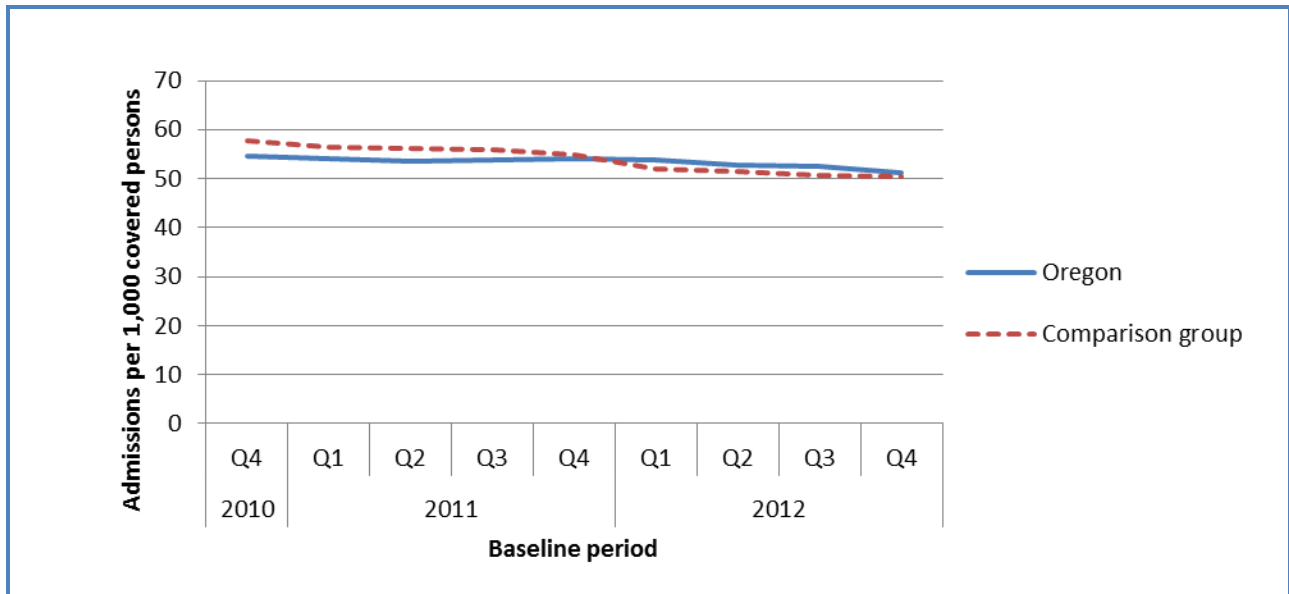
fell from 1,600 to 1,510 and from 1,730 to 1,640 for the comparison group. Similar patterns were seen in both the chronic and acute composite measures.

### 7.3.5 Utilization

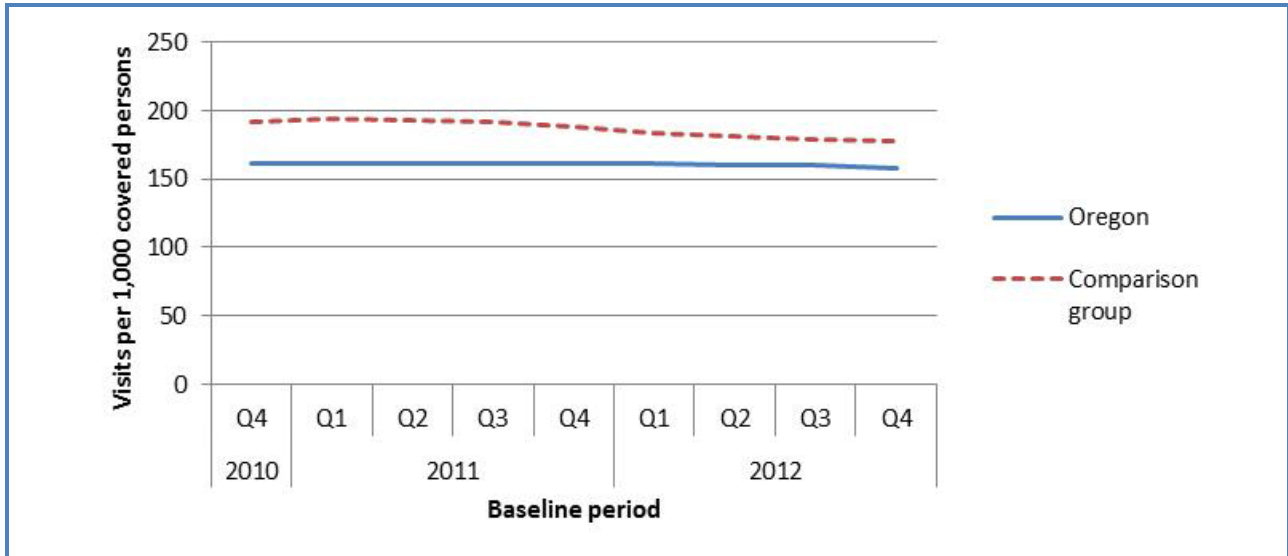
#### Commercially insured

For Oregon and the comparison group, the rate of all-cause inpatient hospital admissions per 1,000 covered persons decreased over the baseline period (*Figure 7-1*). The number of all-cause ER visits per 1,000 covered persons decreased only slightly over time for Oregon but fell noticeably for the comparison group (*Figure 7-2*). Similarly, the number of ER visits not leading to a hospitalization per 1,000 covered persons declined slightly for Oregon and more noticeably in the comparison group (*Figure 7-3*). The number of discharges leading to a hospital readmission within 30 days per 1,000 discharges increased for Oregon while fluctuating for the comparison states before ending the baseline period lower than it began (*Figure 7-4*).

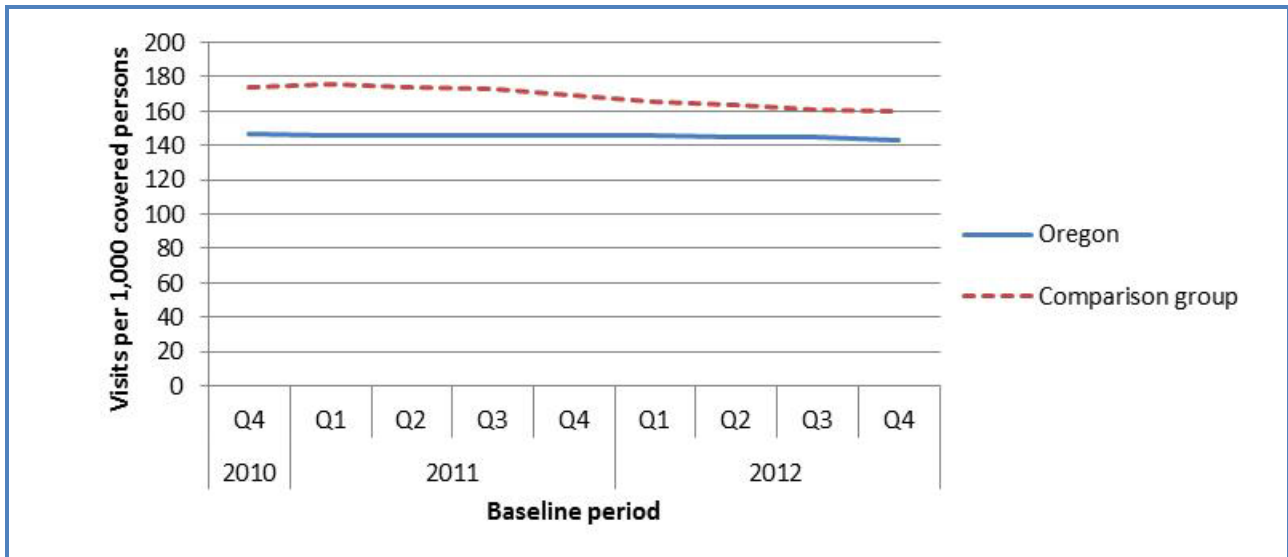
**Figure 7-1. All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Oregon and comparison group**



**Figure 7-2. All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Oregon and comparison group**

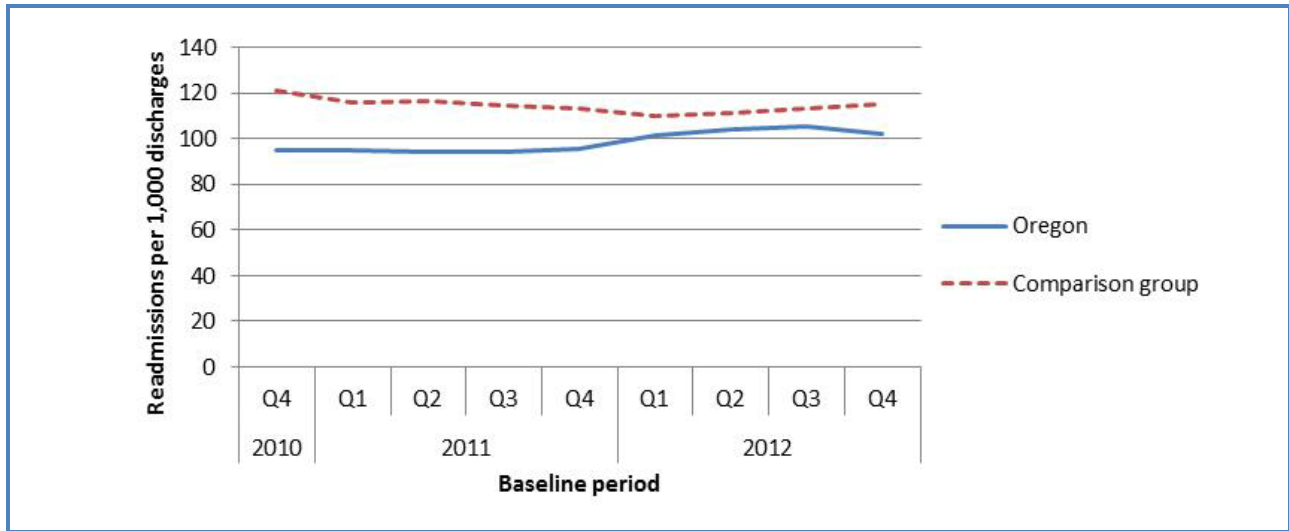


**Figure 7-3. Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Oregon and comparison group**





**Figure 7-4. Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Oregon and comparison group**



The declines in these high-cost services differed somewhat across age groups (*Table 7-4*). For Oregon, declines in ER use per 1,000 covered persons, both all-cause and those not leading to hospitalization, were concentrated among children over the baseline period; the rates for infants and adults held relatively steady. The reverse was true for all-cause hospital admissions. For the comparison group, declines over the baseline period were evident across all age groups. Levels of use were higher for the comparison group compared to Oregon in all measures in virtually all baseline years.

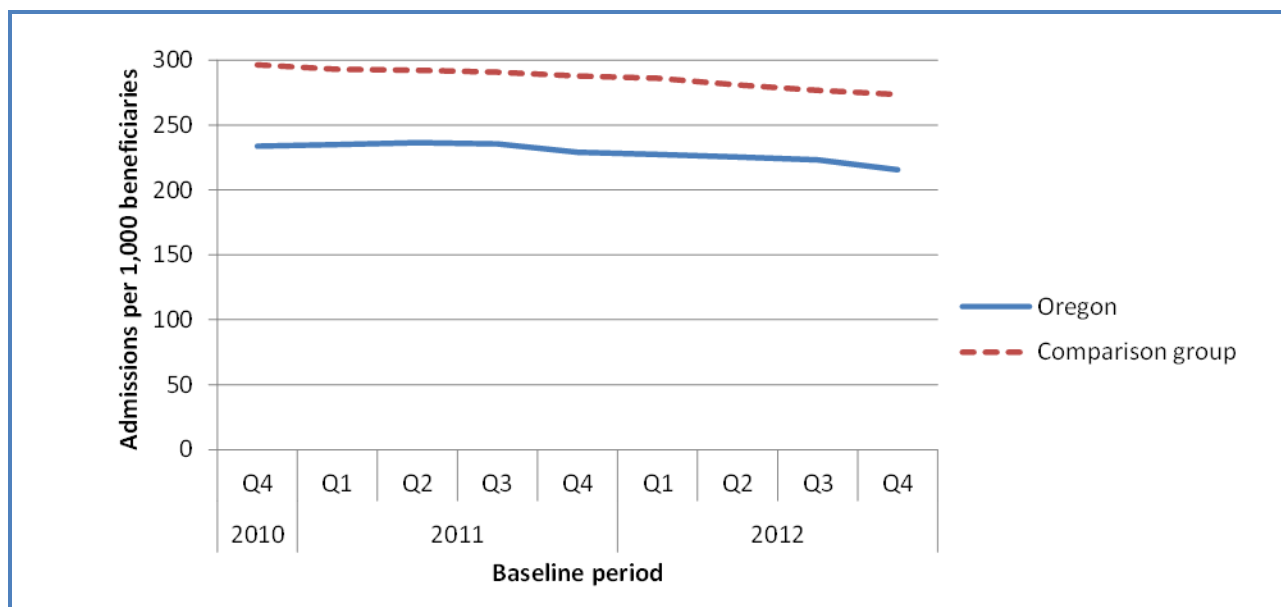
**Table 7-4. Utilization measures for the commercially insured population in MarketScan by age group, Oregon and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 members</b>									
Oregon	553	545	534	15	15	14	55	55	52
Comparison group	488	487	487	16	15	14	62	59	53
<b>All-cause emergency room visits per 1,000 members</b>									
Oregon	270	271	276	146	145	137	164	164	162
Comparison group	357	354	333	192	183	168	188	186	177
<b>Emergency room visits that did not lead to hospitalization per 1,000 members</b>									
Oregon	248	251	253	137	137	129	147	146	145
Comparison group	331	329	307	184	175	160	166	164	156

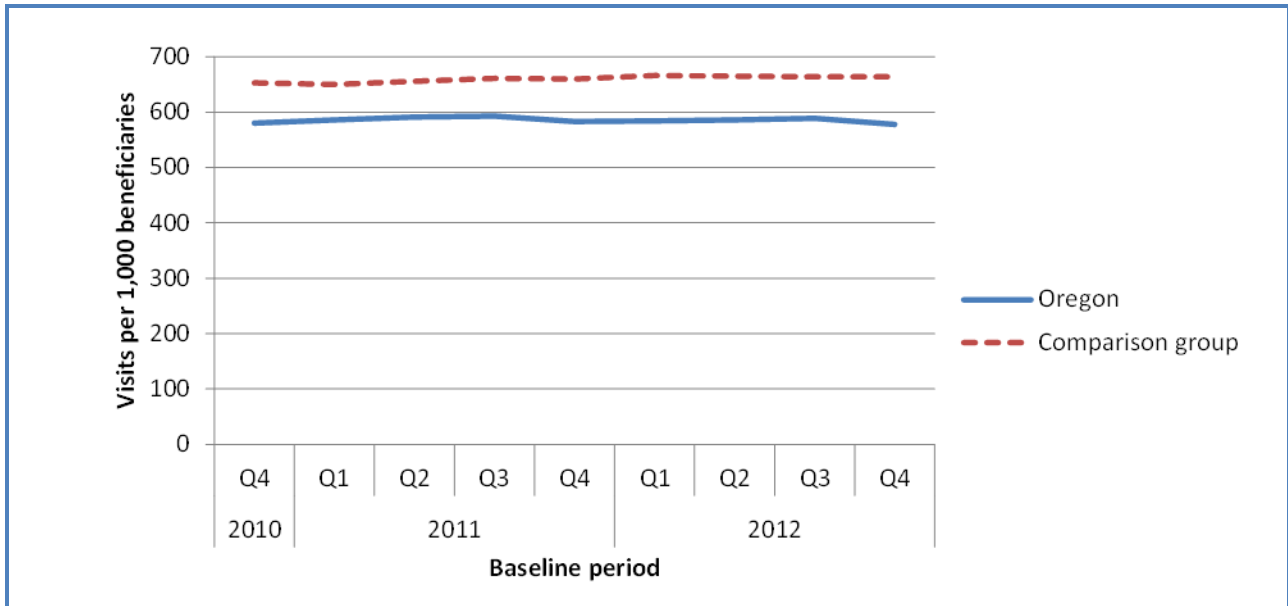
## Medicare

For Oregon and the comparison group, the rate of Medicare all-cause inpatient hospital admissions per 1,000 beneficiaries decreased over the baseline period (**Figure 7-5**). The number of all-cause ER visits was nearly unchanged for Oregon but increased somewhat for the comparison group (**Figure 7-6**). The number of ER visits not leading to a hospitalization per 1,000 beneficiaries increased slightly for Oregon, while increasing relatively more for the comparison group (**Figure 7-7**). The number of discharges leading to a hospital readmission within 30 days (per 1,000 discharges) showed no consistent time pattern for either Oregon or the comparison group (**Figure 7-8**). Trends in the hospital admission and readmission rates per 1,000 beneficiaries over the baseline period were similar for both dual Medicare-Medicaid enrollees and other Medicare enrollees (**Table 7-5**). In contrast to other Medicare enrollees, Medicare-Medicaid enrollees experienced a decline in the rates of all-cause ER visits and ER visits leading to hospitalization. For the comparison group, the rates were uniformly higher than for Oregon, although the trends differed occasionally.

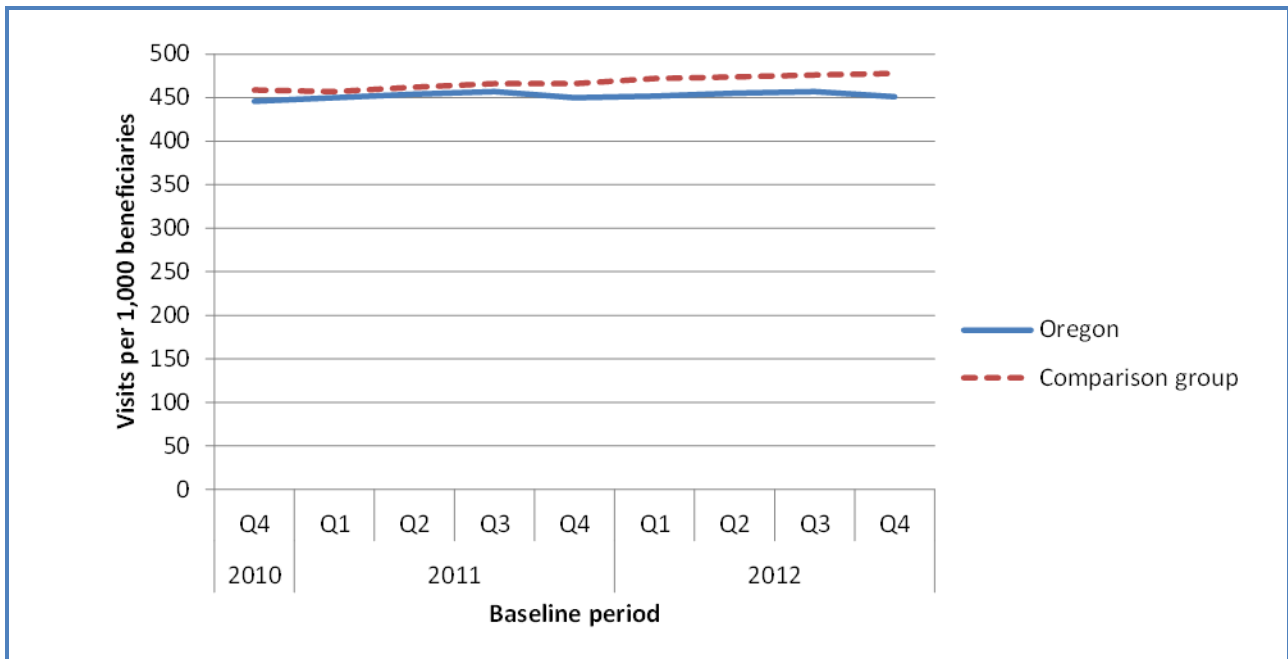
**Figure 7-5. All-cause hospital admissions per 1,000 Medicare beneficiaries, Oregon and comparison group**



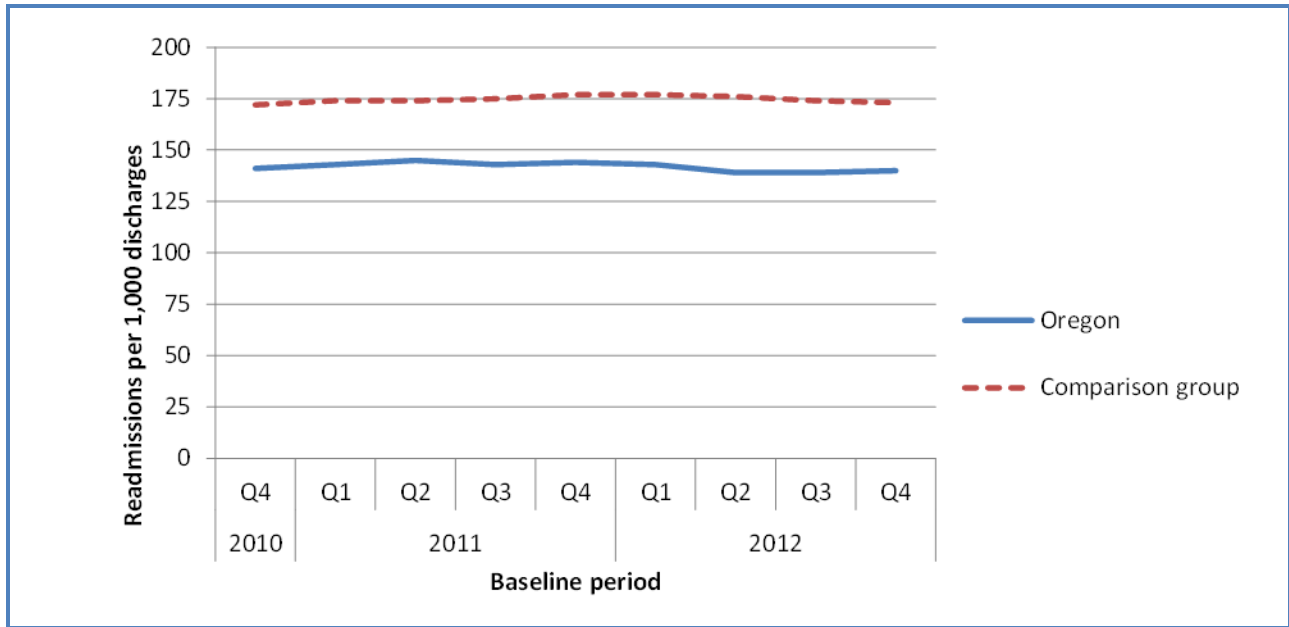
**Figure 7-6. All-cause emergency room visits per 1,000 Medicare beneficiaries, Oregon and comparison group**



**Figure 7-7. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Oregon and comparison group**



**Figure 7-8. Readmissions per 1,000 discharges for Medicare beneficiaries, Oregon and comparison group**



**Table 7-5. Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Oregon and comparison group**

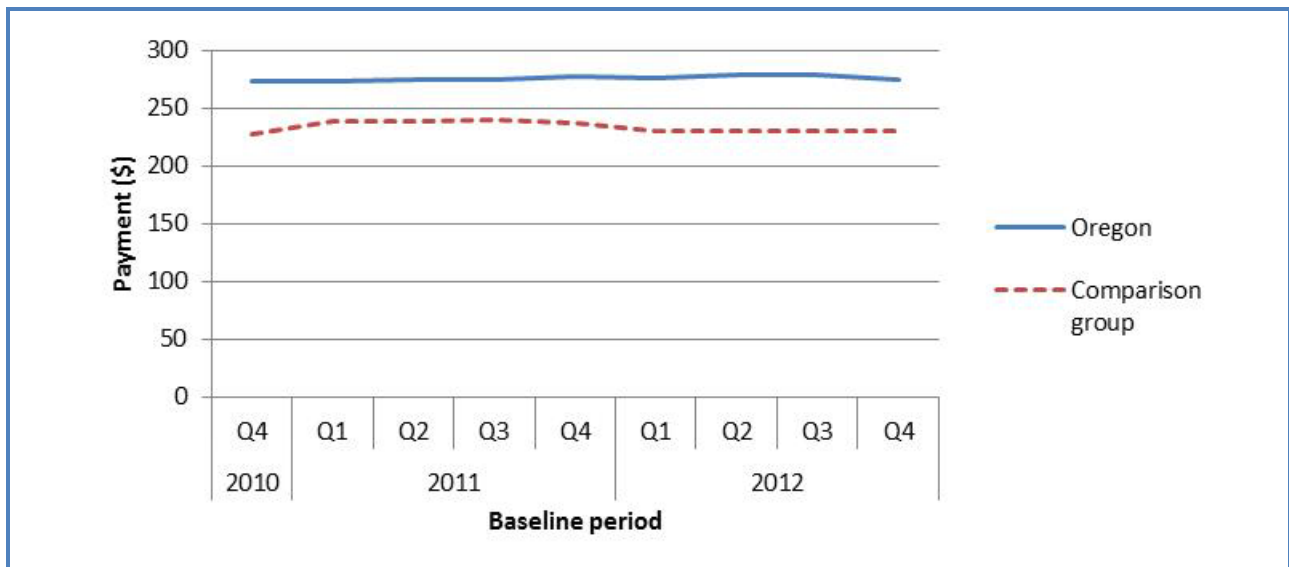
Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 beneficiaries</b>						
<b>Oregon</b>	<b>354</b>	<b>332</b>	<b>308</b>	<b>211</b>	<b>209</b>	<b>197</b>
Comparison group	411	405	385	274	265	251
<b>All-cause emergency room visits per 1,000 beneficiaries</b>						
<b>Oregon</b>	<b>1,206</b>	<b>1,177</b>	<b>1,130</b>	<b>462</b>	<b>469</b>	<b>469</b>
Comparison group	1,307	1,307	1,317	527	534	535
<b>Emergency room visits that did not lead to hospitalization per 1,000 beneficiaries</b>						
<b>Oregon</b>	<b>968</b>	<b>953</b>	<b>922</b>	<b>347</b>	<b>354</b>	<b>358</b>
Comparison group	1,007	1,004	1,026	353	362	369
<b>Readmissions per 1,000 discharges</b>						
<b>Oregon</b>	<b>178</b>	<b>186</b>	<b>180</b>	<b>128</b>	<b>131</b>	<b>127</b>
Comparison group	208	214	206	161	165	161

### 7.3.6 Expenditures

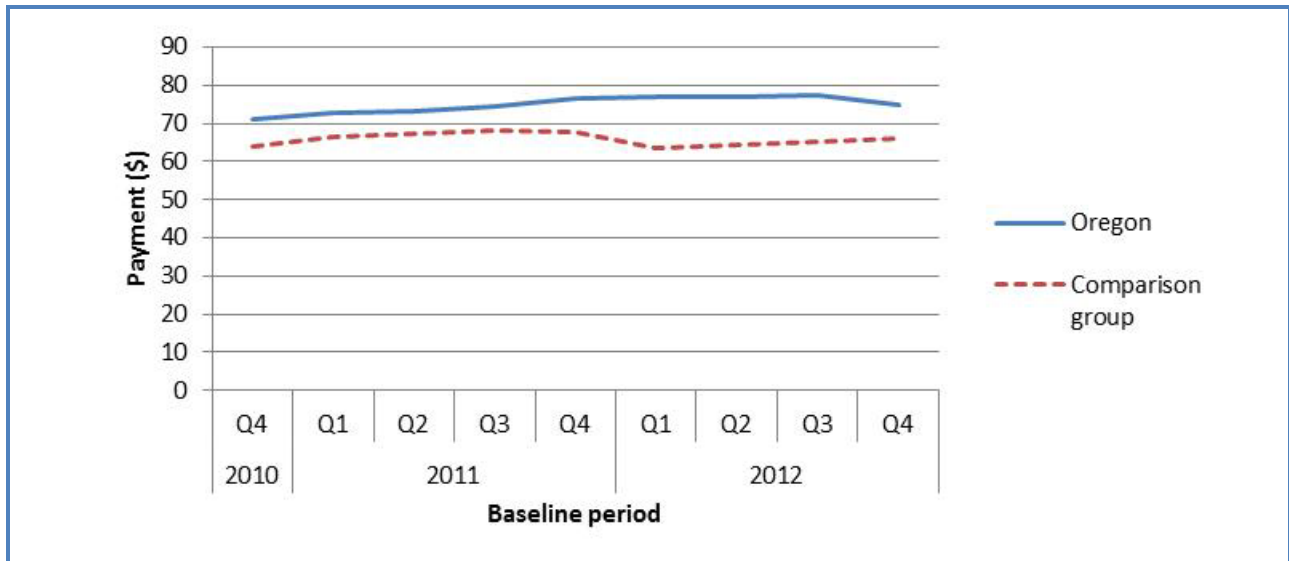
#### Commercially insured

Total PMPM payments were essentially unchanged over the baseline period for Oregon and declined slightly for the comparison group (*Figure 7-9*). Except for outpatient pharmacy expenditures, Oregon's total payments were consistently higher than the comparison group for all baseline quarters in each category of spending. Inpatient hospital facility payments for Oregon increased, slightly from \$71 PMPM in fourth quarter 2010 to \$75 PMPM in fourth quarter 2012, and increased even less for the comparison group, from \$64 PMPM to \$66 PMPM (*Figure 7-10*). Oregon's payments to other facilities increased by approximately \$3 PMPM, compared to a \$2 PMPM increase for the comparison group (*Figure 7-11*). Professional payments declined slightly for both Oregon and the comparison group (*Figure 7-12*). Outpatient prescription payments were unchanged for Oregon and declined slightly for the comparison group over time (*Figure 7-13*).

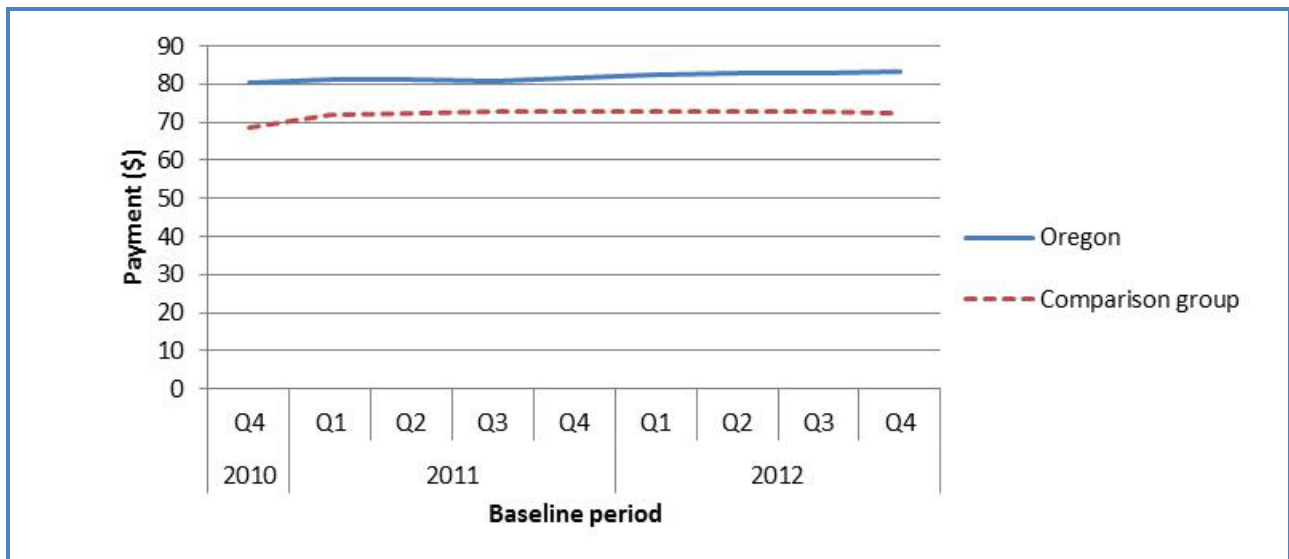
**Figure 7-9. Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group**



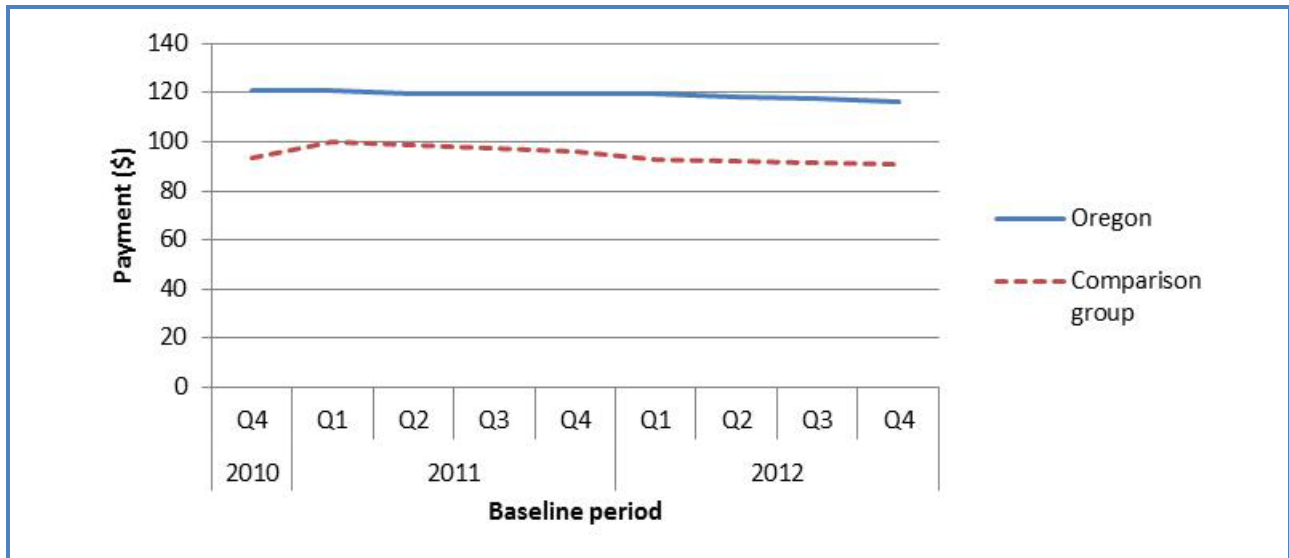
**Figure 7-10. Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group**



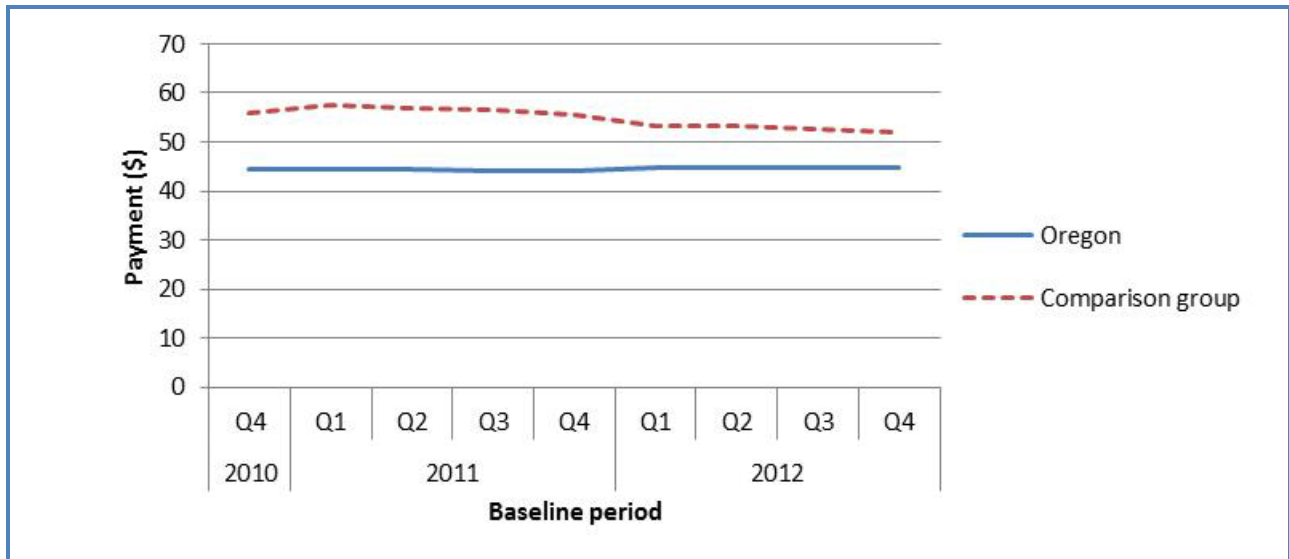
**Figure 7-11. Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group**



**Figure 7-12. Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group**



**Figure 7-13. Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Oregon and comparison group**



Total payments for infants increased substantially over the baseline period for both Oregon and the comparison group (*Table 7-6*). For Oregon, average PMPM payments for infants rose from \$567 in 2010 to \$600 in 2012; for the comparison group, they rose from \$550 to \$625. The increase in total payments was driven by increases in both inpatient facility and professional provider payments.

**Table 7-6. Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Oregon and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Total<sup>a,b</sup></b>									
<b>Oregon</b>	<b>567</b>	<b>588</b>	<b>600</b>	<b>103</b>	<b>109</b>	<b>108</b>	<b>324</b>	<b>327</b>	<b>322</b>
Comparison group	550	621	625	92	100	97	267	274	264
<b>Inpatient facility</b>									
<b>Oregon</b>	<b>294</b>	<b>316</b>	<b>330</b>	<b>19</b>	<b>22</b>	<b>23</b>	<b>83</b>	<b>89</b>	<b>86</b>
Comparison group	285	341	349	19	21	20	75	77	75
<b>Other facility</b>									
<b>Oregon</b>	<b>42</b>	<b>41</b>	<b>40</b>	<b>28</b>	<b>30</b>	<b>29</b>	<b>99</b>	<b>100</b>	<b>102</b>
Comparison group	44	48	48	27	30	30	84	88	86
<b>Professional</b>									
<b>Oregon</b>	<b>225</b>	<b>235</b>	<b>243</b>	<b>55</b>	<b>57</b>	<b>56</b>	<b>141</b>	<b>138</b>	<b>134</b>
Comparison group	199	218	215	46	48	46	108	109	103
<b>Outpatient prescription<sup>c</sup></b>									
<b>Oregon</b>	<b>9</b>	<b>7</b>	<b>7</b>	<b>14</b>	<b>16</b>	<b>17</b>	<b>56</b>	<b>54</b>	<b>55</b>
Comparison group	11	9	7	20	21	19	69	68	63

<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

<sup>b</sup> The inpatient, other facility, and professional component expenditures do not add up exactly to the total expenditures because the inpatient component expenditure value does not include inpatient payments included in the outpatient MarketScan table, but the total expenditure value includes all payments.

<sup>c</sup> Denominator only includes members with drug claims captured in MarketScan.

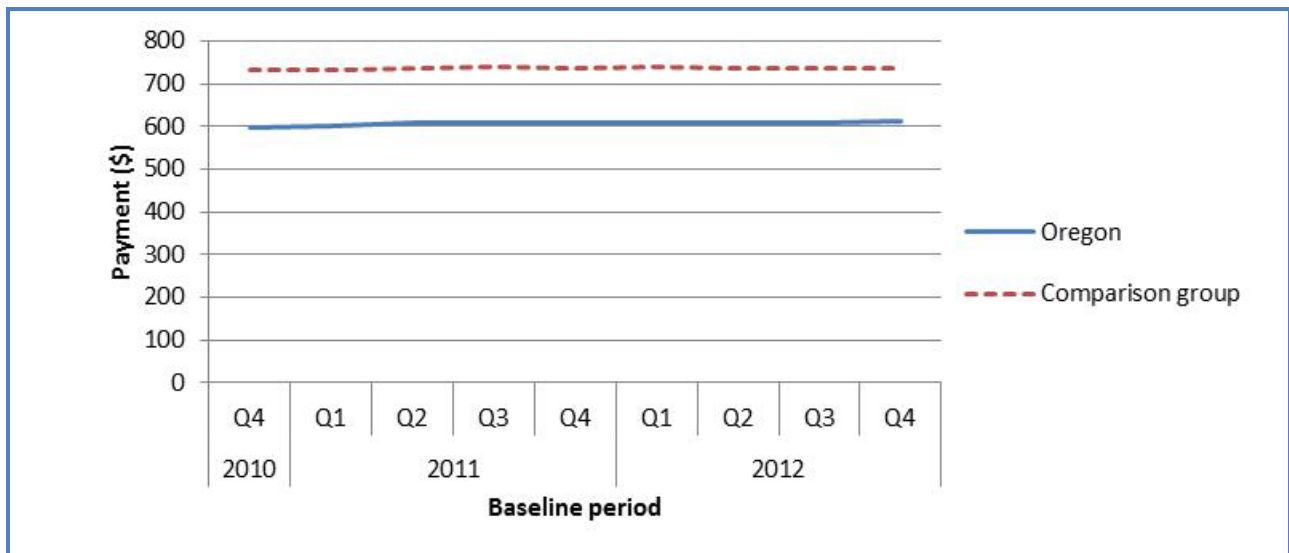
### Medicare

Oregon's Medicare PMPM payments in each category were consistently lower than for the comparison group for all baseline quarters. Total payments increased very slightly (approximately 2 percent in eight quarters) over the baseline period for Oregon, while the comparison group experienced no consistent change over time (*Figure 7-14*). Inpatient hospital facility payments for Oregon were essentially unchanged from fourth quarter 2010 to fourth quarter 2012, while falling slightly for the comparison group (*Figure 7-15*). During the baseline period, Oregon's payments to facilities for other facility care increased by approximately \$12 PMPM (6 percent), growing slightly faster than those for the comparison group (*Figure 7-16*).

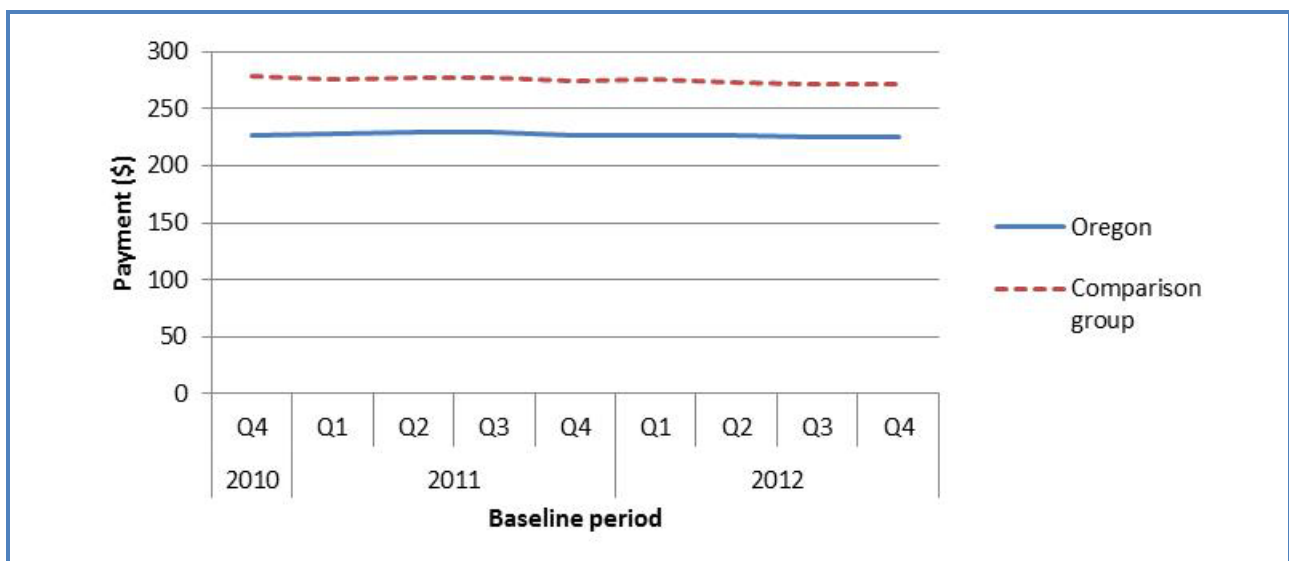


Professional payments grew very slightly for Oregon and the comparison group (*Figure 7-17*). Total PMPM spending for Oregon decreased among dual Medicare-Medicaid enrollees while increasing among other Medicare enrollees (*Table 7-7*). For the comparison states, spending was flat in both groups.

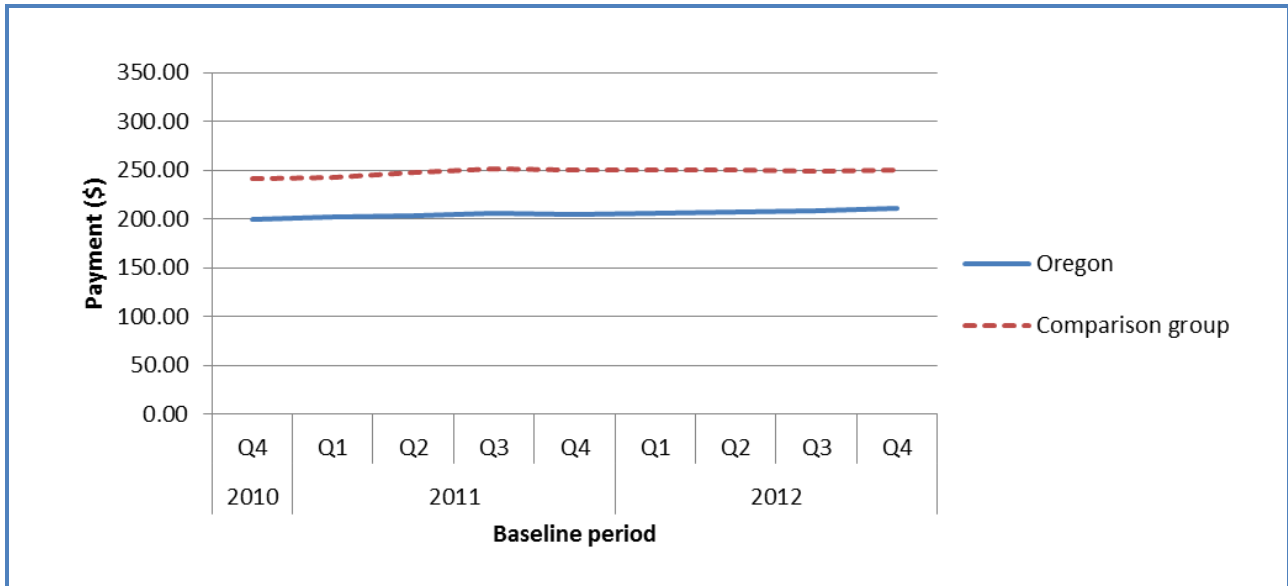
**Figure 7-14. Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group**



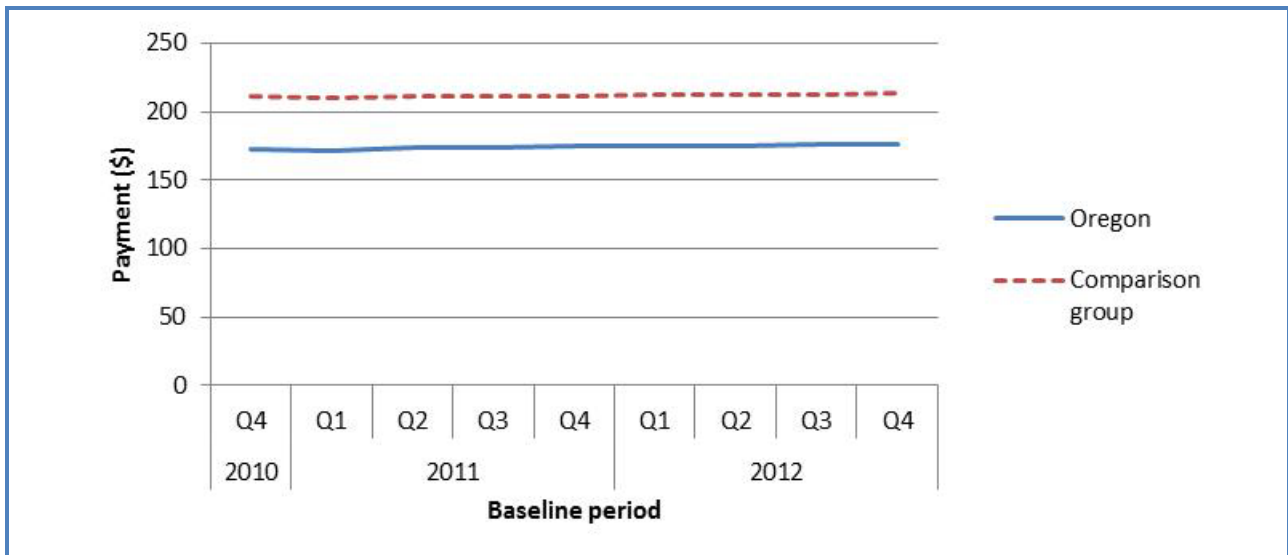
**Figure 7-15. Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group**



**Figure 7-16. Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group**



**Figure 7-17. Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Oregon and comparison group**



**Table 7-7. Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Oregon and comparison group**

Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Total</b>						
<b>Oregon</b>	<b>881</b>	<b>839</b>	<b>833</b>	<b>544</b>	<b>564</b>	<b>568</b>
Comparison group	993	1,006	1,006	682	684	683
<b>Inpatient facility</b>						
<b>Oregon</b>	<b>354</b>	<b>339</b>	<b>338</b>	<b>202</b>	<b>206</b>	<b>202</b>
Comparison group	398	397	393	256	251	248
<b>Other facility</b>						
<b>Oregon</b>	<b>320</b>	<b>298</b>	<b>298</b>	<b>176</b>	<b>187</b>	<b>194</b>
Comparison group	349	363	362	221	228	229
<b>Professional</b>						
<b>Oregon</b>	<b>207</b>	<b>202</b>	<b>196</b>	<b>166</b>	<b>170</b>	<b>172</b>
Comparison group	247	246	251	205	205	207

## 7.4 Oregon Synthesis

Oregon’s SIM Initiative plans to spread CCM to populations beyond Medicaid enrollees in CCOs—first to state employees and their families, then to enrollees in QHPs and educators. Oregon’s expectation is that once providers serving these populations have transformed their care delivery, CCM’s reach will be sufficient to tip the delivery system and ensure a preponderance of the state’s population will be cared for under the model.

The state has made progress on several SIM Initiative goals it set, including creating the Transformation Center, expanding the state’s data analytic capacity, recognizing more than 500 clinics and physician practices as PCPCHs, and including CCM elements in the new health plans offered to state employees beginning with the 2014 fall open enrollment. However, the state’s difficulties in rolling out the Cover Oregon Marketplace and other Affordable Care Act implementation activities may have distracted staff in OHA and delayed meeting of some the state’s SIM milestones—such as the administrative alignment of Medicare and Medicaid for dual Medicare-Medicaid enrollees enrolled in CCOS.

SIM efforts enjoy the strong support and involvement of the Governor; and while many stakeholders do not understand the role of the SIM Initiative, they are largely supportive of and engaged in the state’s health care transformation activities. One area where stakeholders have been resistant to the state’s transformation goals is the integration of LTSS with physical health.

It remains to be seen how successful LTSS innovator agents will be in producing coordination between LTSS and physical health care providers in the absence of full integration. Oregon's prospects for success are heightened by the fact that a large share of the state's insurance coverage is administered by OHA. But once SIM efforts to spread the model push beyond those boundaries into the private employer-based plans, new challenges are likely.

## 8. Vermont

### 8.1 Overview of Vermont Model

Vermont's SIM Initiative aims to improve care, improve population health, and reduce health care costs. Vermont will do so by (1) expanding payment and delivery system reform activities that have been ongoing for more than two decades within the state and (2) using SIM Initiative funds to strengthen its infrastructure to support implementation, coordination, and evaluation of the proposed payment and delivery system reforms.

Vermont's SIM Initiative focuses on three main areas: payment models, care models, and health information technology (health IT). The state plans to test three payment models: shared savings accountable care organizations (ACOs), episodes of care, and Medicaid pay for performance. State officials will promote care models that are more patient centered and offer a wider array of services, including linkages to a network of community health and social resources. The major element of the proposed care models is continued expansion of Vermont's nationally recognized Blueprint for Health initiative through enhanced practice facilitation and learning collaboratives. This initiative is funded in part by the Multi-Payer Advanced Primary Care Practice (MAPCP) Demonstration. Statewide adoption of electronic health records (EHRs) and expansion of practice and hospital connectivity to the Vermont health information exchange (HIE) and central registry will be instrumental in establishing a fully integrated learning health system. SIM Initiative funds will be used to improve clinical and claims data transmission, integration, analytics, and predictive modeling.

Other activities envisioned within the SIM Initiative include expanding data collection of patient experiences, improving capacity to measure and address health care workforce needs, enhancing Vermonters' understanding and active management of their own health, and investing in enhanced telemedicine and home monitoring capabilities.

### 8.2 Vermont Site Visit and Focus Group Report

#### 8.2.1 Overview of site visit and focus groups

The Vermont site visit team conducted the first round of in-person site visit interviews during the 3-day period from January 21 to January 23, 2014. The team visited Burlington and Williston in the northwest, and Montpelier and Randolph in central Vermont. The purpose of the site visit was to clarify the state's key approaches and strategies for delivery system transformation and to gain a better understanding of stakeholders' planning and implementation experiences during the first year of the SIM Initiative. The site visit team conducted a total of 18 interviews with state officials (7), health care providers (2), health plans (3), consumer organizations (3), and provider associations (3). Key topics included perspectives on SIM activities and implementation, governance and project administration, stakeholder participation,

specifics of care coordination and population health activities, health IT, and successes and challenges to date.

A total of five focus groups were held in Vermont on August 5 and 6, 2014. Three were with providers—two in Burlington and one in Montpelier— with a total of 26 providers associated with either the Accountable Care of the Green Mountains ACO, FQHC ACO, or OneCare ACO. Participants included solo practitioners, physicians in small/medium private practices, and physicians and nurse practitioners working at large hospitals or health centers. Additionally, we conducted two consumer focus groups in Burlington with a total of 12 Medicaid beneficiaries—the first with dual Medicare-Medicaid enrollees and the second with Medicaid enrollees.

## **8.2.2 Delivery system and payment models**

### ***Governance and project administration***

The Governor Peter Shumlin assigned the Department of Vermont Health Access (DVHA) to be the applicant and lead agency for the SIM Initiative. The Green Mountain Care Board (GMCB), an independent state agency, shares SIM staff responsibilities.

The SIM Initiative’s public and private governance structure includes three structural parts: the core team, the steering committee, and seven work groups (Payment Models, Care Models and Care Management, Health Information Exchange, Health Care Workforce, Disability and Long Term Services and Supports, Quality and Performance Measures, and Population Health). The Governor and his health reform leaders are closely involved and meet monthly with the core team and periodically with the steering committee. The Governor’s Office is also represented on work groups.

The steering committee meets monthly to direct the work of the project. Private sector stakeholders are included at every level of governance and in decision-making roles. The seven project work groups are co-chaired by private sector stakeholders with staff support from the state. At least one co-chair from each work group is included on the steering committee. The work groups are charged with developing recommendations for review by the steering committee and ultimately the core team. Each work group has developed a charter and a work plan. DVHA and GMCB staff the work groups and work with co-chairs to keep the project moving forward.

Stakeholder interviewees agreed the governance structure provides for a high level of involvement and engagement by a broad spectrum of stakeholders. However, several raised concern about duplication of function created through the various levels of governance. Some private sector stakeholders were discontented with the level of funding supporting government positions and consultants in relation to funding available for providers and initiatives. One stakeholder believed the steering committee is an expendable layer of governance, though acknowledging that it provides an opportunity to vet ideas that come from the work groups.

According to one stakeholder, work groups have less need for politicking with the steering committee as an intermediary. But according to another, the work group structure is overly cumbersome. The work groups and steering committee are only advisory to the core team, which makes the final decisions.

### *Care coordination, care management, and primary care strategies*

**Integrated system for care coordination.** Many interviewees said care coordination is the most important strategy for improving health care delivery in Vermont and an essential goal for the SIM Initiative. Some specifically said care needs to be reoriented around patient needs rather than around what physicians do. As the functioning of the Blueprint for Health under the SIM Initiative evolves, many interviewees said the state needs to determine how care coordination and case management should be implemented. One interviewee offered an example of why this is important: some individuals discharged from a hospital may be contacted by several parties—the hospital, in part because hospitals are now incentivized to prevent readmissions; a Blueprint case manager (if their primary care physicians are part of the Blueprint); and also, if they are insured by one of the health plans, a possible phone call from that health plan.

**Effectiveness of the Community Health Teams.** The Blueprint for Health is building on the ability of medical homes to respond to specific needs of Vermonters through the Community Health Teams, of which Medicare is funding a percentage of their costs through the MAPCP Demonstration. Some respondents thought Vermont did not have data to show the Community Health Teams add value in terms of demonstrating improved health outcomes. They described how the Community Health Team model is implemented differently across the state, and said the inconsistency leads to uncertainty about what components, if any, are effective and worthy of replication. According to these interviewees, some practices and patients benefit because the practices have additional people available to work with patients—social workers, dietary and health coaches, and care managers, for instance; and these kinds of staff members are beneficial in a practice because they provide services that are not reimbursable. They noted, however, that it is too soon to put money into the Community Health Teams on a permanent basis, and that Vermont should consider other models.

**Care coordination and health information technology.** Everyone interviewed agreed that a robust and user-friendly health information system is intertwined with the ability to improve care coordination for Vermonters. Vermont's HIE currently requires consumers to sign a consent form and opt-in separately for each provider. This is burdensome and limits the level of participation in the HIE, and thus its usefulness. The opt-in requirement is established by rulemaking and is not set in the enabling legislation, and the consensus among all interviewed was that the rule should change to a process whereby individuals opt-in once to allow their

medical records to be shared by all participating providers.<sup>9</sup> Several thought Vermont needed a system to notify providers about transitions of care and that this should be the first priority. The second priority is to improve the reporting of data from medical records and EHRs to a central registry. The commercial ACO in Vermont is working with Vermont Information Technology Leaders (VITL) to do all this. One ACO is using its own health IT infrastructure, and how that interfaces with DocSite or other clinical registries is not yet determined.

**Provider engagement with care coordination.** Many of the physician practices, whether part of an ACO or not, expressed a strong preference for supporting practice-based case management. One provider noted that it is a good idea to have mental health specialists, social workers, and others available in the practice settings, but having them all work separately is not a coordinated system. In this provider’s practice, the clinical care coordinator performs many duties—diabetes management, smoking cessation, obesity counseling—and these functions are, according to this provider, important aspects of integrated community services. Another provider said coordinated care is really just a referral service, and the SIM Initiative offers an opportunity to develop a better system of care coordination. One interviewee thought that, in some areas, practices are not incorporating the Community Health Teams sufficiently. In Chittenden County, for example, the interviewee said the Community Health Teams operate too independently of the practices and are rarely onsite at the practices.

Staffing was mentioned by many providers as one of the main investments their practices had made to implement care coordination. Overall, this strategy was viewed as very successful, but a few providers talked about having difficulty integrating mental health care into primary practices. Providers described different staffing models—some had dedicated care coordinators, while others brought on a variety of staff (including nurses, social workers, and health coaches). Many providers said having these staff onsite was more effective than providing outside referrals.

EHRs were the other main care coordination strategy mentioned by providers in the focus groups. Many found EHRs to be useful, even “crucial” for good communication. Some providers described using EHRs to document care and communicate with other providers. However, many other providers pointed out problems with EHRs—for example, several participants said EHRs often contain too much “useless” information. A few providers talked about “copy and pasted” records that could be up to 20 pages for one visit. In order to be useful, providers said the information being put into the records needs to be managed and someone needs to take primary responsibility for cleaning up a record. Some also noted problems with EHRs that are not compatible across care sites.

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<sup>9</sup> Since these interviews, Vermont has approved a global opt-in to address that issue.



Providers were also concerned with the impact EHRs have on patients and talked about having patients complained that providers were typing while talking to them. Some providers agreed that having a computer in the room can affect the doctor/patient relationship. As one provider described, “It is literally putting a barrier between you.” Another provider said using a computer can mean missing non-verbal communication. Some providers deal with this by having a scribe in the room or entering notes later.

**Care coordination and ACOs.** Interviewees representing ACOs believed that ACOs should own and manage the care coordination and care management for their patients, especially since they are being measured against certain quality metrics. One interviewee noted that, while ACOs are a central part of the Vermont SIM Initiative, they are a long way from implementing truly coordinated care; if the ACO model is going to work as envisioned, they will need to establish all component pieces (mental health, long-term care, care transitions, disease management, among others). Some said ACOs will be the best organization to provide coordination of care for patients as they move through different practice settings, in part because all the different practice settings will be part of the ACO.

ACOs hope to improve the care coordination the Blueprint has been working toward by having care managers embedded in practices and by using robust data systems. One ACO executive said the Blueprint tried to do this, but the Community Health Team-based model is in the community and is not sufficiently embedded in practices. One ACO interviewee explained that the ACO has 28 different EHRs feeding into its system, which can make it challenging to coordinate or manage care. Since ACOs are new, some interviewees noted, they are still developing ways to deliver more coordinated care. One ACO has a clinical advisory board working with it to develop protocols for care coordination.

**Status of the Blueprint for Health in the financial models.** Clearly the largest issue for the Vermont SIM Initiative is determining the role of the Blueprint for Health as the ACO payment models move forward. One respondent, not closely affiliated with either the Blueprint or an ACO, reported that there is confusion around how the Blueprint will interact with the ACO structure and that clear roles have yet to be delineated; both groups are interested in owning the care management and population health aspects of patient care. Some respondents think the Blueprint should continue as the central case-management model. ACO interviewees all said the case management and care coordination services should be implemented and owned by the ACOs, because they have responsibility for managing patients who need improved care coordination and they are at financial risk for these patients.

Some important considerations emerged. First, the Blueprint is, according to some, implemented differently in different parts of the state and is not a consistent care model; as such, it is neither a proven model nor necessarily the best model to adopt or expand under the SIM Initiative. These respondents do not support expansion or continuation of the Blueprint in its

current form solely because of its preexisting status and continuation under the MAPCP Demonstration. Supporters of the Blueprint think that it should continue because of the promising results they believe are being achieved by the model under the MAPCP Demonstration, and that Vermont should build on the successes of the model rather than undo what it has implemented successfully in recent years.

**Coordination of care.** The best system for achieving high-quality care coordination, case management, care transitions, and follow-up services under the SIM Initiative has yet to be determined, according to most who commented on care coordination. The Care Models work group is looking at all the different care models, including the Support and Services at Home Program, the Blueprint, and the ACOs. This work group is trying to figure out how to align across different systems to avoid patients having three different care managers. In addition, some interviewees reported that care coordination in Vermont is challenging for smaller practices not able to share resources and staff members the way larger practices can. Another said telemedicine could help with this. Yet another noted that the SIM Initiative provides an opportunity to get hospitals involved in the care coordination realm, whereas the Blueprint did not do so.

The majority of Medicaid beneficiaries in the focus groups reported they were happy with the care they receive and had a good relationship with their doctors. Those who were happy with their providers reported things like having good communication and feeling like the provider takes time to focus on them. Those not happy with their provider talked about feeling like the practice was too focused on getting a large number of patients in and out and seemed more focused on billable time. In most cases, beneficiaries said that if they needed to see a specialist their primary care provider made the referral. Then, either they would be contacted by the specialist to schedule an appointment or the appointment would be made for them by their primary care provider.

Beneficiaries had mixed responses when asked about getting care when they are sick. Some reported having no trouble getting an appointment quickly, while others said they often end up spending a long time in the waiting room if they want to get seen on the same day. The majority said their doctors know and remember the medications they are taking and/or have access to the list in their computer system. Only a small number said they had been to the emergency room recently, and none had been hospitalized. Those who had been to the ER reported that information seemed to flow well from the ER to their primary doctor, but not the other way around (i.e., the ER did not have access to their primary care provider records).

A couple of beneficiaries expressed negative feelings about the use of EHRs. One said it was “unnerving,” while another said that while it is comprehensive, it seems like there are a lot of questions about things unrelated to the visit. Two said they were aware of patient portals but had not used them.

Beneficiaries discussed several ways they were helped to manage their chronic conditions and deal with other health issues. For example, one talked about how her physical therapist provided information on ergonomics, self-relaxation techniques, and nutrition. Another received information about how to quit smoking and smoking cessation classes. Several said they received information from a provider on how to take care of themselves between visits—for example, getting a report summary after their visit that included follow-up plans and information on their next appointment. One said her provider gave her exercises to do at home. At least a few said they received written instructions from their provider.

### **Payment reform**

Vermont, as noted, is testing three different payment models under the SIM Initiative: ACOs, pay for performance, and bundled payments/episodes of care. When explaining Vermont's payment reforms, one interviewee used the analogy of building a house, with the Blueprint for Health (the state's current pay-for-performance model) acting as the foundation of the structure. "The different payment pieces—ACO, episodes of care, and pay for performance—build upon this foundation." One interviewee commented that these payment models are largely unproven, but that Vermont plans to test them under the SIM award and move forward with models they find effective.

The Blueprint for Health has been operating since 2008 and is the state's most substantial pre-existing work in payment and care delivery reform. The Blueprint ensures access to advanced practice medical homes for all Vermonters, and receives support from Medicare, Medicaid, and commercial payers. As mentioned in the previous section, there is uncertainty around how the separately funded Blueprint patient-centered medical homes (PCMHs) and community health teams (CHTs) will be integrated into the larger SIM Initiative. Several providers talked about the process of becoming a recognized PCMH. While some viewed the overall concept of a medical home as a good thing for patient care ("Medical homes help reinvigorate and manage care for patients"), others cited challenges with completing certification, mostly related to the amount of documentation needed. Providers described the documentation as time consuming and sometimes not all that helpful. For example, one provider said there is so much to document he didn't think anyone was actually reading the notes anymore, and were instead just looking to see if boxes were checked.

Vermont has launched three different Medicare Shared Savings Program ACOs that predate the SIM award: OneCare Vermont, created by Fletcher Allen and Dartmouth Hitchcock hospital networks; HealthFirst, created by a consortium of independent physicians; and Community Health Accountable Care, created by a group of federally qualified health centers. In addition to tracking Medicare beneficiaries, all three are planning to enter into agreements with commercial payers in the state. At the time of the site visit, the commercial payer contracts were still being drafted. OneCare and Community Health Accountable Care have entered into agreements with Medicaid. HealthFirst decided not to move forward with the Medicaid ACO

contract, because they felt the quality benchmarks were too onerous. Furthermore, the Medicaid ACO contract is based on past performance, and HealthFirst felt this arrangement disproportionately rewarded historically poor performing hospitals and physicians. All ACO contracts currently have upside financial risk with no downside risk, which the hospitals and independent physicians appreciate. It is expected that hospitals and physicians will take on downside risk in the later years of the SIM test period.

The attribution of beneficiaries to ACOs was highlighted as the main concern over the ACO model in the state. Physicians were worried they will be measured against beneficiaries receiving care outside their ACO network. For instance, many elder Vermonters leave the state during the winter months and receive care in other states. Also, there will be considerable overlap of services provided to patients from different in-state ACO networks. One ACO executive voiced a concern around healthier patients not being attributed to an ACO because they do not receive enough services to be assigned. The providers are all wondering how the state will finalize the attribution.

Consumers were concerned with the financial incentives structured into the ACO contracts. One consumer said hospitals are operating as corporations these days, and the ACO model incentivizes the group to be too short-term focused. Hospitals may look for quick savings rather than invest in longer-term preventive services that may have more downstream savings.

Episode of care is the least developed program at this point. Vermont will start with three episodes of care and may expand the program depending on how well the first three work. The state is currently working on which episodes of care to add to the SIM Initiative, though we did not speak with anyone directly involved in this process. One ACO executive said his ACO did not feel the episode of care model was necessary, that all money and efforts should be focused on improving the ACOs.

### **8.2.3 Enabling strategies**

#### ***Physician, consumer, and other stakeholder engagement***

Stakeholders across Vermont agreed that the majority of those involved in the health care system within the state have been integrated into the SIM implementation process. Two of the three major private insurers in Vermont—Blue Cross Blue Shield of Vermont and MVP Health Care—will participate in the ACO and episodes of care models. One stakeholder pointed out that the remaining private insurer, Cigna, has refused to join. This stakeholder added that Cigna has an increasingly small share of the privately insured market, particularly since they just lost a previously held contract as third-party administrator for the state employees, and may soon pull out of the state altogether.

In terms of providers, 627 primary care physicians are already involved in the Blueprint for Health as of first quarter 2014, and as more of the remaining practices become hospital-

owned, these will also be brought in. Vermont's two largest hospitals—Fletcher Allen and Dartmouth Hitchcock (which, though located in New Hampshire is buying many Vermont practices and serves many Vermonters)—and many of the remaining practices (of the 14 in total) are heavily involved and view the SIM Initiative as an opportunity to save money through shared savings. One state official noted that hospitals and providers believe it is better to be involved as opposed to the alternative. Not all providers are convinced, however, and one said, “We are not participating in any ACO as long as we can remain independent.”

One state official noted that it would be hard to find anyone who is completely happy or unhappy with the stakeholder involvement and structure given the nature and amount of work—but added that it has been constructive to have so many people at the table. Several stakeholders commented that the work groups make it easy for anyone who would like to participate; one said it is harder to find people who are not involved in this work than people who are.

Both public and private stakeholders seemed pleased with the level of engagement, though many said there have been challenges. Several providers noted that it is challenging to be involved in the work groups given constraints on their time and the timing of work group meetings, which are often mid-day during the week. One provider representative noted that it would be very helpful if a digest summing up work group activities was circulated following meetings.

One state stakeholder cited consumer engagement as a weak link. This stakeholder agreed with others that the consumer representatives who are present have brought a lot to the table, but added that there are more than 630,000 people in the state and too few of them know what is going on.

### ***Health information technology and other infrastructure investments***

A representative from a state organization commented that, “I think [health] IT is where we really need the most help, and I think the SIM award can provide it.” A similar concern was echoed throughout the site visit. One GMCB executive said the success of VITL and Vermont's health IT system is “everything to SIM. Without that functioning well, [providers] are flying blind, so it may be the most important aspect of the initiative.” There was a meeting recently to develop a proposal for SIM funding to support the expansion of technology. VITL is committed to continue improving the health IT structure in the state.

Vermont has made substantial investments in connecting practices and hospitals to DocSite (Vermont's central clinical registry supported by the Blueprint for Health) and the Vermont HIE, working to improve data integrity feeding into the HIE so it can be used in a meaningful way. A portion of the SIM award is funding VITL's operations. One of VITL's main goals is to get 100 percent EHR adoption for practices throughout the state, which they have made strides toward; but this creates its own problems. One of the main hurdles to the

health IT infrastructure in Vermont is the disparate EHR vendors used by practices. These different systems make it difficult to feed standardized data into DocSite and the Vermont HIE.

Stakeholders expected SIM funds to be spent developing an integrated data platform that pulls disparate data sources together, such as DocSite and the state's multi-payer claims dataset. A more integrated infrastructure will allow providers to share data more easily.

Another stakeholder concern was duplication of health IT systems in the state. For instance, as part of the SIM award VITL is working on a provider portal, but both Fletcher Allen and Dartmouth Hitchcock already have patient portals in place. The ACOs seemed skeptical of VITL. One provider said VITL needs to regain the trust of providers. One ACO executive said that their network is bringing in their own health IT infrastructure, because they don't believe that DocSite or the Vermont HIE are functioning as intended.

#### **8.2.4 Summary of findings**

##### ***SIM operational model activities and progress***

Overall, the Vermont SIM Initiative is co-led by DVHA and GMCB. These two groups have the greatest presence throughout the Initiative and lead most of the implementation work. Vermont has seven work groups that feed recommendations to a steering committee, which then forwards its own recommendations to the SIM core team based upon work group activities. The steering committee is made up of a combination of state officials and organizations representing providers, consumers, payers, and the business community.

The SIM core team is the primary decision-making entity responsible for ensuring the work groups roll up to fulfill the program's goals and has representation from GMCB; DVHA; the Office of Health Care Reform (Governor's Office); the Vermont Business Roundtable; Vermont Agency of Human Services; the Department of Disabilities, Aging, and Independent Living; and Northeastern Vermont Regional Hospital.

Stakeholders in Vermont noted that developing trust took 2 years of meetings, both one-on-one between the state and certain stakeholders and larger group meetings, which led to "tiny moments" during which trust was slowly built. The state eventually was able to build trust across what was originally a disjointed landscape with many groups that had very different points of view. Several stakeholders also noted that this progress had begun in Vermont before the SIM award, and that Vermont has successfully fostered an environment for health care innovation the SIM Initiative will build upon and expand.

Several stakeholders noted that, at the time of the site visit (mid-January 2014), it was still very early in the process to evaluate progress on both implementation and outcomes. One state official noted that the primary accomplishment to date was establishment of the public-private partnership and structure described above. This structure and these groups drive much of

the work and will create the context for the models—care delivery, health IT, workforce, and others—that will drive the pieces of Vermont’s SIM Initiative.

Vermont’s current timelines for SIM implementation are close to the original dates set in the state’s operational plan. Stakeholders noted the ACO contracts are retroactive to January 1, 2014, so the state does not lose any time in implementation of ACOs despite the delay in finalizing the contracts. The state also noted it recently received approval to use SIM funds to provide direct grants to providers—supporting their needs as they transform their practices to meet the ACO model. State stakeholders added that the request for proposals (RFP) would be released to providers shortly.

Despite the early time frame of the site visit, Vermont had already made significant progress. Stakeholders noted that Vermont Medicaid was very close to finalizing contract negotiations with the two ACOs that elected to participate, and establishing ACOs is a primary focus of Vermont’s model. Originally, the contracts were supposed to be finalized by the end of 2013, but were delayed slightly so all stakeholders could come to agreement on a number of items in the contracts—including ACO standards, measures, and other parts of the care model. Stakeholders noted that the delay was necessary, and the contracts will be better as a result. They also pointed out the contracts would be retroactive to January 1, 2014, so that despite the delay, the state remains on its timeline. The contracts for establishing commercial ACOs had not been finalized at the time of the site visit, but the state plans to move forward on establishing commercial ACOs in 2014.

Vermont has made progress in a number of other areas, including: (1) creating an RFP process for grants to providers to help support their needs in implementing SIM strategies, such as investing in health IT or hiring staff; and (2) moving forward with its self-evaluation—hiring an Evaluation Director and selecting an external evaluation contractor. The deadline for completing these items was the Initiative’s first year; state officials indicated they were pleased these items were addressed early in the process.

State officials did note that, because the ACO contracting was delayed, work on other strategies were delayed, as the state focused primarily on ACOs and has yet to turn its attention to the other care models. The episodes-of-care model, for instance, may not launch exactly when originally planned. Vermont officials noted that this was necessary to ensure the contracts were done well. They said the state will work hard to launch the other parts of the SIM Initiative as close to the deadlines as possible—but will be careful not to move so fast they roll the models out before they are ready.

Multiple stakeholders noted a lack of clarity around how the Vermont Blueprint for Health will interact with the new ACO structure. One stakeholder noted that clear roles have not been delineated, and that both ACOs and the Blueprint have indicated interest in handling the

care management and population health aspects of patients. Several providers talked about the difficulty of having to meet different criteria from multiple organizations. For example, one provider talked about having to meet requirements for both the Blueprint and an ACO, which turns appointments with patients into a “checklist” to make sure all requirements are met.

A state official indicated that the high-level tasks—such as formation of the ACOs, work on the Medicaid and commercial contracts, and creation of multi-payer measures and regulatory metrics—are mostly complete. Now the focus will shift to alignment of activities within the care models before pushing to next steps, such as the concrete steps providers take to actually change operations and change delivery. One non-government stakeholder, however, requested more clarity in the steps planned for the next 6 months: “I’m pushing the staff to say, ‘what are our goals?’ Certainly you can have the big goal of the [SIM Initiative], but what steps do you take in the short-term to move towards that?”

Vermont state stakeholders noted they were still working on how to integrate population health metrics into the SIM Initiative. One said the state would likely include five or six measures, but the question is how social determinants of health impact costs of care. The state is trying to coordinate measures to determine how to evaluate cost of care and the savings generated by the ACOs. An ACO stakeholder added that population health has been a big focus for them, and that ideally the ACOs in the model, the Vermont Blueprint for Health, and DVHA will work together to redesign the entire population health and care management infrastructure, clearly delineating the roles of each organization. How Vermont will do this is still to be determined.

Several stakeholders, both public and private, indicated that serious workforce issues exist—particularly not having enough of the appropriate workforce to implement the innovations and changes. A couple of providers said lack of professional mental health workers in Vermont was an issue. One state official noted that Massachusetts ran up against a shortage of primary care providers while implementing health reform, and feared Vermont will run into the same challenge. Despite this challenge, no clear strategy currently exists for how to address it. A SIM Workforce work group is building off a workforce strategic plan completed last year prior to the SIM Initiative and conducting a gap analysis of the current workforce to find what kind of professionals Vermont will need. This group is also analyzing how Vermont’s workforce will need to change, including building a telemedicine piece into the system design.

Stakeholders noted that providers are being encouraged to participate in SIM activities partly by a financial incentive, which is a per member per month (PMPM) payment the Blueprint for Health pays to participating primary care practices. This payment, however, is not part of the SIM Initiative but part of the existing Blueprint for Health design. The stakeholders added that the primary mechanism for enticing provider participation is that participating in the Medicaid and Medicare ACOs carries no downside risk but offers the potential for shared savings. Several



stakeholders also commented that, with all the innovation taking place in Vermont, many providers are participating in these activities to avoid being “left behind.” One stakeholder added that incentives for participation in other strategies (episodes of care and pay for performance) have not yet been identified, since the focus to date has been on the ACOs.

### ***Stakeholder participation***

In addition to the state, other key stakeholders are included at each level of governance. The Vermont Roundtable, a coalition of provider representatives, has a member on the core team; both major health insurance companies (Blue Cross Blue Shield and MVP) are also heavily involved. Similar to other health care initiatives in Vermont, Cigna is not engaged (and, as noted, will no longer be the third-party administrator for the state employee health plans). Provider participation is significant, including the medical society, hospital association, and federally qualified health centers. In addition, consumer advocate engagement is robust. Nevertheless, according to one stakeholder, despite consumer involvement from the beginning, SIM leadership (i.e., the core team and steering committee) does not always follow through on feedback, and engagement does not necessarily translate into policy. Everybody has come voluntarily; the only incentive is being at the table.

Although stakeholders value the level of engagement and inclusion, some expressed concern that the work groups are unwieldy, resulting in delayed decisions and uncertainty as to whether they will be able to find common ground on some issues. In contrast, some stakeholders expressed concern that there are not enough providers on SIM work groups, because they do not have time available to participate. Some providers said they do not have a sufficient voice in the process—specifically citing selection of quality measures to be used to assess the commercial or Medicaid ACOs.

In terms of stakeholders who have yet to engage in an effective way, the self-insured are not included in the SIM Initiative, and employer involvement is not clear.

### ***Quality of care and other outcomes***

Vermont is still identifying quality of care, population health, and other outcomes it will track through the SIM Initiative. The state did indicate it will consider outcomes related to social determinants of health and costs of care, with the hope these can be used to evaluate the savings achieved by the ACOs.

Vermont convened stakeholders and agreed on a set of quality of care metrics for the Medicaid ACOs in December 2013. These metrics include and add to the 33 metrics used for Medicare shared savings ACOs and are included in the contracts mentioned earlier in this report. The metrics include health care quality (e.g., ischemic vascular disease), patient satisfaction (e.g., provider office follow-up after a blood test), health care delivery (e.g., LDL control), and cost (e.g., total cost of care). Seven quality measures were chosen for the commercial ACO that will be used in the savings calculations, but stakeholders questioned the utility of some of the

measures chosen. One example is chlamydia screening in sexually active women; a stakeholder questioned the value of this measure, noting that the gap needing improvement is very small, while the resources needed to report it are large. Another example is a measure for non-use of antibiotics for bronchitis, which the stakeholder pointed out is easy to manipulate. One stakeholder felt there was not enough provider input into the quality measures chosen. Providers talked about collecting and tracking multiple measures—including preventive medical services such as colonoscopies and depression screenings, patient safety data, falls, and clinical data related to chronic diseases. Several providers cited the usefulness of being able to track such information, but others also noted difficulties—such as too much data and the amount of resources (time, money) needed to implement data tracking (which was viewed as particularly difficult for solo/small practice providers). One provider said he was very interested in tracking outcomes for mental health but there is no easy way to do this yet.

### **8.2.5 Population health**

The state anticipates that Vermont’s SIM Initiative will produce positive effects in the area of population health and is working with the Centers for Disease Control and Prevention and the Center for Medicare and Medicaid Innovation to further develop its plan. One state stakeholder noted that if the ACOs function as envisioned, they will create an environment in which providers, payers, and patients are incentivized to figure out the most cost-effective care processes in the long run, so improving population health will be more attractive. A provider concurred with this perspective, saying the state needs to design a system that includes everyone by using a population health strategy. The provider added that currently there is no incentive for an insurance company or an ACO to invest in people outside its system, and that if the SIM Initiative can address that gap, it may be possible to move forward in this area.

Vermont’s SIM Initiative has a population health work group tasked with ensuring coordination of public health initiatives ongoing in the state and identifying gaps, but state officials noted the group did not place great emphasis on population health in the application. Other stakeholders noted lack of attention to population health in the model as well; one said the SIM Initiative does not address population health at all and that, though there is a work group for it, “in terms of timeline, the population health work group will be at the caboose of the continuum.”

Several stakeholders agreed that the number of population health metrics for the Medicaid ACOs has been a cause of tension. One stakeholder commented, “There was a tremendous fight over the number of measures, in terms of what measures matter and how do we collect all of the information?” The stakeholder added that at one point they were looking at up to 14 population health measures, but now may reduce that to 6 or 7.

## 8.2.6 Successes, challenges, and lessons

### Successes

**Governance and project administration.** Most interviewees noted that all stakeholders were represented in the governance structure and thought this was necessary and important; but they cautioned that common ground might not be possible for all issues. Some from the provider and payer community questioned the need for the steering committee as the middle layer in the governance structure, however. They noted how the steering committee is only advisory to the core team and the work groups could forward recommendations to the core team directly. Others thought the steering committee served a useful purpose by being a forum for and addressing dissension in the work groups before forwarding recommendations on to the core team. Some thought the steering committee's large membership would preclude its ability to make decisions; they believed the core team will need to make some decisions that will be objectionable to some stakeholders. Finally, some non-state stakeholders expressed disappointment that SIM funds were being used to fund staff positions in state government rather than being used for health care delivery more directly.

**Stakeholder engagement.** Stakeholders almost unanimously agreed with the SIM goals and activities and believed the process has worked well to date, though many highlighted different aspects of the work they considered most successful and important. Many cited the involvement of stakeholders and level of engagement as a major success—one noting, “I have never seen this much interaction among the different groups before.” Another area of success cited by one consumer was the media campaign around Vermont health care; the consumer called the campaign, “engaging, positive, and consumer-centric.” Most agreed that the SIM Initiative builds on health system transformation work already under way in Vermont—with the focus on the Blueprint for Health—and brings it to a new level required to improve the delivery of health care services and implement broad-scale improvements.

### Challenges

**Infrastructure and capacity.** Stakeholders cited many challenges to the process, particularly data infrastructure; capacity (in terms of the staff needed both to implement the program at the state level and to transform clinical care); concern about the intersection between the Blueprint and the ACOs; the timeline and pace; and, to a lesser extent, the politics (particularly as Vermont begins its push toward a single-payer system). The current data infrastructure in Vermont varies greatly by practice and by hospital. Practices and hospitals currently use different EHRs; and several practices neither use EHRs nor are connected to the Vermont HIE. Providers explained that the cost of adopting EHRs was a barrier for those in solo or small group practices. Some providers talked about weighing the costs versus benefits and deciding they could not afford to use EHRs (costs were an even bigger issue for older providers, who said that, being close to retirement, they did not think they would be able to recoup the costs). Several stakeholders cited the SIM Initiative as an opportunity to improve the states' data

infrastructure, but noted that the funding and work required to standardize data and produce reports is tremendous. Another related problem mentioned was the capacity of the state to manage these changes. Vermont is a small state, and many stakeholders noted it might not have enough of the right skills mix to implement changes both in data infrastructure and in health system transformation. As one stakeholder put it, “There is not a resource issue in terms of enough money to spend, but there is a shortage of qualified people.”

**SIM timeline.** Several stakeholders cited the timeline and pace at which the state has worked as a challenge. One commented that the deadlines, though helpful in keeping the work moving, have led to a feeling that everything is rushed. The stakeholder added that this was the reason for the delay in finalizing the ACO contracts—the steering committee felt everything was moving too fast and it would be better to hit the brakes to ensure it was done correctly. The same stakeholder cited problems with the federal health insurance exchange as an example of why it may be better to slow down to make sure everything works when it is rolled out. Another issue with the speed of the work cited by stakeholders is the risk of burnout. The stakeholders noted the many people working on this, both in the state and the private sector, and concern that it will be hard to maintain this level of engagement.

**Assessing success in health care transformation.** One challenge that is less of an issue thus far but may become one later is the politics of health reform and transformation. Several stakeholders mentioned that Vermont is on a trajectory to move toward a publicly financed single-payer system. One stakeholder added that the single-payer debate is going to be a dominant focus in 2015, which will be in the middle of full implementation of the SIM model—stimulating concern that fallout from that debate will spill over into the SIM work. The state is still developing a process to measure success and recently secured an external evaluator. One state official noted that, to build the system successfully, there needs to be a method for determining clear indicators of success—not just for clinical and financial outcomes, but also for patient satisfaction and experience. Moving forward, Vermont will continue to look for ways it can meaningfully measure the success of its innovations.

**Financial risk.** All respondents commented on the long-run development of Vermont’s health care system and financing. Optimizing ACO financial risk arrangements will be important as Vermont moves forward with the SIM initiative and beyond. One ACO declined to participate in the Medicaid ACO contract, because it found the benchmarks too low as a result of their basis on prior Medicaid expenditures. Benchmarks based on prior expenditures can make it difficult for providers who have already kept medical expenditures low among their patient panels; premium-based benchmarks are higher because premiums continue to increase, thus allowing providers to achieve savings. Others recommended forgoing shared-savings initiatives and associated benchmarks altogether. They thought shared savings created incentives to withhold care. Some thought the GMCB should move to rate setting instead, and cited a Vermont hospital charging four times the Medicare rate for radiology services. In any financial

model adopted for the SIM Initiative, stakeholders need to understand who bears the ultimate financial risk when an ACO or other population incurs higher medical expenditures than anticipated.

**Status of the Blueprint for Health under SIM.** Another issue was tension between the Blueprint for Health and the ACOs. One stakeholder noted that the groups are having trouble finding a common vision of a care manager role, and called this a “turf issue.” Another noted confusion over how the Blueprint will interact with the ACO structure and said the Blueprint is at a fork in the road: “They need to merge amicably with the ACOs because the two initiatives cannot happen at the same time or else the ACOs will create something that looks a lot like the Blueprint.”

### **Lessons**

**The importance of integrating several related initiatives.** Several stakeholders noted that Vermont is a hub of health innovation and there have been numerous initiatives aimed at reforming different parts of the health system. The state and other stakeholders viewed the SIM Initiative as an opportunity to integrate and align these various initiatives to create one governance structure for all. For example, the structure of the Vermont Dual Eligible Project had become too cumbersome to be integrated, so the state opted not to submit a Memorandum of Understanding—deciding instead to address the dual Medicare-Medicaid enrollee population primarily through the SIM Initiative.

**The importance of public-private partnerships and the balance of stakeholder engagement.** Many stakeholders commented positively on the ability of the state to bring together so many different groups for a common purpose. There have been challenges related to having a high number of stakeholders involved, including a slightly unwieldy governance structure and so many voices that it may be difficult to please everyone. Those challenges aside, however, the stakeholders noted that it has been valuable to put the emphasis on engagement and extremely valuable to build consensus, even if the process is slow.

## **8.3 Vermont Baseline Outcomes**

This section summarizes information on baseline outcomes for Vermont’s insured population, including: (1) provider and payer participation, (2) populations reached, (3) care coordination, (4) quality of care, (5) health care utilization, and (6) health care expenditures. Data on the first two measures come from our site visits and the Vermont SIM Initiative team’s operational reports, whereas the other measures are derived from claims data. Future reports will include claims-based measures for Medicaid, Medicare, and commercially insured populations. However, because Medicaid claims data were not available for this report, we present outcomes for only the commercially insured population represented in the MarketScan database and Medicare beneficiaries. The data are restricted to the fee-for-service population, and expenditure measures exclude patient cost-sharing. We present data for Vermont and its propensity score-

adjusted comparison group, comprising data from three states: Iowa, New Hampshire, and Pennsylvania. We define the baseline period as 2010 to 2012. The graphs contain the weighted (by the eligibility fraction) average outcomes for the population included in the MarketScan and Medicare data for Vermont and the weighted (by the eligibility fraction and propensity score) average outcomes for the comparison group. All quarterly outcomes are calculated as 12-month rolling averages. Appendix B provides more detailed specifications on the methods and measures.

### **8.3.1 Provider and payer participation**

In first quarter 2014, Vermont had 126 certified PCMHs participating in the Blueprint for Health, with 627 unique providers. In addition, DVHA signed contracts with two ACOs (OneCare Vermont and Community Health Accountable Care) for participation in the Vermont Medicaid shared savings ACO programs. DVHA also reached participation agreements with Blue Cross Blue Shield of Vermont and MVP Health Care—two commercial payers in Vermont’s small group and individual markets—as part of the Commercial Shared Savings Program. Blue Cross Blue Shield has agreements with each of the three Medicare ACOs operating in Vermont, and MVP has an agreement with OneCare Vermont. As of first quarter 2014, complete provider counts were not available for the ACO programs.

### **8.3.2 Populations reached**

The 126 participating Blueprint for Health PCMH practices covered 511,557 people, representing 82 percent of the state’s population. Complete counts are not yet available for the ACOs.

### **8.3.3 Care coordination**

#### ***Commercially insured***

For Vermont and the comparison group, the percentage of inpatient discharges with a follow-up visit within 14 days remained stable over the baseline period (*Table 8-1*). The number of visits to a primary care physician per 100 covered persons decreased over time for both Vermont and the comparison group, while the number of visits to a specialist per 100 visits remained stable for Vermont and decreased for the comparison group. Infants had a twofold higher rate of visits to a primary care provider than children and adults, while adults had higher visit rates to specialists than both infants and children. Among adults, the rate of visits to specialists remained stable for Vermont and decreased for the comparison group during the baseline period.

**Table 8-1. Care coordination measures for the commercially insured population in MarketScan by age group, Vermont and comparison group**

Measure	Year	Overall	Infant	Child	Adult
<b>Percent of inpatient discharges that had a follow-up visit within 14 days for members 18 years and older</b>					
<b>Vermont</b>	<b>2010</b>	—	—	—	<b>36</b>
	<b>2011</b>	—	—	—	<b>37</b>
	<b>2012</b>	—	—	—	<b>37</b>
Comparison group	2010	—	—	—	32
	2011	—	—	—	33
	2012	—	—	—	33
<b>Number of visits to primary care providers per 100 members</b>					
<b>Vermont</b>	<b>2010</b>	<b>391</b>	<b>757</b>	<b>322</b>	<b>405</b>
	<b>2011</b>	<b>371</b>	<b>699</b>	<b>312</b>	<b>382</b>
	<b>2012</b>	<b>350</b>	<b>592</b>	<b>312</b>	<b>356</b>
Comparison group	2010	367	770	314	374
	2011	348	764	315	350
	2012	344	763	309	345
<b>Number of visits to specialists per 100 members</b>					
<b>Vermont</b>	<b>2010</b>	<b>124</b>	<b>58</b>	<b>62</b>	<b>142</b>
	<b>2011</b>	<b>122</b>	<b>54</b>	<b>62</b>	<b>138</b>
	<b>2012</b>	<b>127</b>	<b>48</b>	<b>64</b>	<b>144</b>
Comparison group	2010	228	106	122	265
	2011	216	100	117	250
	2012	209	97	118	239

### **Medicare**

For Vermont and the comparison group, the percentage of Medicare inpatient discharges with a follow-up visit within 14 days increased over the baseline period (*Table 8-2*). The number of visits to a primary care physician per 100 covered persons remained stable over time for both Vermont and the comparison group, while the number of visits to a specialist per 100 visits declined slightly for Vermont. Dual Medicare-Medicaid enrollees in Vermont had lower rates of visits to a primary care provider across the 3 baseline years relative to the comparison group, with a slight decrease in rates for Vermont expanding the difference over time. In contrast, Medicare-Medicaid enrollees in Vermont had higher rates of visits to specialists in all 3 baseline years relative to comparison group beneficiaries, with the decrease in rates for Vermont diminishing the difference over time.

**Table 8-2. Care coordination measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Vermont and comparison group**

Measure	Year	Overall	Medicare-Medicaid	Other Medicare
<b>Percent of inpatient discharges that had a follow-up visit within 14 days</b>				
<b>Vermont</b>	<b>2010</b>	<b>36</b>	<b>42</b>	<b>33</b>
	<b>2011</b>	<b>47</b>	<b>47</b>	<b>46</b>
	<b>2012</b>	<b>59</b>	<b>59</b>	<b>59</b>
Comparison group	2010	38	34	39
	2011	42	39	43
	2012	52	52	52
<b>Number of visits to primary care providers per 100 beneficiaries<sup>a</sup></b>				
<b>Vermont</b>	<b>2010</b>	<b>343</b>	<b>390</b>	<b>329</b>
	<b>2011</b>	<b>337</b>	<b>379</b>	<b>324</b>
	<b>2012</b>	<b>338</b>	<b>374</b>	<b>327</b>
Comparison group	2010	432	509	418
	2011	431	504	417
	2012	430	505	416
<b>Number of visits to specialists per 100 beneficiaries<sup>a</sup></b>				
<b>Vermont</b>	<b>2010</b>	<b>416</b>	<b>431</b>	<b>411</b>
	<b>2011</b>	<b>403</b>	<b>415</b>	<b>400</b>
	<b>2012</b>	<b>402</b>	<b>409</b>	<b>400</b>
Comparison group	2010	401	374	405
	2011	400	370	405
	2012	399	373	404

<sup>a</sup> To address a data anomaly, propensity score models were run separately by dual status for the visits to primary care and specialist providers for Vermont. Future reports will run propensity models by dual status for all states and all outcomes.

### 8.3.4 Quality of care

#### *Commercially insured*

*Table 8-3* presents the rates of hospitalization per 100,000 covered persons in the overall, acute, and chronic Prevention Quality Indicator (PQI) composite measures. Using the overall PQI composite, which includes 12 of the 14 individual PQIs, the baseline rate of hospitalization in 2010 was 540 per 100,000 covered persons residing in Vermont and 510 per 100,000 covered persons for the comparison group. The rate of hospitalization among Vermont residents using the acute PQI composite (which includes conditions such as pneumonia and dehydration) was less than one-half of the overall rate, or 260 hospitalizations per 100,000 covered persons, while the rate of hospitalization using the chronic PQI composite (which includes conditions such as hypertension, diabetes complications, and chronic obstructive pulmonary disease) was somewhat



more than half the overall rates, or 290 per 100,000 covered persons in 2010. Vermont's PQI composite rates dropped in 2011 and then returned to the same level or slightly higher in 2012. The comparison group's rates were more stable and showed a slight decline by 2012.

**Table 8-3. Quality of care measures for the commercially insured population in MarketScan and Medicare beneficiaries, Vermont and comparison group**

Measure	Commercially insured			Medicare		
	2010	2011	2012	2010	2011	2012
<b>Rates of hospitalization for composite AHRQ Prevention Quality Indicator (PQI) conditions</b>						
<b>Overall composite</b>						
Vermont	540	430	550	1,870	1,900	1,860
Comparison group	510	530	490	1,980	2,010	1,920
<b>Acute condition composite</b>						
Vermont	260	170	260	1,020	1,060	1,000
Comparison group	230	240	220	1,000	1,030	960
<b>Chronic condition composite</b>						
Vermont	290	260	310	960	960	970
Comparison group	290	290	280	1,110	1,110	1,070
<b>Percent of children who turned 15 months during the year and had 0 well-child visits during their first 15 months of life</b>						
Vermont	—	4	5	—	—	—
Comparison group <sup>a</sup>	—	4	3	—	—	—
<b>Percent of children who turned 15 months during the year and had 6 or more well-child visits during their first 15 months of life</b>						
Vermont	—	55	57	—	—	—
Comparison group	—	59	63	—	—	—

Note: AHRQ = Agency for Healthcare Research and Quality

<sup>a</sup> Due to the small sample size of children who turned 15 months in a given year, we were unable to apply propensity score weights to the comparison group for the well child visit measure. We report the unweighted average values for the comparison group.

For Vermont and the comparison group, 4 percent of infants had 0 well-child visits in the first 15 months of life in 2011 (Table 8-3). The rate increased 1 percentage point for Vermont and decreased comparably for the comparison group in 2012. The percentage of infants with 6 or more well-child visits in the first 15 months of life was 57 percent in Vermont and 63 percent for the comparison group in 2012, reflecting a slight increase from the previous year for both.

### Medicare

The PQI composite hospitalization rates for the Medicare population were three to four times greater than those for the commercial population in Vermont and for the comparison group

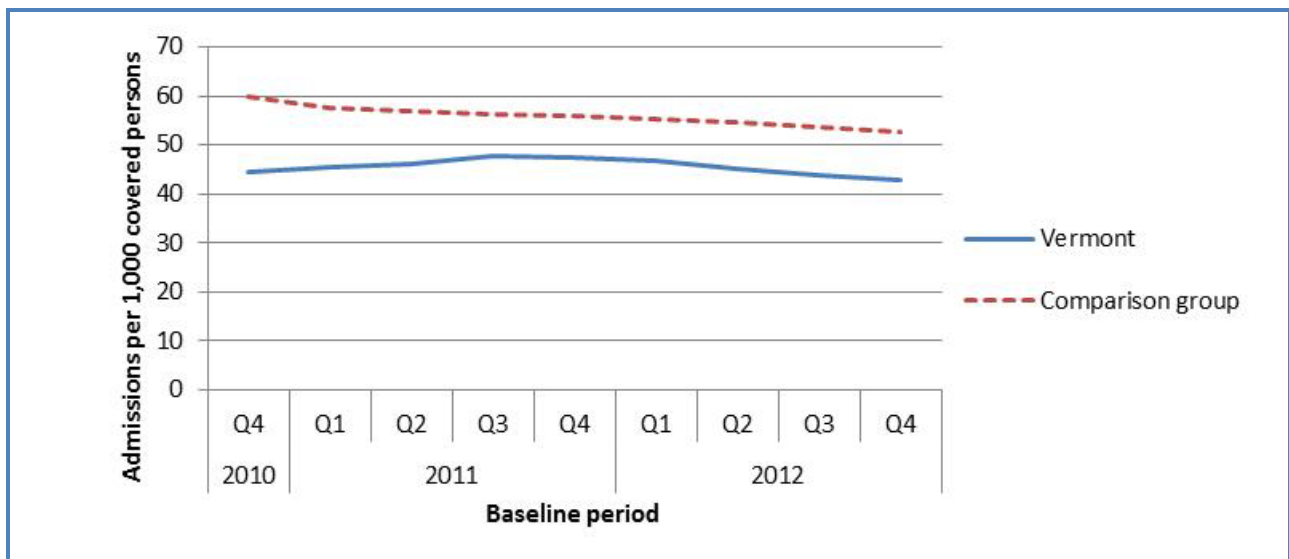
(Table 8-3). In Vermont, the rates for the Medicare population were relatively stable across the baseline period with an overall PQI composite rate of 1,860 in 2012. The comparison group had slightly more variability and a higher overall PQI composite rate (1,920) in 2012. Vermont’s acute PQI composite was higher than its chronic PQI composite in all baseline years—a trend different from the comparison group’s Medicare population and different from the commercial population’s composites for both Vermont and the comparison group.

### 8.3.5 Utilization

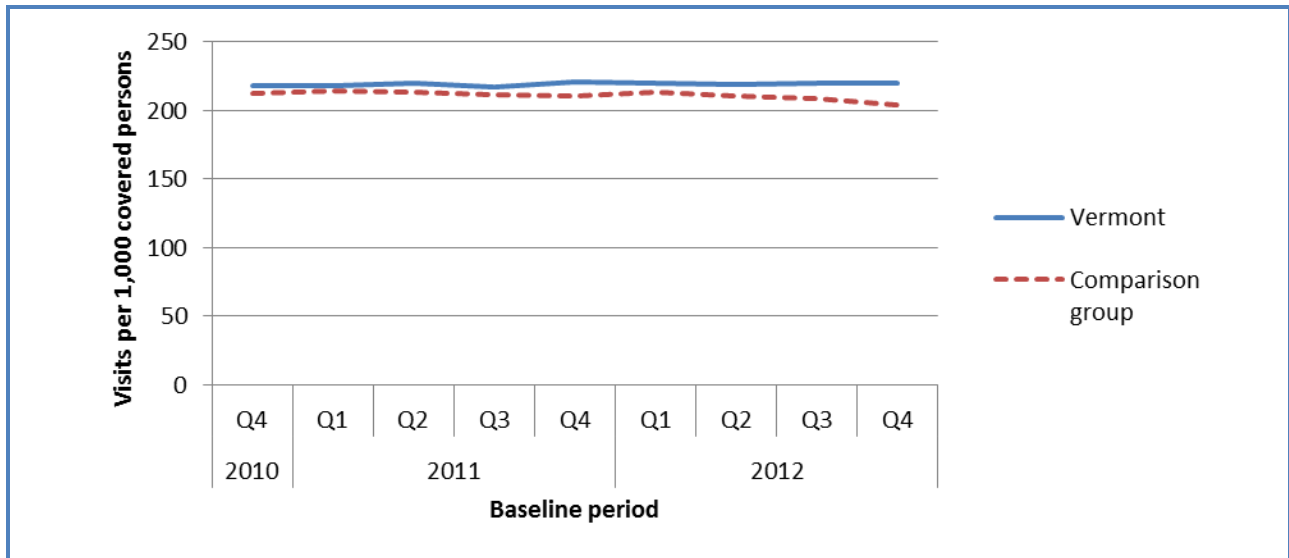
#### Commercially insured

For Vermont and the comparison group, the rate of all-cause inpatient hospital admissions decreased over the baseline period (*Figure 8-1*), but more so for the comparison group than for Vermont. The inpatient admission rate was highest among infants for each year, likely due to most newborns being delivered in hospitals. The number of all-cause emergency room (ER) visits per 1,000 covered persons increased slightly for Vermont and decreased slightly for the comparison group during the baseline period (*Figure 8-2*), driven by ER usage by infants and children (*Table 8-4*). The number of ER visits not leading to a hospitalization per 1,000 covered persons remained stable for Vermont, decreased slightly for the comparison group (*Figure 8-3*), and was highest among infants (*Table 8-4*). The number of discharges leading to a hospital readmission within 30 days per 1,000 discharges decreased for both Vermont and the comparison group (*Figure 8-4*).

**Figure 8-1. All-cause acute inpatient admissions (per 1,000 covered persons) for the commercially insured population in MarketScan, Vermont and comparison group**



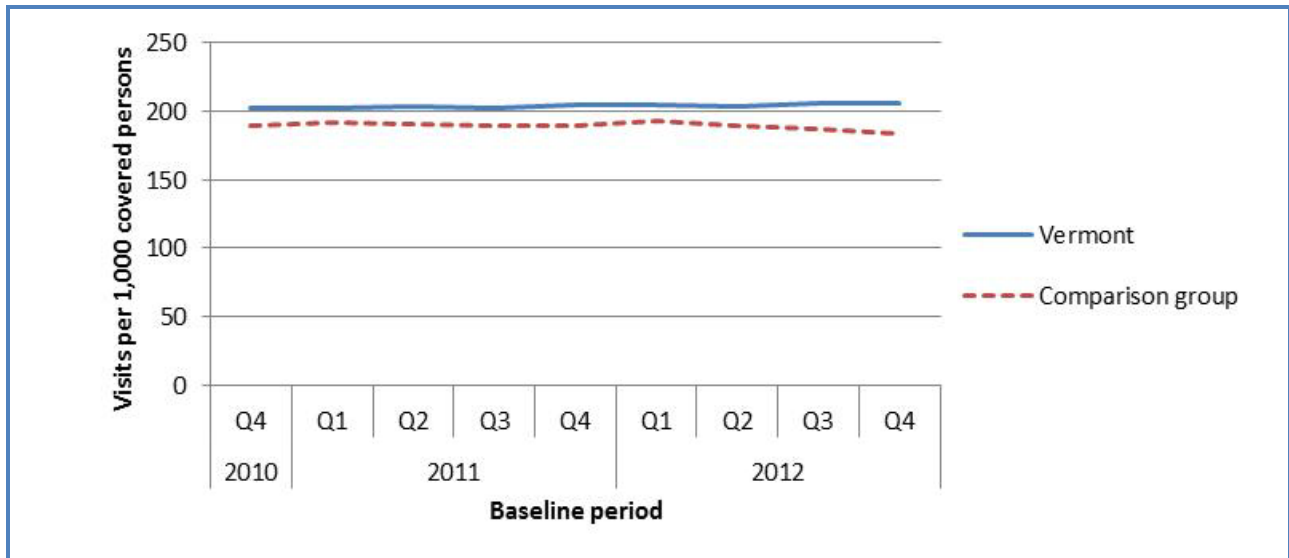
**Figure 8-2. All-cause emergency room visits (per 1,000 covered persons) for the commercially insured population in MarketScan, Vermont and comparison group**



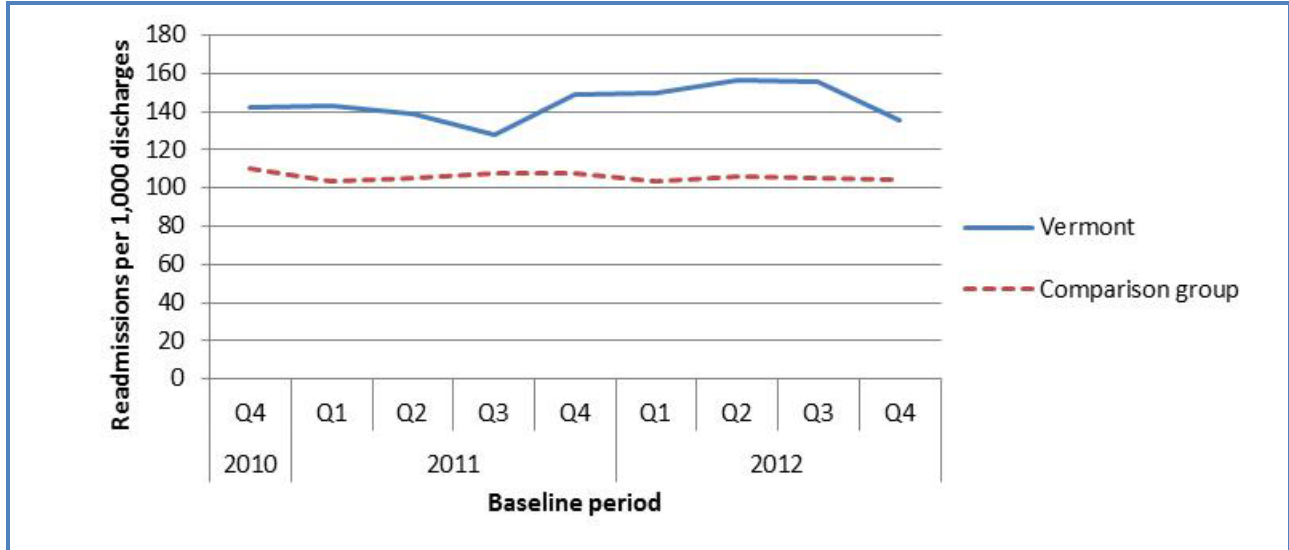
**Table 8-4. Utilization measures for the commercially insured population in MarketScan by age group, Vermont and comparison group**

Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 members</b>									
Vermont	477	472	456	9	13	10	48	50	45
Comparison group	442	442	430	16	16	15	65	61	56
<b>All-cause emergency room visits per 1,000 members</b>									
Vermont	257	227	302	197	208	213	223	224	220
Comparison group	372	371	357	213	211	196	209	208	204
<b>Emergency room visits that did not lead to hospitalization per 1,000 members</b>									
Vermont	232	196	286	192	202	208	204	205	204
Comparison group	344	343	331	204	202	187	182	183	180

**Figure 8-3. Emergency room visits not leading to a hospitalization (per 1,000 covered persons) for the commercially insured population in MarketScan, Vermont and comparison group**



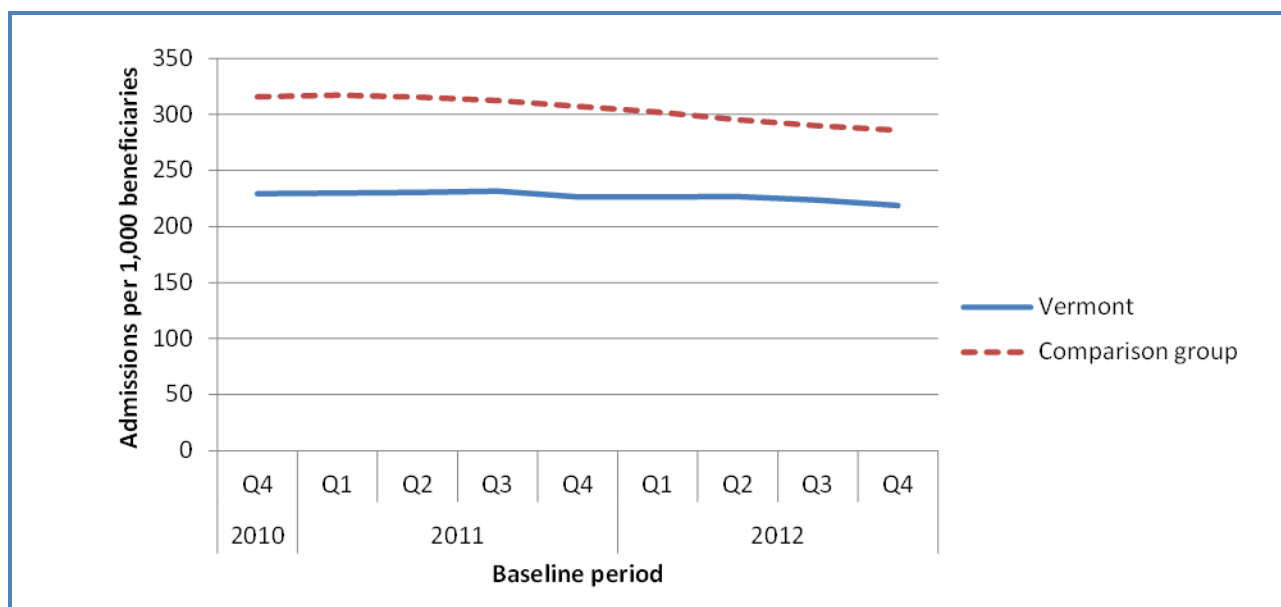
**Figure 8-4. Readmissions (per 1,000 discharges) for the commercially insured population in MarketScan, Vermont and comparison group**



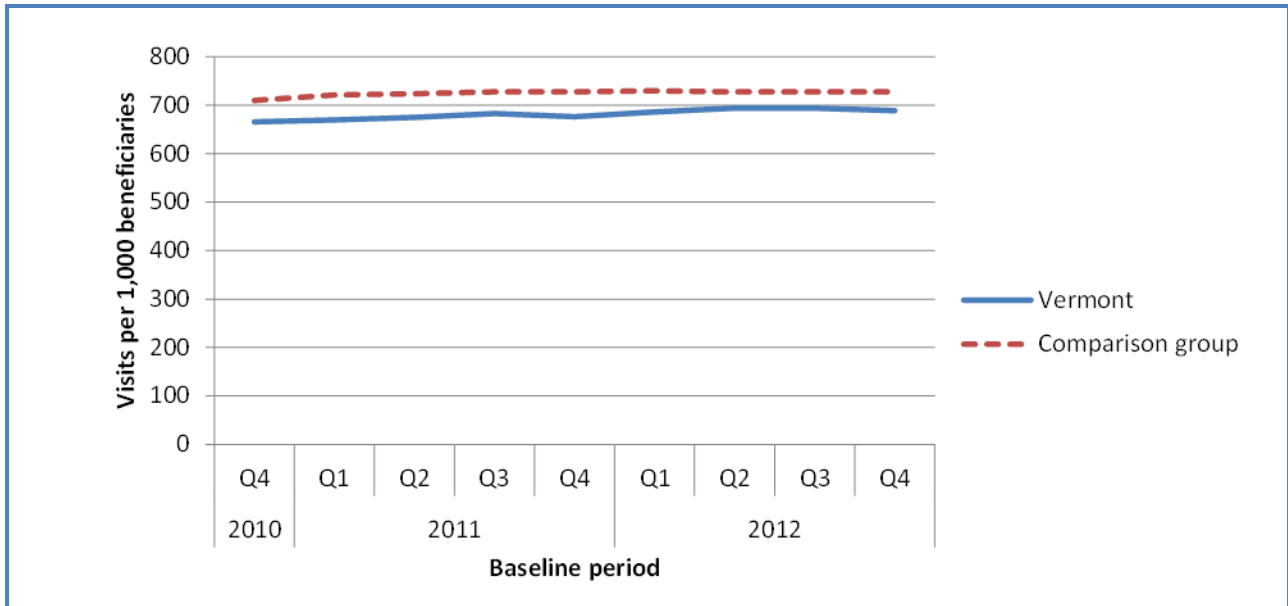
## Medicare

For Vermont and the comparison group, the rate of Medicare all-cause inpatient hospital admissions decreased over the baseline period (**Figure 8-5**), with the inpatient hospitalization rate being consistently higher for the comparison group. The number of all-cause ER visits per 1,000 covered persons increased slightly over time for both Vermont and the comparison group (**Figure 8-6**). The number of ER visits not leading to a hospitalization per 1,000 covered persons also increased modestly for Vermont and the comparison group (**Figure 8-7**). The number of discharges leading to a hospital readmission within 30 days per 1,000 discharges remained relatively flat (**Figure 8-8**) for both Vermont and the comparison group. Not unexpectedly, rates of all-cause hospitalizations were higher among Medicare-Medicaid enrollees relative to other Medicare enrollees (**Table 8-5**).

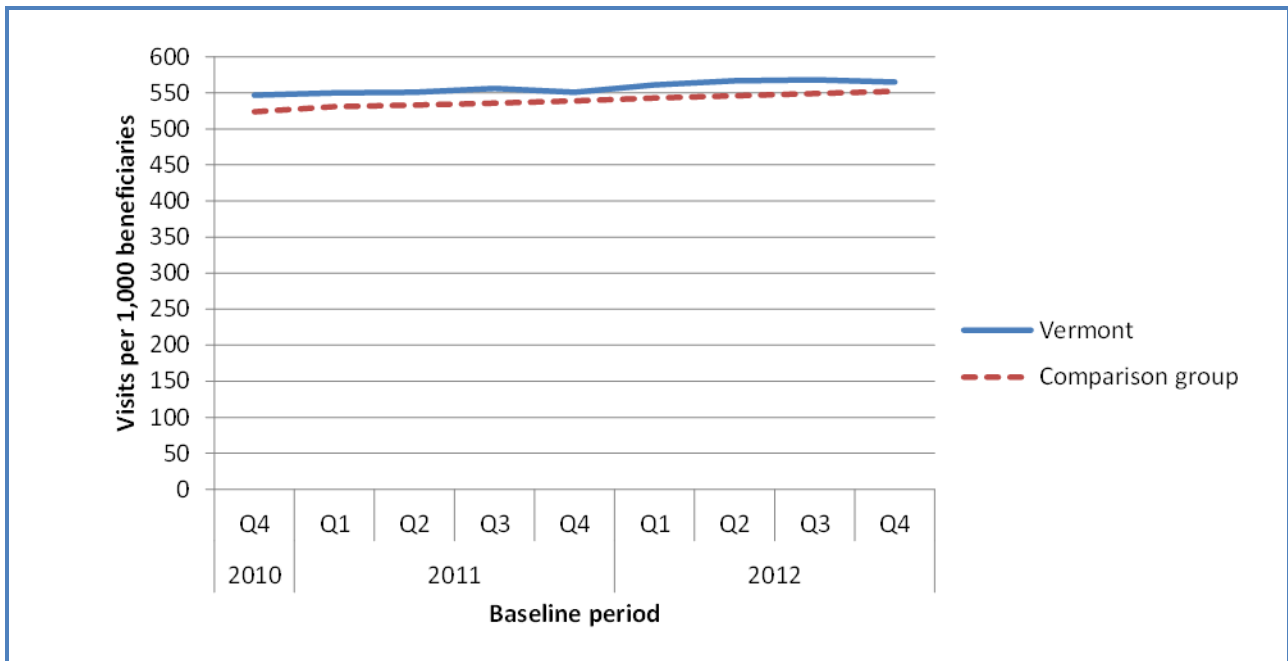
**Figure 8-5. All-cause hospital admissions per 1,000 Medicare beneficiaries, Vermont and comparison group**



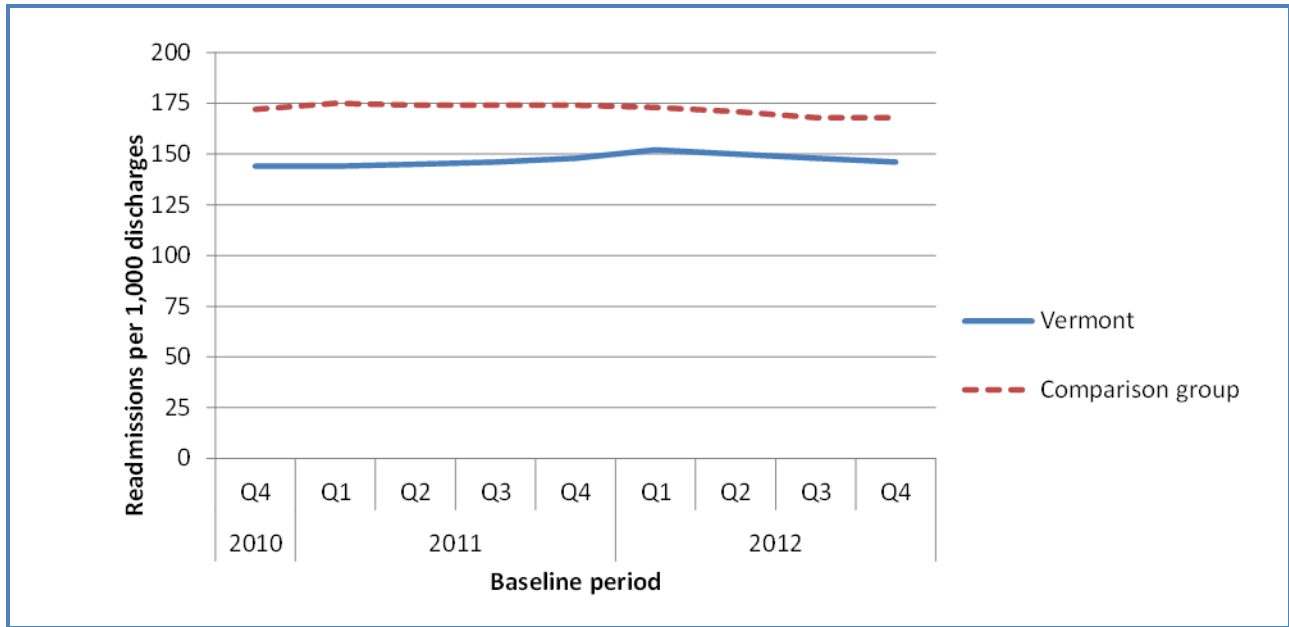
**Figure 8-6. All-cause emergency room visits per 1,000 Medicare beneficiaries, Vermont and comparison group**



**Figure 8-7. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries, Vermont and comparison group**



**Figure 8-8. Readmissions per 1,000 discharges for Medicare beneficiaries, Vermont and comparison group**



**Table 8-5. Utilization measures for Medicare beneficiaries by dual Medicare-Medicaid eligibility status, Vermont and comparison group**

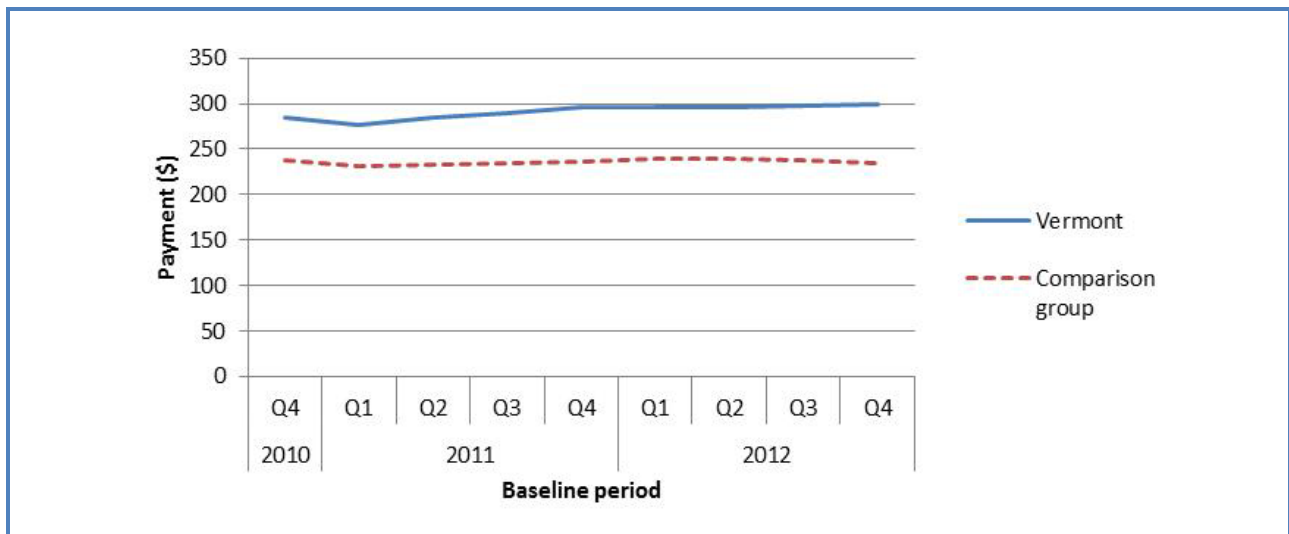
Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>All-cause hospital admissions per 1,000 beneficiaries</b>						
<b>Vermont</b>	<b>269</b>	<b>299</b>	<b>282</b>	<b>208</b>	<b>203</b>	<b>198</b>
Comparison group	424	408	381	282	275	256
<b>All-cause emergency room visits per 1,000 beneficiaries</b>						
<b>Vermont</b>	<b>1,177</b>	<b>1,170</b>	<b>1,179</b>	<b>505</b>	<b>517</b>	<b>532</b>
Comparison group	1,243	1,263	1,271	544	555	555
<b>Emergency room visits that did not lead to hospitalization per 1,000 beneficiaries</b>						
<b>Vermont</b>	<b>1,016</b>	<b>1,002</b>	<b>1,013</b>	<b>400</b>	<b>406</b>	<b>421</b>
Comparison group	966	988	1,013	386	394	405
<b>Readmissions per 1,000 discharges</b>						
<b>Vermont</b>	<b>162</b>	<b>174</b>	<b>169</b>	<b>135</b>	<b>135</b>	<b>135</b>
Comparison group	209	206	200	162	165	158

### 8.3.6 Expenditures

#### Commercially insured

Total payments remained fairly constant over the baseline period for Vermont and the comparison group (*Figure 8-9*). Vermont's total PMPM payments were consistently higher than the comparison group for all baseline quarters, driven by higher expenditures among Vermont adults (*Table 8-6*). Inpatient hospital facility payments increased modestly from \$55 PMPM in fourth quarter 2010 to \$60 PMPM in fourth quarter 2012 (*Figure 8-10*). The comparison group's mean PMPM declined modestly, from \$60 in fourth quarter 2010 to \$57 in fourth quarter 2012. Payments were highest among infants for each year, likely due to the high cost of neonatal care as well as small sample size. During the baseline period, Vermont's payments to other facilities increased by approximately \$9 PMPM, while the comparison group's other facility payments increased by approximately \$4 PMPM; other facility payments were more than \$40 PMPM higher for Vermont than the comparison group throughout the period (*Figure 8-11*). Professional payments and outpatient prescription payments remained stable over the baseline period for Vermont and the comparison group (*Figures 8-12 and 8-13*), but fluctuated when broken out by age group (*Table 8-6*). Outpatient prescription payments were highest among adults for Vermont and the comparison group.

**Figure 8-9. Average total per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group**





**Table 8-6. Average per member per month (PMPM) payment (\$) by type of service and age group for the commercially insured population in MarketScan, Vermont and comparison group**

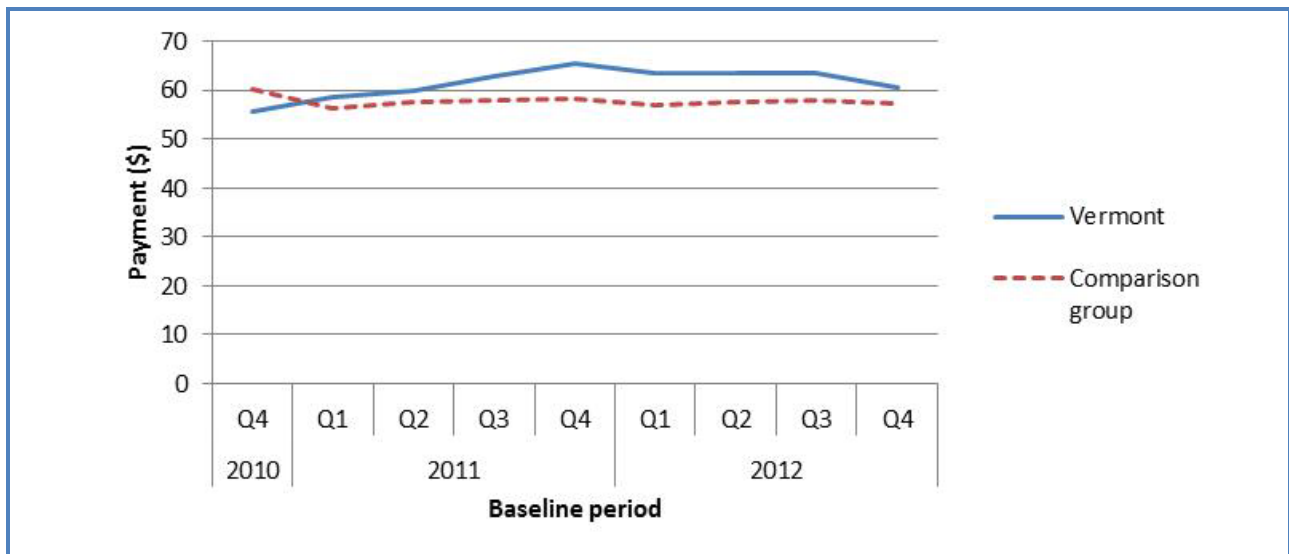
Measure	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Total<sup>a,b</sup></b>									
<b>Vermont</b>	<b>455</b>	<b>500</b>	<b>443</b>	<b>95</b>	<b>127</b>	<b>119</b>	<b>334</b>	<b>338</b>	<b>342</b>
Comparison group	499	519	527	99	103	103	273	269	265
<b>Inpatient facility</b>									
<b>Vermont</b>	<b>195</b>	<b>290</b>	<b>230</b>	<b>9</b>	<b>28</b>	<b>15</b>	<b>66</b>	<b>72</b>	<b>69</b>
Comparison group	246	254	257	17	17	16	69	67	65
<b>Other facility</b>									
<b>Vermont</b>	<b>54</b>	<b>31</b>	<b>38</b>	<b>36</b>	<b>42</b>	<b>44</b>	<b>156</b>	<b>154</b>	<b>164</b>
Comparison group	48	46	48	31	33	34	102	104	106
<b>Professional</b>									
<b>Vermont</b>	<b>195</b>	<b>189</b>	<b>175</b>	<b>49</b>	<b>56</b>	<b>60</b>	<b>111</b>	<b>112</b>	<b>109</b>
Comparison group	204	217	221	50	53	53	101	98	94
<b>Outpatient prescription<sup>c</sup></b>									
<b>Vermont</b>	<b>7</b>	<b>9</b>	<b>5</b>	<b>20</b>	<b>18</b>	<b>22</b>	<b>64</b>	<b>59</b>	<b>65</b>
Comparison group	12	13	10	21	22	22	66	65	64

<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

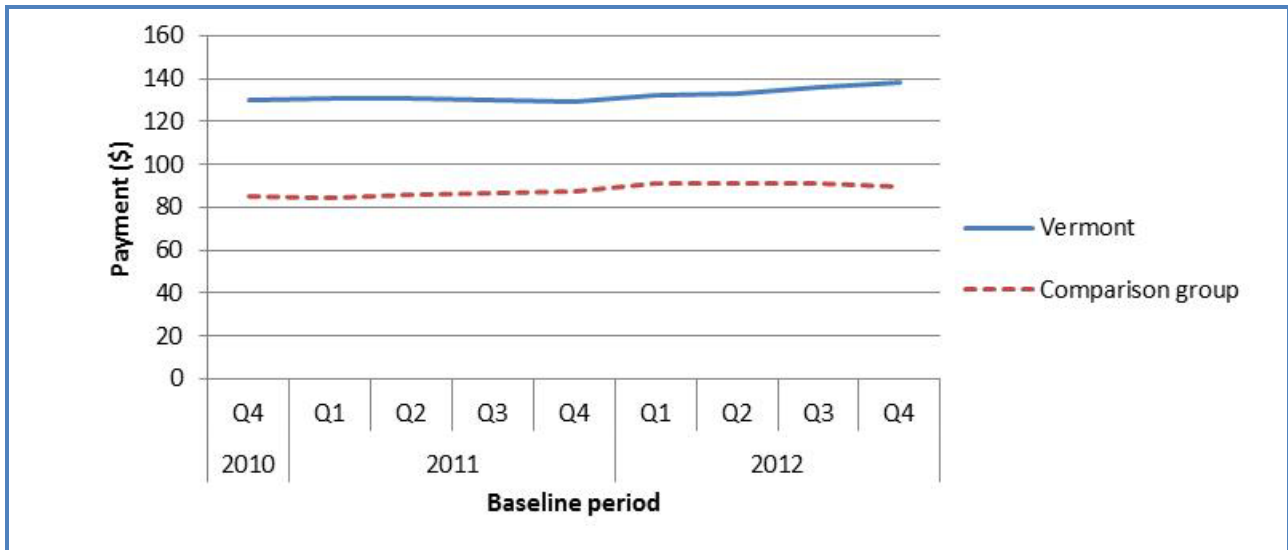
<sup>b</sup> The inpatient, other facility, and professional component expenditures do not add up exactly to the total expenditures because the inpatient component expenditure value does not include inpatient payments included in the outpatient MarketScan table, but the total expenditure value includes all payments.

<sup>c</sup> Denominator only includes members with drug claims captured in MarketScan.

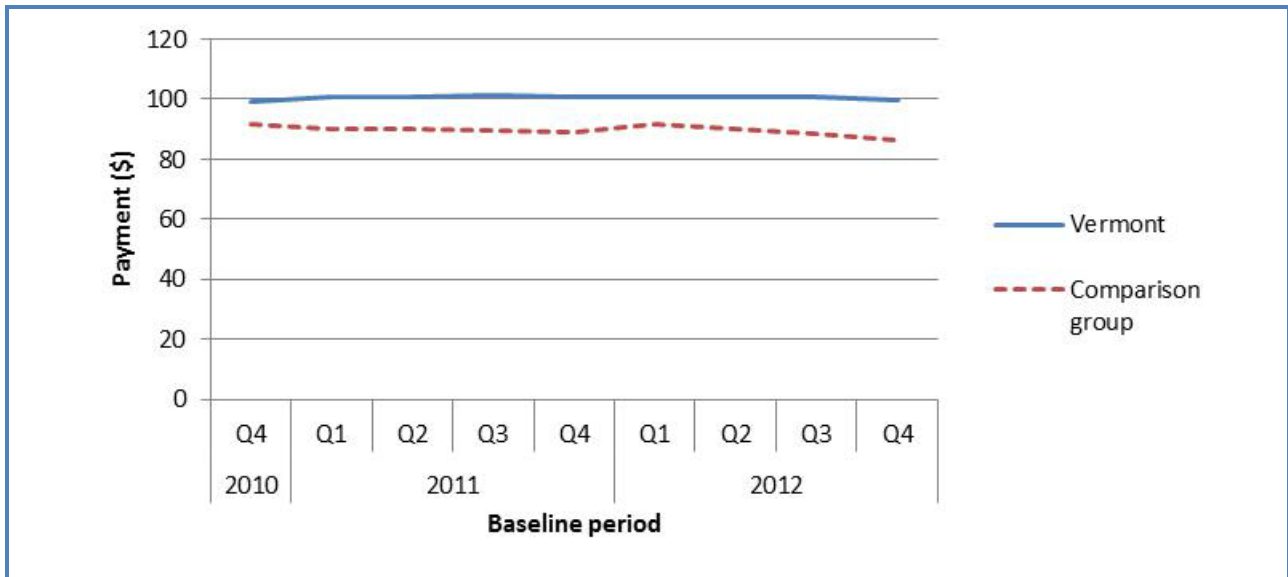
**Figure 8-10. Average inpatient facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group**



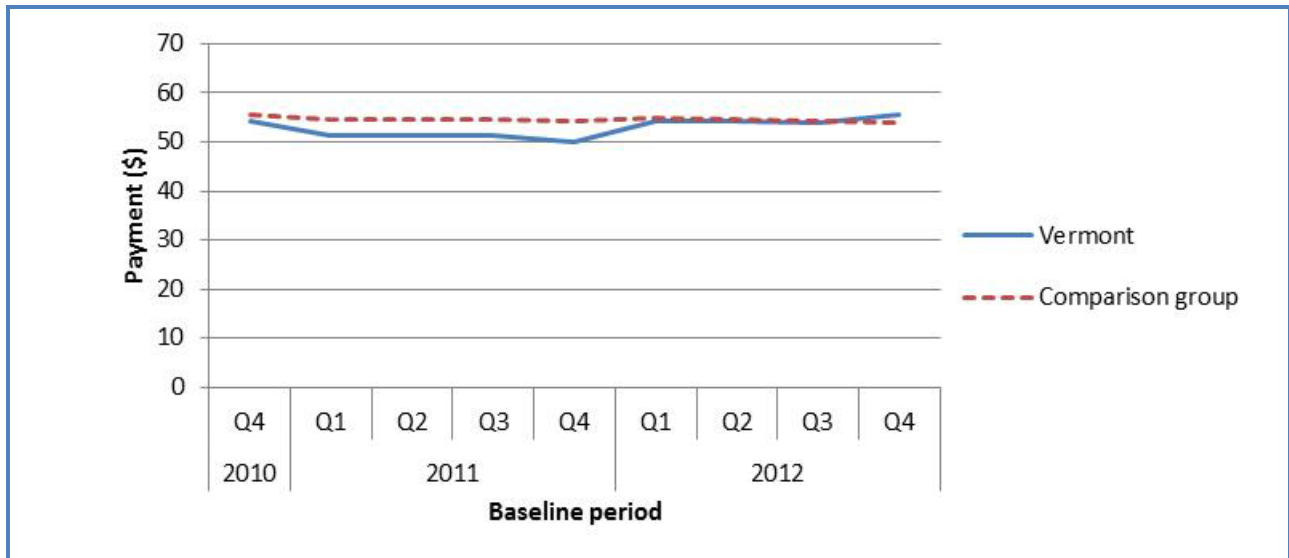
**Figure 8-11. Average other facility per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group**



**Figure 8-12. Average professional per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group**



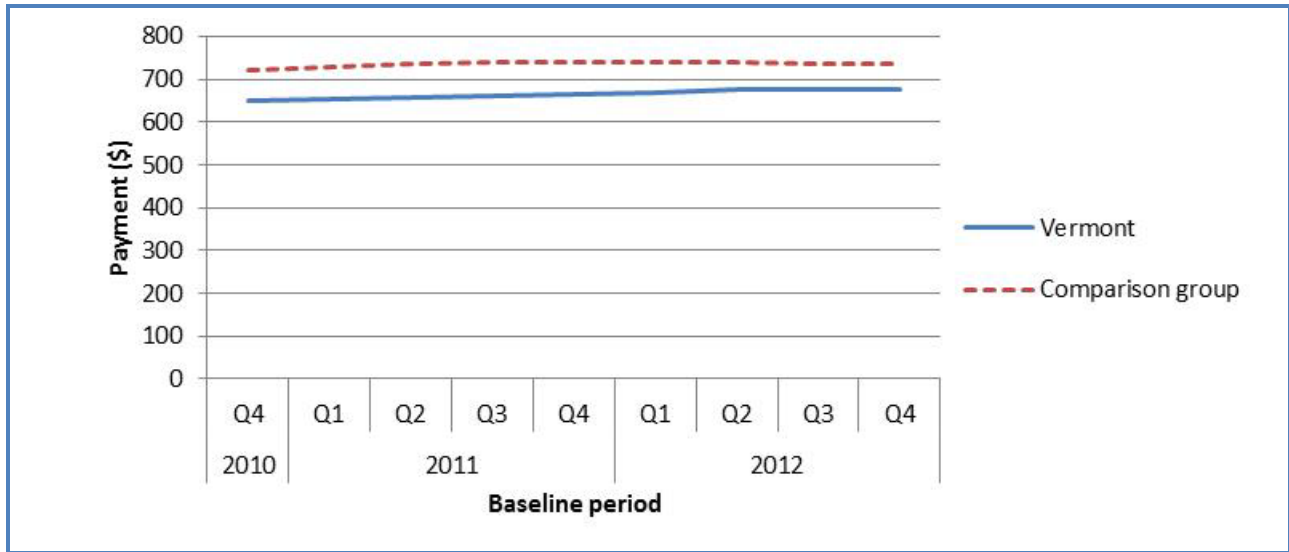
**Figure 8-13. Average outpatient pharmacy per member per month (PMPM) payment (\$) for the commercially insured population in MarketScan, Vermont and comparison group**



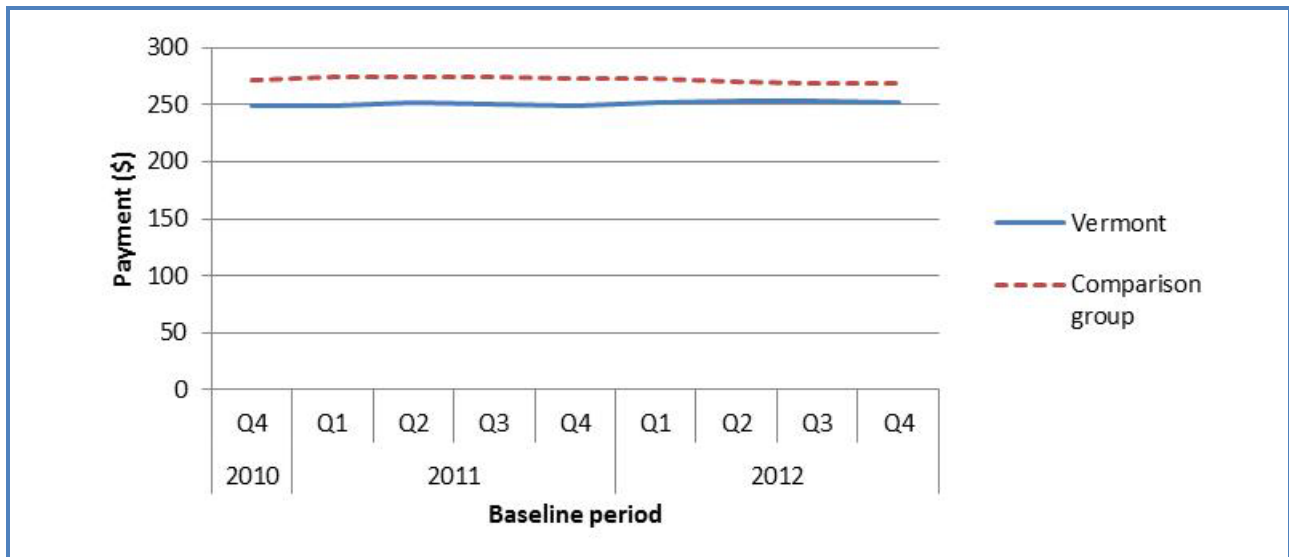
### Medicare

Total Medicare PMPM payments increased slightly over the baseline period for Vermont and the comparison group (*Figure 8-14*). Vermont's total PMPM payments were consistently lower than the comparison group's for all baseline quarters, which may reflect positive changes in the rate of growth related to implementation of the Blueprint for Health and the introduction of the MAPCP Demonstration. PMPM payment patterns were similar for inpatient hospital facility payments (*Figure 8-15*), other facility payments (*Figure 8-16*), and professional services payments (*Figure 8-17*). Medicare-Medicaid enrollees had higher payments than other Medicare enrollees for every payment category (*Table 8-7*).

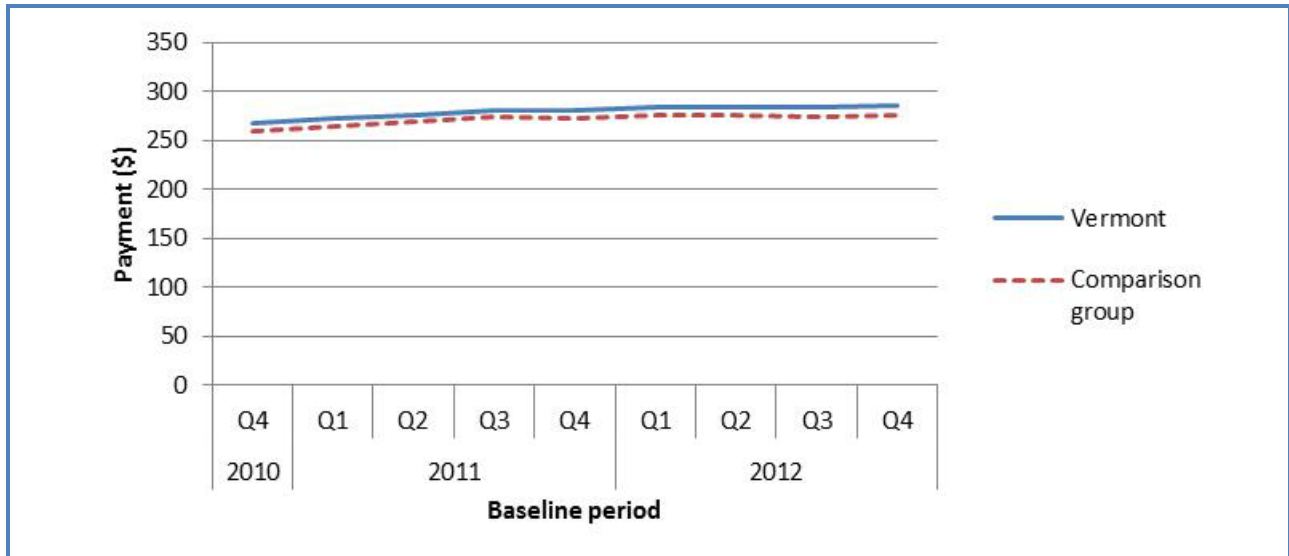
**Figure 8-14. Average total per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group**



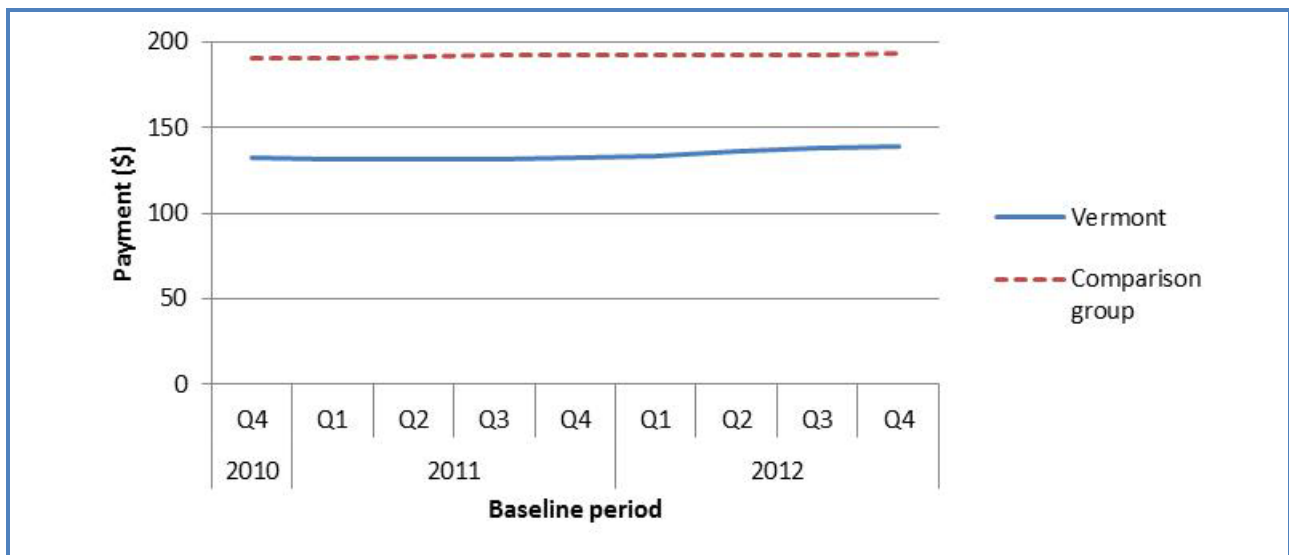
**Figure 8-15. Average inpatient facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group**



**Figure 8-16. Average other facility per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group**



**Figure 8-17. Average professional per member per month (PMPM) payment (\$) for Medicare beneficiaries, Vermont and comparison group**



**Table 8-7. Average per member per month (PMPM) payment (\$) by type of service and dual Medicare-Medicaid eligibility status for Medicare beneficiaries, Vermont and comparison group**

Measure	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Total</b>						
<b>Vermont</b>	<b>807</b>	<b>820</b>	<b>824</b>	<b>600</b>	<b>613</b>	<b>630</b>
Comparison group	925	931	927	658	677	677
<b>Inpatient facility</b>						
<b>Vermont</b>	<b>314</b>	<b>329</b>	<b>326</b>	<b>229</b>	<b>224</b>	<b>229</b>
Comparison group	365	361	353	243	245	241
<b>Other facility</b>						
<b>Vermont</b>	<b>333</b>	<b>337</b>	<b>335</b>	<b>248</b>	<b>264</b>	<b>269</b>
Comparison group	345	356	357	233	247	250
<b>Professional</b>						
<b>Vermont</b>	<b>159</b>	<b>154</b>	<b>163</b>	<b>124</b>	<b>125</b>	<b>132</b>
Comparison group	215	215	216	182	186	186

## 8.4 Vermont Synthesis

Vermont’s SIM Initiative aims to improve care, improve population health, and reduce health care costs. Vermont will do so by: (1) expanding payment and delivery system reform activities that have been ongoing for more than 2 decades within the state and (2) using SIM Initiative funding to strengthen its infrastructure to support implementation, coordination, and evaluation of the proposed payment and delivery system reforms. Vermont’s SIM Initiative has three main foci: payment models, care models, and health IT. Vermont proposes to test three payment models: shared savings program ACOs, episodes of care, and Medicaid pay for performance. State officials will promote care models that are more patient centered and offer a wider array of services, including linkages to a network of community health and social resources.

The major element of the proposed care models is continued expansion of the state’s nationally recognized Blueprint for Health initiative through enhanced practice facilitation and learning collaboratives. Statewide adoption of EHRs and the expansion of practice and hospital connectivity to the Vermont HIE and central registry will be instrumental in establishing a fully integrated learning health system. SIM Initiative funds will also be used to improve clinical and claims data transmission, integration, analytics, and predictive modeling. Other activities envisioned within the SIM Initiative include expanding data collection of patient experiences, improving capacity to measure and address health care workforce needs, enhancing Vermonters’

understanding and active management of their own health, and investing in enhanced telemedicine and home monitoring capabilities.

By the end of March 2014, Vermont made model implementation progress most notably in the following areas:

- Signed contracts with two ACOs for participation in the Vermont Medicaid Shared Savings ACO programs and submitted a State Plan Amendment to CMS for the Vermont Medicaid Shared Savings Program
- Reached participation agreements with Blue Cross and Blue Shield and MVP Health Care as part of the Commercial Shared Savings Program
- Approved an HIE investment intended to develop and implement a population-based infrastructure within Vermont's HIE capabilities
- Made continued progress in establishing interfaces between providers and the HIE
- Released funding to eight innovators throughout the state as part of its sub-grant program
- Began the development process for its episodes of care Model
- Reconfigured the Vermont Health Care Innovation Project Disability and Long-Term Services and Supports work group to incorporate the Medicare-Medicaid enrollee population into the state's SIM testing models

Key informant interviews during the site visit in January 2014 noted broad support for the SIM goals and activities, and interviewees believed the process had worked well to date. Many cited the involvement of a broad set of stakeholders and the level of engagement as a major success. Most agreed that the SIM Initiative builds on health system transformation work already under way in Vermont—with the focus on the Blueprint for Health—and brings it to a new level required to improve the delivery of health care services and implement broad-scale improvements. However, a number of implementation challenges were also cited, including data infrastructure, concern about the intersection between the Blueprint and the ACOs, and the timeline and pace for SIM implementation.

## Appendix A: Qualitative Data and Methods

We collected and analyzed various sources of qualitative data for evaluation of the SIM Initiative. The process included periodically participating in state check-in calls for most states, reviewing state documents, collecting relevant news articles, holding monthly evaluation calls with states, conducting interviews during an intensive 3-day site visit, and conducting provider and consumer focus groups. This appendix provides a description of the methods used for these data collection efforts.

### A.1 Monitoring Data Sources

#### A.1.1 State check-in calls

The evaluation team assigned to the state periodically listened to SIM Initiative state check-in calls with their Center for Medicare and Medicaid Innovation (the Innovation Center) project officer. These calls allowed the team to remain up-to-date on the state's implementation progress and any setbacks or barriers to implementation. Specifically, we were able to take note of states' self-identified achievements and challenges.

#### A.1.2 Document review

We used states' quarterly and annual reports to obtain updated information on their implementation progress since receiving the SIM awards. In states where advisory committees or commissions issued reports, we reviewed those documents. In addition, we reviewed states' project proposals, operational plans, driver diagrams, and state profiles prepared by the State Health Access Data Assistance Center (SHADAC). To supplement these documents, we collected relevant news articles on states' SIM or related initiatives and searched reform-oriented Web sites maintained by some of the states.

#### A.1.3 State evaluation calls

We began monthly federal evaluation-specific calls with each of the Round 1 Test states in April 2014. The RTI evaluation team for the state, the state's SIM Initiative team, the state's Innovation Center project officer, and the RTI evaluation technical assistance lead typically attend the calls. Their purpose is to review interim evaluation findings with the states (when available); discuss any outstanding RTI evaluation data or other needs; and review and discuss state implementation and self-evaluation updates—including accomplishments and challenges, lessons learned, and technical assistance needs for states' self-evaluations. Agendas are provided in advance, and limited summary notes are distributed following the meetings.

### A.2 Site Visits

From January to March 2014, we conducted on-site interviews with key informants in Round 1 Test states. These site visits are the first of three annual rounds of site visits being



conducted under the federal evaluation. This first round focused on SIM plan implementation. Discussion topics included issues related to the application and start-up period, progress toward full implementation, challenges faced by the state SIM teams, and early indications of what was working well and not so well during the early phase of the SIM Initiative.

Key informants interviewed included the states' core SIM teams, other state officials, commercial payers, providers, consumer representatives, and health infrastructure personnel. We solicited suggestions from the state SIM teams for interview candidates and identified additional interview candidates from review of relevant documents. We contacted interview candidates by email or phone to offer them the opportunity to participate within several specific time options. Final lists of site visit interviews were not shared with state SIM teams; the lists remain confidential.

We held the interviews in the offices or locations of the interview participants. All interviews were conducted by at least two evaluation team members. The interview lead used discussion guides to structure each interview session, and a designated note-taker recorded the feedback from each session. Specific interview sessions typically lasted no more than 1 hour. The interviews were interactive; participants were encouraged to share feedback most relevant to their particular roles in the SIM Initiative. To encourage candid discussion, we were clear that we would not identify the specific interview participants or attribute specific comments to individuals in subsequent reporting. Quoted words and phrases cited in state-specific reports are from the interview notes and are used to convey perspectives of particular interest. The state-specific reports are intended to summarize overall themes and common perspectives rather than provide a verbatim account of all comments received. Further, we report the perspectives we heard; we do not necessarily validate the comments received.

The state teams conducted 142 interviews in all—ranging from 19 to 29 interviews per state. **Table A-1** provides a distribution of the completed interviews by state and interviewee type. Consistent with our focus on implementation issues during this first round, the majority of interviews were with state officials. Once an interview was completed, the state evaluation team prepared the interview notes and a summary of the findings.

During the site visits, the team observed advisory and/or task force meetings when feasible. Site visits typically lasted 2 to 3 days.

**Table A-1. Interviews conducted in Round 1 Test states by state and stakeholder type, as of March 31, 2014**

State	State officials	Payers	Providers and provider associations	Consumer advocacy groups	Health infrastructure and other	TOTAL
Arkansas	12	3	4	0	2	21
Maine	12	4	4	1	2	23
Massachusetts	12	1	5	2	4	24
Minnesota	14	4	2	4	2	26
Oregon	16	4	3	3	3	29
Vermont	7	3	2	3	4	19
<b>TOTAL</b>	73	19	20	13	17	142

### A.3 Focus Groups

We are also conducting three annual rounds of focus groups with consumers and providers in each Test state. Our original intention was to conduct focus groups during the site visits, but this was not feasible in the base year due to delays in obtaining focus group recruitment information from the states. Focus groups were conducted in spring 2014 for Arkansas, Maine, Massachusetts, and Oregon, and in summer 2014 for Minnesota and Vermont. *Table A-2* provides the dates, focus group sites, and number and types of groups conducted for each state.

RTI followed a basic overall methodology for conducting the focus groups in each Test state, but varied the group composition and minor elements of the discussion guides to customize the information collected for the specific approach of each state’s SIM plan. For budgeting considerations, we identified a limited set of locations to conduct the focus groups in each Test state. Location selection depended on having a sufficient concentration of the targeted populations from which to recruit participants.

**Table A-2. Focus groups planned for the Round 1 Test states' baseline analysis, as of June 13, 2014**

State	Actual or tentative date	Focus group sites	Consumer groups	Provider groups
Arkansas	February 25–26	<ul style="list-style-type: none"> <li>• Little Rock</li> <li>• Searcy</li> </ul>	<ul style="list-style-type: none"> <li>• 1 group—Medicaid beneficiaries</li> <li>• 1 group—Medicaid beneficiaries who are users of BH services</li> </ul>	<ul style="list-style-type: none"> <li>• 1 group—primary care practices serving Medicaid and commercial clients already participating in PCMH or likely to become a PCMH</li> <li>• 2 groups—one of specialists for the retrospective episodes of care, and the second will be a mix of DD/BH/LTSS providers likely to become Health Homes</li> </ul>
Maine	May 14–15	<ul style="list-style-type: none"> <li>• Portland</li> <li>• Bangor</li> </ul>	<ul style="list-style-type: none"> <li>• 3 groups— Health Home Stage A (Medicaid beneficiaries with chronic conditions)</li> </ul>	<ul style="list-style-type: none"> <li>• 2 mini groups—primary care practices already participating in MaineCare Health Homes Stage A (Stage A is for chronic conditions)</li> <li>• 2 groups of PCPs practicing in PCMHs that serve MaineCare patients</li> </ul>
Massachusetts	April 2–3	<ul style="list-style-type: none"> <li>• Boston</li> <li>• Springfield</li> </ul>	<ul style="list-style-type: none"> <li>• 2 groups—Medicaid beneficiaries enrolled in managed care (PCC or HMO)</li> <li>• 2 groups—state employees participating in the GIC</li> </ul>	<ul style="list-style-type: none"> <li>• 2 groups—PCPs that are part of the PCC</li> <li>• 2 groups—PCPs involved in IRBO contracts.</li> </ul>
Minnesota	July 14–15	<ul style="list-style-type: none"> <li>• Minneapolis</li> <li>• Duluth</li> </ul>	<ul style="list-style-type: none"> <li>• 4 groups—Medicaid beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>• 4 groups—mix of providers participating in Medicaid managed care and/or ACOs, IHP participating providers</li> </ul>
Oregon	March 11–13	<ul style="list-style-type: none"> <li>• Salem</li> <li>• Portland</li> <li>• Albany</li> </ul>	<ul style="list-style-type: none"> <li>• 2 groups—Medicaid-only beneficiaries who use LTSS</li> <li>• 2 groups—state employees insured by PEBB Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• 3 groups—primary care providers caring for state employees</li> <li>• 2 groups—LTSS providers serving Medicaid population</li> </ul>
Vermont	August 6–7	<ul style="list-style-type: none"> <li>• Montpelier</li> <li>• South Burlington</li> <li>• Burlington</li> </ul>	<ul style="list-style-type: none"> <li>• 2 groups—dual Medicare/Medicaid enrollees and Medicaid-only enrollees.</li> </ul>	<ul style="list-style-type: none"> <li>• 3 groups—separate groups for providers participating in (1) OneCare and BPCI, (2) ACCOGM, and (3) FQHC that have applied for a Medicare SSP-ACO.</li> </ul>

Note: ACO = accountable care organization; ACCOGM = Accountable Care Coalition of the Green Mountains; BPCI = Bundled Payments for Care Improvement, BH = behavioral health; CCO = coordinated care organization; DD = developmental disabilities; EOC = episode of care; FQHC = federally qualified health center; GIC = Group Insurance Commission; IHP = Integrated Health Partnerships; LTSS = long-term services and supports; PCMH = patient-centered medical home; PCP = primary care provider; PEBB = Public Employees Benefit Board; SIM = State Innovation Model; SSP-ACO = Shared Savings Program-Accountable Care Organization.

RTI worked with The Henne Group (THG), a small business, to recruit participants, arrange the focus group logistics, and conduct the focus groups. THG facilitated the consumer focus groups, and RTI staff facilitated the provider focus groups. RTI worked with the state SIM staff to obtain recruitment lists for both consumers and providers. Privacy concerns related to the release and use of consumer data proved to be a challenge, resulting in delays for most focus groups. Consumer information was transmitted to RTI and THG via secure Web sites. Provider information, though not technically subject to the Health Insurance Portability and Accountability Act (HIPAA), was also held confidential. When necessary, THG performed telematch and used other methods to identify or confirm contact information. THG over-recruited for each focus group to ensure recruitment goals would be met. In general, for every 12 participants recruited per focus group, we requested a recruitment list of at least 100 individuals.

THG recruited consumer participants through telephone calls and providers through faxes and emails. With the use of state-specific screening scripts, THG screened potential participants by phone to determine their eligibility for the groups. In general, consumer participants had to be over 18 years of age and have had at least one visit to a health care provider in the prior 6 months; provider participants had to have been practicing at least 2 years and have a current caseload of more than 50 patients. Other state-specific criteria are shown in Table A-2.

During the phone recruitment process, participants were given information regarding compensation for travel and time. We compensated consumers with \$75 each and providers with \$300 each. This payment was made on-site following focus group participation. THG recruiters contacted participants a few days prior to, and the evening before, the focus group session to confirm participation and provide additional details regarding logistics.

We obtained written consent from participants before the start of each group, and provided copies of the consent form for participants' personal records. Focus group facilitators followed discussion guides, and discussions were audio-recorded. Following the groups, we prepared summary notes and findings, which were reviewed by the RTI state teams. Specific statements were not attributed to individuals. Focus group reports summarized overall themes and common perspectives rather than providing comments made verbatim.

Processes, procedures, and protocols for the Test state site visit interviews and focus groups were submitted for review and received approval from RTI's institutional review board (IRB). In Vermont, state-based IRB review was also necessary for the focus groups.

## Appendix B: Quantitative Outcomes Data and Measures

### B.1 Data Sources

For the base year annual report, we produced estimates of selected health outcomes from two claims data sources—MarketScan® and Medicare. The data sources and methods used are described below.

#### B.1.2 MarketScan data

We used data from Truven Health Analytics' MarketScan Research Databases to calculate outcomes for the commercially insured population in SIM Round 1 Test and comparison states. The MarketScan Commercial Claims and Medicare Supplemental Databases are constructed with data contributed from 279 employers and 26 health plans, representing more than 345 unique carriers. Enrollees are covered under plan types that include fee for service, fully and partially capitated plans, and various plan models including preferred provider organizations. The plans present a wide variety of products and payment types. Because capitated plans may not have complete expenditure data, for this report we excluded plan members with any capitated payments in the analysis period (approximately 10 percent of the sample).

The MarketScan data include enrollees from all 50 states and the District of Columbia. However, MarketScan data are not random samples of employer-sponsored insurance enrollees. They over-represent large employers and, therefore, are not necessarily representative of employer-sponsored insurance in each state. Further, the MarketScan data do not contain the same benefit design for everyone included in the sample. In particular, drug claims and mental health/substance abuse claims are not submitted and/or covered for everyone in the sample. We used the most recent MarketScan data available from 2010 to 2012.

The MarketScan data include ample clinical, financial, and demographic fields to support calculation of the SIM Initiative evaluation core and state-specific measures. We created analytic files using the following files from the MarketScan data:

- **Annual enrollment file.** The Annual Enrollment Summary Table contains enrollment information for every person enrolled during the year, including a monthly indicator of enrollment. We used the annual enrollment file to calculate the fraction of time each person was enrolled and the total number of people enrolled per year in each state.
- **Claims data.** MarketScan includes files that contain the complete header information for facility claims, all facility and professional encounters and paid claims for inpatient and outpatient services, and outpatient pharmaceutical claims data for a

large portion of the individuals. We used these files to calculate the care coordination, quality of care, utilization, and expenditure outcomes.

### **B.1.3 Medicare data**

We used Medicare claims and enrollment data for 2010 through 2012 from the Chronic Conditions Data Warehouse. The data include: (1) denominator information that indicates number of beneficiaries alive and enrolled in Medicare during the period; (2) enrollment information that indicates number of days beneficiaries were enrolled in Medicare during the period; and (3) claims experience for each beneficiary (including inpatient, hospital outpatient, physician, skilled nursing facility, home health agency, hospice, and durable medical equipment claims). Because enrollees on Medicare managed care plans may not have complete expenditure data, we excluded beneficiaries with any months of enrollment in Medicare managed care. We restricted the Medicare sample to beneficiaries who were alive at the beginning of the year, had at least 1 month of both Part A and Part B enrollment, had no months of Part A only or Part B only, and had no months of Medicare managed care enrollment.

## **B.3 Methods**

This annual report presents baseline estimates from claims data for four domains of performance: (1) care coordination, (2) quality of care, (3) health care utilization, and (4) expenditures. Outcomes are adjusted for part-year enrollment by eligibility fractions and for seasonality by 12-month moving averages, as follows.

### **B.3.1 Eligibility fraction**

Because individuals do not remain enrolled in insurance throughout an entire period, we calculate eligibility fractions for each individual. The eligibility fraction is defined for each period as total number of months enrolled divided by total number of months in the period. For example, an individual who is enrolled in insurance 6 months of a year has an eligibility fraction of 0.5 for that 12-month period. The eligibility fraction is used to inflate expenditure and utilization data if an individual is not enrolled for an entire period. The eligibility fractions are also used as weights in calculating weighted average outcomes. This prevents individuals with limited enrollment but extreme outcomes from strongly influencing the results. For the comparison groups, outcomes are weighted by the eligibility fraction times the propensity score weight.

### **B.3.2 Twelve-month moving averages**

In part because of seasonality, quarterly data can fluctuate substantially. Therefore, we use a moving 12-month average for the quarterly outcomes. Each quarterly data point is a 12-month average in which the last three months of the period is the quarter of interest. Therefore, for each individual, the average for the fourth quarter of 2010 includes data from January 2010–

December 2010, the average for the first quarter of 2011 includes data from April 2010–March 2011, and so forth.

Because propensity scores are calculated on an annual rather than 12-month moving basis (see *Appendix C*), the moving average of quarters that cover multiple years only includes persons enrolled in the year of the given quarter for the comparison group. For example, the comparison group average for the first quarter of 2012 only includes persons enrolled in 2012, while the Test state moving average includes individuals enrolled at any point from April 2011 through March 2012.

### B.3.3 Subpopulations

Because children and adults have different patterns of health care use, we report annual results for the overall population and by age group for the MarketScan sample—infant (0–1 year of age), child (2–18 years of age), and adult (over 18 years of age). For each year, we used the individual’s age as of his/her last month of enrollment to define his/her age group. For Medicare, we report annual results for the overall population and by whether the beneficiary was dually eligible for Medicaid, because dual Medicare-Medicaid enrollees have different health care needs and utilization patterns than other Medicare beneficiaries. Beneficiaries were designated as dually eligible for the year if they were enrolled in Medicaid for at least 1 month during the year.

### B.3.4 Care coordination measures

To evaluate the impact of the Test states’ models on care coordination, we report the following care coordination measures:

- **Number of visits to a primary care provider per 100 covered persons.** Visits to primary care providers were counted if the provider type was any of the primary care provider types listed in *Table B-1*, and one of the following primary care evaluation and management Current Procedural Terminology (CPT) codes was included on the claim for the visit:
  - 99201–99205, 99211–99215, 99241–99245, 99304–99310, 99315–99316, 99318, 99324–99328, 99334–99350, 99358–99359, 99366–99368, 99374–99397, 99401–99412, 99420, 99429, 99441–99444, 99495, 99496

We did not include number of visits to a primary care or specialty provider for the commercial population in Maine, because Maine’s MarketScan data had significant coding differences in the provider specialty type variable as compared to other states.

- **Number of visits to a specialty provider per 100 covered persons.** Visits to specialty providers were counted if the provider type was any of the specialty provider types listed in *Table B-1*, and one of the primary care evaluation and management CPT codes shown above was included on the claim for the visit.

- **Percent of acute inpatient hospital discharges with a follow-up visit within 14 days.** This is the number of acute inpatient hospital discharges followed by a visit to a provider (identified by visits with any of the below CPT codes) within 14 days of discharge date, divided by the total number of acute inpatient hospital discharges.
- 99201–99205, 99211–99215, 99241–99245, 99304–99310, 99315–99316, 99318, 99324–99328, 99334–99350

**Table B-1. Primary and specialty provider types**

Primary care providers	Specialty providers	
<ul style="list-style-type: none"> <li>• General practice</li> <li>• Family practice</li> <li>• Internal medicine</li> <li>• Pediatrics (for MarketScan)</li> <li>• Geriatric medicine</li> <li>• Multispecialty clinic or group practice</li> <li>• Preventive medicine</li> <li>• Nurse practitioner</li> <li>• Physician assistant</li> <li>• Obstetrics/gynecology (for MarketScan; specialty provider for Medicare)</li> </ul>	<ul style="list-style-type: none"> <li>• Allergy/immunology</li> <li>• Otolaryngology</li> <li>• Cardiology</li> <li>• Dermatology</li> <li>• Gastroenterology</li> <li>• Neurology</li> <li>• Ophthalmology</li> <li>• Pathology</li> <li>• Physical medicine and rehabilitation</li> <li>• Psychiatry</li> <li>• Pulmonary disease</li> <li>• Diagnostic radiology</li> <li>• Urology</li> <li>• Nephrology</li> <li>• Infectious disease</li> <li>• Endocrinology</li> <li>• Rheumatology</li> <li>• Peripheral vascular disease</li> <li>• Critical care (intensivists)</li> <li>• Hematology/oncology</li> <li>• Neuropsychiatry</li> <li>• Medical oncology</li> <li>• Emergency medicine</li> </ul>	<ul style="list-style-type: none"> <li>• General surgery</li> <li>• Anesthesiology</li> <li>• Neurosurgery</li> <li>• Oral surgery (dentists only)</li> <li>• Orthopedic surgery</li> <li>• Plastic and reconstructive surgery</li> <li>• Colorectal surgery</li> <li>• Thoracic surgery</li> <li>• Hand surgery</li> <li>• Vascular surgery</li> <li>• Cardiac surgery</li> <li>• Maxillofacial surgery</li> <li>• Surgical oncology</li> <li>• Sports medicine</li> <li>• Geriatric psychiatry</li> <li>• Palliative medicine</li> <li>• Sleep medicine</li> <li>• Pain management</li> <li>• Osteopathic</li> <li>• Nuclear medicine</li> <li>• Radiology</li> <li>• Addiction medicine</li> </ul>

### B.3.5 Quality of care measures

For the MarketScan sample, we include two baseline measures of quality of care. Because the quality of care measures do not include expenditure data and, therefore, will not be impacted by missing payment information, the entire MarketScan population is included. We report the following two measures of quality of care:



- **Prevention Quality Indicators (ambulatory sensitive condition hospitalization rates).** For MarketScan, we evaluated the rates of avoidable hospitalizations using the composite Prevention Quality Indicators (PQIs) that the Agency for Healthcare Research and Quality has stewarded as ambulatory care sensitive conditions. The idea behind PQIs is that certain hospitalizations may be avoided with adequate and quality access to primary care services. Given the low rates of the individual measures, we report on the three composite PQIs.<sup>10</sup> The first, the ***Overall Composite (PQI #90)***, includes 12 of the 14 individual PQIs:
  - PQI #01 Diabetes Short-Term Complications Admission Rate
  - PQI #11 Bacterial Pneumonia Admission Rate
  - PQI #03 Diabetes Long-Term Complications Admission Rate
  - PQI #12 Urinary Tract Infection Admission Rate
  - PQI #05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate
  - PQI #13 Angina without Procedure Admission Rate
  - PQI #07 Hypertension Admission Rate
  - PQI #14 Uncontrolled Diabetes Admission Rate
  - PQI #08 Heart Failure Admission Rate
  - PQI #15 Asthma in Younger Adults Admission Rate
  - PQI #10 Dehydration Admission Rate
  - PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes

The second is the ***Acute Composite (PQI #91)*** and includes three individual PQIs:

- PQI #10 Dehydration Admission Rate
- PQI #12 Urinary Tract Infection Admission Rate
- PQI #11 Bacterial Pneumonia Admission Rate

Finally, the ***Chronic Composite (PQI #92)*** measure includes nine individual PQIs:

- PQI #01 Diabetes Short-Term Complications Admission Rate
- PQI #13 Angina without Procedure Admission Rate

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<sup>10</sup> PQI rates will be calculated per 100,000 patients. Only observable rates will be reported, as risk-adjusted rates posted by the Agency for Healthcare Research and Quality for the PQIs are established based on the general population in a geographic area and will be incorrect when limited to the MarketScan population.

- PQI #03 Diabetes Long-Term Complications Admission Rate
- PQI #14 Uncontrolled Diabetes Admission Rate
- PQI #05 Chronic Obstructive Pulmonary Disease or Asthma in Older Adults Admission Rate
- PQI #15 Asthma in Younger Adults Admission Rate
- PQI #07 Hypertension Admission Rate
- PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes
- PQI #08 Congestive Heart Failure Admission Rate
- **Well-child visits within 15 months of age.** The percentage of members who turned 15 months old during the measurement year and who had the following number of well-child visits during their first 15 months of life:
  - 0 well-child visits
  - 6 or more well-child visits

The denominator includes all infants in MarketScan who turn 15 months in the given year and are continuously enrolled in MarketScan from 1 month to 15 months of age. The numerator is the count of children with 0 to 6 or more well-child visits. A visit counts as a well-child visit if the claim includes a diagnosis code of V202, V203, V700, V703, V705, V706, V708, or V709, or a procedure code of 99381, 99382, 99391, 99392, 99432, or 99461.

### B.3.6 Utilization measures

Utilization measures are reported as rates per 1,000 covered persons (or discharges for readmissions). For each measure, the numerator is the weighted sum of number of events (inpatient admissions, emergency room [ER] visits, and ER visits that lead to a hospitalization). Events are included in a period's total if the discharge or service date on the claim was during the period. The denominator is number of eligible plan members in the state enrolled during the period.

- **All-cause hospitalizations.** This is the rate per 1,000 covered persons of all admissions to acute care hospitals reported in the inpatient file for the period. For MarketScan, we identified acute care hospital admission by including all admissions with a place of service that indicated the admission was to an inpatient hospital (place of service = 21). For Medicare, we identified all hospital admissions in which the last four digits of the provider values were 0001–0879 (acute inpatient) or 1300–1399 (critical access hospitals). For both data sources, some records in the inpatient claims files may appear to be multiple admissions, but are in fact transfers between facilities;

these records are counted as a single admission. To combine transfers into one acute admission, we identified claims that had no more than 1 elapsed day between the discharge date of the index claim and admission date of the subsequent claim. We combined the claims into one record by taking the earliest admission date and latest discharge date and summing all payment amounts.

- **ER visits that did not lead to a hospitalization.** This is the rate per 1,000 covered persons of visits to the ER that did not result in an inpatient hospital admission. ER visits are identified in the outpatient services file as visits with a revenue center line item equal to 045X or 0981 (ER care) or 0762 (treatment or observation room). If the procedure code on every line item of the ER claim equals 70000 through 79999 or 80000 through 89999 and no line items have a revenue center code equal to 0762, we exclude these claims (thus excluding claims in which only radiological or pathology/laboratory services were provided).
- **ER visits/observation stays (for any cause).** This is the rate per 1,000 covered persons of visits to the ER. ER visits that did not lead to a hospitalization (outpatient visits) are defined as previously described. ER visits that resulted in a hospitalization are identified as hospital stays with any revenue center line item equal to 045X or 0981 (ER care) in the inpatient services file. To obtain the rate of all-cause ER visits, we added the number of outpatient ER visits and ER visits that resulted in a hospitalization.
- **Readmissions.** This is the rate per 1,000 discharges of hospitalizations that occurred within 30 days following a live discharge. Index hospital discharges are identified as inpatient stays with a discharge date within the given measurement period (12 months) minus 30 days from the end of the period. We counted the number of instances when the beneficiary had an inpatient readmission within 30 days of the index stay discharge. The numerator is the sum of the number of readmissions within 30 days, and the denominator is the total number of index hospital discharges.

### B.3.7 Expenditure measures

Weighted average payments are calculated on a per member per month basis. For each individual, per member per month payments are estimated as one-twelfth of their annual payments. All individuals enrolled in the period for the state are included in the calculation of the averages, so the figures also reflect the presence of individuals with zero medical costs. The payments are not risk-adjusted<sup>11</sup> or price-standardized across geographic areas. Claims are included in a period's total if the discharge or service date on the claim was during the period. We report the following categories of payments:

- **Total payments.** Total payments represents overall net payment amounts from all inpatient and outpatient (facility and professional) claims and encounters, excluding

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<sup>11</sup> While the expenditures are not formally risk-adjusted, the comparison groups are weighted by the propensity score (see Appendix C), which includes some risk adjustment measures.

member cost sharing. Although pharmacy component expenditures are included for MarketScan, total payments do not include pharmacy claims because MarketScan does not include the drug claims for every member.

- **Inpatient hospitals facility.** This represents the sum of net facility payments to a hospital for covered services provided during all inpatient admissions. Inpatient admissions were assigned to a period based on the discharge date. Inpatient admissions include stays in psychiatric hospitals and rehabilitation facilities but exclude skilled nursing facility stays.
- **Other facility.** This represents the sum of other facility payments for services, including those made for outpatient, home health, hospice, and skilled nursing facility services.
- **Professional.** This is the overall net payment amounts from all inpatient and outpatient professional claims and encounters, excluding member cost sharing.
- **Pharmaceutical payments.** This is the sum of net payments for outpatient pharmaceutical claims. The denominator for the average pharmaceutical payments is restricted to individuals with drug claims in MarketScan data.

## Appendix C: Comparison Group Methods

The SIM Initiative is being evaluated using a pre-post comparison group design. In this design, the comparison group provides an estimate of what would have happened in the SIM Initiative treatment group in the absence of the intervention. The difference in the changes over time from the pre-test period to the test period between the Test state and its comparison group provides an estimate of the impact of the SIM Initiative. The comparison group should be similar to the Test state on all relevant dimensions (e.g., demographic, socioeconomic, political, regulatory, and health and health systems), except for the policy change being tested.

Although some Test states are phasing in their care models and may produce conditions suitable for within-state comparison groups in the early implementation years, state SIM Initiative care models and strategies should be statewide by the end of the test period. Therefore, we looked to other states as the source of comparison group members.

For each Test state, we used a multistage procedure to identify a comparison group. We first identified up to three states that resemble the Test states on key characteristics, and for each payer database (MarketScan and Medicare), we weighted individuals within the comparison states so the population characteristics of the comparison states are similar to those in the SIM Initiative target state. For the weights, we computed propensity scores for each individual in the state files from logistic regression of the probability of residing in the Test state. In the following sections, we present the procedures we used to select the comparison states for Round 1 Test states and compute the person-level weights used in the analysis.

### C.1 Selection of Comparison States

Relying on a single comparison state may be prone to bias because contrasts may reflect idiosyncratic features of the comparison or Test state. To reduce the risk of this type of bias, we identified three comparison states for each Test state. To identify the three comparison states, we used the following procedures:

- Identified the pool of potential comparison states
- Computed Euclidean distance scores based on a broad array of state-level characteristics to summarize the difference between each Test state and each potential comparison state
- Used a boosted regression to identify any additional characteristics that were unique to a Test state
- Rank-ordered comparison states by their distance scores
- Identified the states with the three smallest difference scores

- Reviewed the identified states for appropriateness
- Replaced inappropriate states with the next state in the rank-ordering until three comparison states had been identified

### C.1.1 State-level characteristics

If the comparison groups are to allow us to separate the impacts of the SIM Initiatives from other factors, the characteristics of the comparison group and the trajectory of these characteristics should resemble those of the test group as closely as possible. The states vary along numerous dimensions that can affect the estimated SIM Initiative impact. We compiled a database of 25 baseline (pre-SIM Initiative) state-level characteristics in the following dimensions:

- Key outcomes of interest, including expenditures, utilization, care coordination, quality of care, provider, and population health
- Demographic characteristics of the state’s population, including age distribution, income levels, and employment
- Access to care measures, such as the percentage of children and adults with no insurance, adults with a usual source of care, and children with medical and preventive care visits
- Characteristics of the state’s public and private health care systems, including Medicaid eligibility levels, managed care penetration levels, and provider supply
- Health policy reforms, including implementation of the Patient Protection and Affordable Care Act Medicaid expansions, and the number of other Innovation Center payment and delivery system initiatives

**Table C-1** contrasts the mean values for the six Test states with the mean values of the 25 non-SIM Initiative states. The magnitude of the differences is summarized by the effect size (group difference divided by the pooled standard deviation of the measure). Compared with the non-SIM Initiative states, the Test states have more physicians per 100,000 population, more providers who have adopted EHRs, lower rates of uninsured residents, fewer years of potential life lost, higher baseline Medicaid income eligibility levels, and more currently active initiatives of the Center for Medicare and Medicaid Innovation. These differences underline the importance of selecting comparison states that are more closely matched to a Test state. As a result of these findings, and in collaboration with the Center for Medicare and Medicaid Innovation, we expanded the list of potential comparison states to include Model Design and Model Pre-Test states, as well as the non-SIM Initiative states.

**Table C-1. Group means and effect sizes for differences in group means, Test states vs. non-SIM Initiative states**

Dimension and measure	States mean		Effect size
	Non-SIM	Test	
<b>Baseline population characteristic</b>			
Percentage of the state's population living in urban areas, 2010 <sup>1</sup>	69.9%	63.3%	-0.45
Average median annual income, 2009–2011 <sup>2</sup>	\$48,509	\$52,612	0.54
Seasonally adjusted unemployment rate, November 2012 <sup>3</sup>	6.9%	6.7%	-0.12
<b>Baseline health care system characteristic</b>			
Health spending per capita, 2011 <sup>4</sup>	\$6,793	\$7,598	0.86
Medicaid payment per enrollee, 2010 <sup>5</sup>	\$5,920	\$6,280	0.28
Active patient care physicians per 100,000 population, 2010 <sup>6</sup>	200	250	1.41
Office-based providers with basic EHR systems, 2012 <sup>7</sup>	39.2%	47.8%	0.80
Hospitals with EHR, 2012 <sup>7</sup>	53.5%	68.5%	1.09
Community pharmacies e-prescribing, 2012 <sup>7</sup>	93.2%	94.5%	0.56
<b>Baseline care coordination/quality measure</b>			
Hospital admissions among Medicare beneficiaries for ambulatory care–sensitive conditions, per 100,000 beneficiaries, 2011 <sup>8</sup>	5,726	5,288	-0.36
Medicare 30-day hospital readmissions as a percent of admissions, 2011 <sup>8</sup>	17.4%	17.2%	-0.10
<b>Baseline access to care measure</b>			
Percentage of adults with a usual source of care, 2011 <sup>9</sup>	76.1%	83.0%	1.16
Percentage of children with a medical and dental preventive care visit in past year, 2011–2012 <sup>10</sup>	65.6%	69.7%	0.66
Percentage of adults ages 19–64 uninsured, 2010–2011 <sup>2</sup>	22.1%	15.2%	-1.30
Percentage of children ages 0–18 uninsured, 2010–2011 <sup>2</sup>	10.1%	6.2%	-1.19
<b>Baseline population health measure</b>			
Years of potential life lost before age 75 among adults age 25 and older, 2008–2010 <sup>12</sup>	8,972	7,329	-1.02
Percentage of adults ages 18–64 who report fair or poor health, 14 or more bad mental health days, or activity limitations, 2011 <sup>9</sup>	35.2%	35.0%	-0.04
<b>Baseline Medicaid program characteristics</b>			
Medicaid eligibility income limit for working parents of dependent children (% of FPL), as of January 2013 <sup>13</sup>	61.2%	132.3%	1.29
Percentage of Medicaid enrollees in comprehensive managed care plans, 2011 <sup>11</sup>	71.2%	67.2%	-0.17
<b>Trajectory of state health system</b>			
Change in Medicaid eligibility income limit for parents (FPL percentage points), January 2013 to January 2014 <sup>13-15</sup>	13.0%	11.3%	-0.04
Number of the Innovation Center's initiatives currently active in the state, 2013 <sup>15,16</sup>	3.96	7.33	1.47

Note: the Innovation Center = the Center for Medicare and Medicaid Innovation; EHR = electronic health records; FPL = federal poverty level; SIM = State Innovation Models.

**Table C-1. Group means and effect sizes for differences in group means, Test states vs. non-SIM Initiative states (continued)**

Sources:

<sup>1</sup>U.S. Census Bureau, 2010 Census. <http://www.census.gov/2010census/>.

<sup>2</sup>U.S. Census Bureau, *Current Population Survey, 2009–2011 annual social and economic supplements*. <http://www.census.gov/hhes/www/income/data/statemedian/index.html>.

<sup>3</sup>Bureau of Labor Statistics. (2013). State and territory figures from Table 3, Regional and state employment and unemployment: November 2012, and Unemployment rates by state, seasonally adjusted: November 2011 and 2012. <http://www.bls.gov/news.release/laus.t03.htm>.

<sup>4</sup>Centers for Medicare & Medicaid Services (2011). *Health expenditures by state of residence*. <http://www.cms.gov/NationalHealthExpendData/downloads/resident-state-estimates.zip>.

<sup>5</sup>Kaiser Commission on Medicaid and the Uninsured and Urban Institute estimates based on data from FY 2010 MSIS and CMS-64 reports.

<sup>6</sup>Health Resources and Services Administration (HRSA). (n.d.). *AHRF mapping tool: Data sources, definitions, and notes*. <http://ahrf.hrsa.gov/arfdashboard/ArfGeo.aspx>

<sup>7</sup>Office of the National Coordinator for Health IT, U.S. Department of Health and Human Services. (2013). *Electronic health record adoption: EHR adoption by office-based providers (2012)*. <http://dashboard.healthhealthIT.gov/HEALTHITAdoption/?view=0>.

<sup>8</sup>Centers for Medicare & Medicaid Services. (2011). *Chronic conditions data warehouse (CCW)*. <https://www.ccwdata.org/web/guest/about-ccw>.

<sup>9</sup>National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. (2010, 2011). *Behavioral Risk Factor Surveillance System (BRFSS)*. <http://www.cdc.gov/brfss/>.

<sup>10</sup>U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. Data Resource Center for Child and Adolescent Health, Oregon Health and Science University Child and Adolescent Health Measurement Initiative. (2012). *National Survey of Children's Health, 2011/12*. <http://www.nschdata.org>.

<sup>11</sup>Centers for Medicare & Medicaid Services. (2012). *Medicaid managed care enrollment report*. <http://www.medicare.gov/Medicaid-CHIP-Program-Information/By-Topics/Data-and-Systems/Downloads/2011-Medicaid-MC-Enrollment-Report.pdf>.

<sup>12</sup>Centers for Disease Control and Prevention, National Center for Health Statistics. (2006, 2007, 2008). *NVSS restricted use micro data period linked birth and infant death data*. <http://www.cdc.gov/nchs/linked.htm>.

<sup>13</sup>Kaiser Family Foundation. (2013). Getting into gear for 2014: Findings from a 50-state survey of eligibility, enrollment, renewal, and cost-sharing policies in Medicaid and CHIP, 2012–2013. <http://kff.org/medicaid/report/getting-into-gear-for-2014-findings-from-a-50-state-survey-of-eligibility-enrollment-renewal-and-cost-sharing-policies-in-medicare-and-chip-2012-2013/>.

<sup>14</sup>Centers for Medicare & Medicaid Services. (n.d.). *Medicaid and CHIP eligibility levels*. <http://www.medicare.gov/medicaid-chip-program-information/program-information/medicaid-and-chip-eligibility-levels/medicaid-chip-eligibility-levels.html>.

<sup>15</sup>Comparison group analysis.

<sup>16</sup>Centers for Medicare & Medicaid Services. (n.d.). *Innovation models*. <http://innovation.cms.gov/initiatives/index.html#views=models>.

### **C.1.2 State selection procedures**

Using this database of state characteristics, we assessed the similarity of each Test state to the pool of 16 Model Design, 3 Pre-Test and 25 non-SIM Initiative comparison states. Similarity was measured by a statistical measure of “distance” between two states known as the Euclidean distance, which is based on the relative magnitude of the differences in state-level means. Distances are summed over characteristics to create a total distance score. The smaller the distance score, the more similar two states are. We also computed another common distance



measure, the Mahalanobis score, but found those scores to be unstable given the large number of characteristics under consideration.

We based the distance scores on the same set of 25 characteristics for each Test state. However, a Test state might have other extreme or unusual characteristics that should also be considered when selecting comparisons. To test this possibility, we used boosted regression to examine more than 100 additional characteristics in our database. Boosted regression is a data mining technique that iteratively identifies influential predictors of an outcome using an algorithm that can be efficiently applied to various datasets. For three Test states, all influential variables identified by boosted regression were already part of the base set of 25 state characteristics. In two states, the addition of influential variables did not affect distance score rankings. In the remaining Test state, the variables identified by boosted regression resulted in some alterations of the rank-ordering of the top five potential comparison states.

The final step in the state selection process was to produce a list of comparisons for each Test state rank-ordered by distance scores, with the smallest scores at the top of the list. These lists were then reviewed by state staff for problems. We removed comparison states from the list for one of two reasons: (1) unavailability of recent Medicaid data (Wisconsin and New York), and (2) geographic distance or uniqueness (Hawaii). We replaced each eliminated state with the next state in rank order.

*Table C-2* shows the selected states and their distance scores. A total of 11 different states were selected as comparisons for the Round 1 Test states. The three comparison states for Arkansas are not part of the SIM Initiative. The remaining eight comparison states are all SIM Model Design or Pre-Test states.

**Table C-2. Comparison states selected for each SIM Test state**

Rank	SIM Test state											
	Arkansas		Maine		Massachusetts		Minnesota		Oregon		Vermont	
	State	Value	State	Value	State	Value	State	Value	State	Value	State	Value
1	KY	11.42	NH	20.74	CT	25.24	CO	29.20	CO	14.14	NH	20.44
2	AL	15.82	PA	22.22	NH	31.30	IA	33.83	WA	18.66	IA	30.04
3	OK	18.45	RI	35.70	RI	34.42	WA	34.04	MI	19.41	PA	31.72

Note: SIM = State Innovation Models

## C.2 Calculation of Person-level Weights

While the state selection process provides a set of three comparison states that are similar in major respects to each Test state, differences may remain between the database populations of the Test and comparison states. To balance the population characteristics, we estimated propensity scores for all individuals from the comparison states in each payer database. A propensity score is the probability that an individual is from the Test state rather than a comparison state.

The objective of propensity score modeling is to create a weighted comparison group with payer characteristics equivalent to those for Test state population. To the extent that these characteristics are correlated with expenditure, utilization, and quality outcomes, propensity weighting will help to balance pre-demonstration levels of the outcomes as well.

### C.2.1 Person-level characteristics

The initial step in the process was to select person-level characteristics to be used in each propensity score model. We extracted these characteristics from the respective payer databases; therefore, they are unique to the databases. The propensity models for individuals in MarketScan files included the following variables:

- Gender
- Employee relationship (employee/spouse/child-other)
- Pharmaceutical claims (yes/no)
- Mental health claims coverage (yes/no)
- HMO plan (yes/no)
- Consumer-driven or high-deductible health plan (yes/no)
- Specialty care (specialty indicated on 70 percent or more of outpatient records)
- Health plan (enrolled in health plan vs. employer plan)
- Number of health conditions (count of up to 25 major diagnostic categories)

We considered two other variables for the model. First, we excluded urban geographic location because the MarketScan data on metropolitan statistical areas had not been updated since 2004 and did not distinguish between metropolitan, micropolitan, and rural areas. Moreover, all MarketScan clients in some states were located in metropolitan statistical areas.

Second, because we estimated separate models for each of the major MarketScan age groups, we did not include further adjustments for age. These variables may be included in future analyses.

We extracted the following characteristics of Medicare beneficiaries for the propensity models from the Chronic Condition Warehouse:

- Gender
- Age 64 years or younger
- Age 75–84 years
- Age 85 years or older
- Disabled (yes/no)
- Medicaid eligible (yes/no)
- White race (yes/no)
- Resides in metropolitan area (yes/no)

One important variable we were not able to include due to time constraints is the hierarchical condition category risk score. This risk score predicts the next year's Medicare expenditures based on diagnostic conditions found in the current year's claims. We will add this variable in subsequent reports.

### **C.2.2 Estimation and weighting procedures**

Using the characteristics listed above, we estimated propensity models by logistic regression in which the outcome was 1=Test state resident and 0=comparison state resident. Separate models were estimated for 2010, 2011, and 2012 data. Moreover, separate models were estimated for each of the three major MarketScan age groups (infants aged 0–1 years, children and adolescents aged 2–18 years, and adults aged 19–64 years). Therefore, we estimated a total of 54 models for the MarketScan data (3 age groups × 6 Test states × 3 years) and 18 models for Medicare beneficiaries.

We set analysis weights to 1 for all individuals of a Test state. The weight for a comparison state individual was initially a function of his/her predicted propensity score (weight =  $p/(1-p)$  where  $p$  is the predicted propensity). We then normalized these weights so the sum of the weights was equal to the state payer population. Weights were capped at a maximum value of 5.0 to prevent any single individual from having an undue influence on the results.

Finally, we computed a total weight by multiplying the propensity-based analysis weight by the eligibility fraction. The eligibility fraction is the proportion of the year in which an individual had eligible payer claims. Outcome analyses were weighted by the total weight.

### **C.3 Propensity Model Evaluation**

We evaluated several aspects of the propensity score models. First, we examined plots of predicted probabilities to ensure sufficient overlap in the distributions of the test and the combined comparison states. This feature, known as common support, is critical because it provides the basis for inferring effects from group comparisons. We found that scores in both groups adequately covered the same ranges.

Second, we compared the logistic results for the same states in the three pre-test (baseline) years to determine whether the same characteristics were influential over time. With a few minor exceptions, we found that the models were similar each year. This is not surprising, because the same individuals frequently appear in the databases for multiple years. In the MarketScan data, the variables with the greatest impact in the propensity score models were the presence of mental health coverage, specialty care, and health plan status (vs. employer plan). Thus, the major differences between the Test state and the comparison state populations were found for types of insurance coverage. In the Medicare data, few characteristics had a major effect on the propensity scores. The only two with comparatively large effects for more than one state were racial group and residence in a metropolitan area.

Finally, we compared unweighted and propensity-weighted means for the characteristics in the model. This was performed for several selected states. As expected, we found that, after weighting, the comparison group means were within a few percentage points of the values for their respective Test state.

## Appendix D: State Models and Strategies

**Table D-1. Overview of Arkansas SIM Initiative models and strategies**

Models/Strategies	Goals	Target population	Approach
<b>Models</b>			
<b>Patient-centered medical homes</b>	<ul style="list-style-type: none"> <li>• Emphasize wellness and prevention</li> <li>• Enhance care coordination and quality of care</li> <li>• Reduce ambulatory sensitive ER visits</li> <li>• Reduce inpatient admissions</li> <li>• Reduce inpatient readmissions</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide that include Medicaid and commercially insured populations</li> <li>• Wave 1: Multi-payer populations (Medicaid and commercial) assigned to 69 CPC Initiative practices</li> <li>• Wave 2: Medicaid beneficiaries initially (January 2014) with roll-out to commercially insured populations in 2015 and beyond</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-payer effort that expands on CPC Initiative of 69 practices (Wave 1) to roll out statewide (Wave 2),</li> <li>• Payment structure for Wave 2 practices (care coordination support plus incentives) consistent with CPC model</li> <li>• State contracts with vendors that support practice transformation</li> <li>• Financial incentives including PMPM payments to finance care coordination at participating practices</li> <li>• Shared savings for PCMHs</li> </ul>
<b>Behavioral health homes</b>	<ul style="list-style-type: none"> <li>• Ensure appropriate treatment frequency and intensity</li> <li>• Provide client with support necessary to follow treatment plan</li> <li>• Proper care transitions and medication management</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid beneficiaries with behavioral health needs</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide Medicaid effort</li> <li>• Workgroups with subject matter expertise are designing health homes for behavioral health, developmental disabilities, and LTSS patients who require more intensive care coordination</li> <li>• Draft and submit Medicaid SPAs</li> <li>• Financial incentives including PMPM payments to finance care coordination</li> <li>• Performance incentives for health homes</li> </ul>

(continued)

**Table D-1. Overview of Arkansas SIM Initiative models and strategies (continued)**

Models/Strategies	Goals	Target population	Approach
<b>Developmental disabilities health homes</b>	<ul style="list-style-type: none"> <li>Integrate care across developmental disabilities, medical, and behavioral health</li> <li>Reduce unnecessary medical and behavioral health spending</li> <li>Promote wellness activities</li> </ul>	<ul style="list-style-type: none"> <li>Medicaid beneficiaries with developmental disabilities</li> </ul>	<ul style="list-style-type: none"> <li>Statewide Medicaid effort</li> <li>Workgroups with subject matter expertise are designing health homes for behavioral health, developmental disabilities, and LTSS patients who require more intensive care coordination</li> <li>Draft and submit Medicaid SPAs</li> <li>Financial incentives including PMPM payments to finance care coordination</li> <li>Performance incentives for health homes</li> <li>Statewide, multi-payer effort (commercial payers participate in a subset of episodes)</li> <li>Methodology approved by Arkansas legislature, and authorized by SPAs</li> <li>Episodes designed with provider input</li> <li>Mandatory for Medicaid providers; mandatory for in-network providers of participating commercial payers</li> <li>Standard definition of episodes used across payers</li> <li>Each payer sets its own reimbursement for each episode</li> <li>Financial incentives including gain-sharing and risk-sharing, with a goal of encouraging appropriate, evidence-based treatment</li> </ul>
<b>Long-term services and supports health homes</b>	<ul style="list-style-type: none"> <li>Increase care coordination in an appropriate setting</li> <li>Align incentives to ensure patient treated in appropriate setting</li> </ul>	<ul style="list-style-type: none"> <li>Medicaid beneficiaries with LTSS needs—includes institutionalized (nursing homes) and those receiving home and community-based services</li> </ul>	<ul style="list-style-type: none"> <li>Statewide Medicaid effort</li> <li>Work groups with subject matter expertise are designing health homes for behavioral health, developmental disabilities, and LTSS patients who require more intensive care coordination</li> </ul>

(continued)

Table D-1. Overview of Arkansas SIM Initiative models and strategies (continued)

Models/Strategies	Goals	Target population	Approach
<b>Medical episodes of care (retrospective)</b>	<ul style="list-style-type: none"> <li>• Encourage appropriate use of diagnostic testing</li> <li>• Improve the quality of care delivery (e.g., percent of mothers receiving prenatal HIV screening)</li> <li>• Reduce avoidable complications (readmission, deep vein thrombosis/pulmonary embolism)</li> <li>• Choose more efficient/ higher quality provider</li> <li>• Improve adherence to evidence-informed practice on elective interventions and treatment (e.g., C-sections, early elective inductions, use of a stent/percutaneous coronary intervention, rate of antibiotic prescriptions)</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid beneficiaries with commercial beneficiaries for some episodes</li> </ul>	<ul style="list-style-type: none"> <li>• Draft and submit Medicaid SPAs</li> <li>• Financial incentives including PMPM payments to finance care coordination</li> <li>• Performance incentives for health homes</li> <li>• Statewide, multi-payer effort (commercial payers participate in a subset of episodes)</li> <li>• Methodology approved by Arkansas legislature, and authorized by SPAs</li> <li>• Episodes designed with provider input</li> <li>• Mandatory for Medicaid providers; mandatory for in-network providers of participating commercial payers</li> <li>• Standard definition of episodes used across payers</li> <li>• Each payer sets its own reimbursement for each episode</li> <li>• Financial incentives including gain-sharing and risk-sharing, with a goal of encouraging appropriate, evidence-based treatment</li> </ul>
<b>Behavioral episodes of care (retrospective)</b>	<ul style="list-style-type: none"> <li>• Encourage appropriate use of diagnostic testing</li> <li>• Improve quality care delivery</li> <li>• Reduce avoidable complications</li> <li>• Choose more efficient/ higher quality provider</li> <li>• Improve adherence to evidence-informed practices by creating accountability for specific behavioral health conditions (e.g., attention deficit hyperactivity disorder, oppositional defiant, both together, and potentially others)</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid beneficiaries with behavioral health needs</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide Medicaid effort</li> <li>• Methodology approved by Arkansas legislature, and authorized by SPAs</li> <li>• Episodes designed with provider input</li> <li>• Mandatory for Medicaid providers</li> <li>• Financial incentives including gain-sharing and risk-sharing, with a goal of encouraging appropriate, evidence-based treatment</li> </ul>

(continued)

**Table D-1. Overview of Arkansas SIM Initiative models and strategies (continued)**

Models/Strategies	Goals	Target population	Approach
<b>Developmental disabilities episodes (prospective)</b>	<ul style="list-style-type: none"> <li>• Ensure developmental disabilities care provision is efficient and based on client needs</li> <li>• Align resources provided with level of need</li> <li>• Expand plan customization options for clients</li> <li>• Minimize resources / time not focused on delivering client care</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid beneficiaries with developmental disabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide Medicaid effort, beginning with home and community-based services, to be followed by institutional services</li> <li>• Draft and submit Medicaid SPAs</li> <li>• Use results from standardized functional assessments, matched with past claims data to set reimbursement based on level of impairment</li> <li>• Each 12-month episode of care will be paid prospectively in monthly bundled payments</li> </ul>
<b>Long-term services and supports episodes (prospective)</b>	<ul style="list-style-type: none"> <li>• Help people get to the right care setting</li> <li>• Match level of care to need</li> <li>• Align incentives with outcomes</li> <li>• Coordinate care</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid beneficiaries with LTSS needs</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide Medicaid effort, beginning with home and community-based services, to be followed by institutional services</li> <li>• Use results from standardized functional assessments, matched with past claims data, to set reimbursement based on level of impairment</li> <li>• Each 12-month episode of care will be paid prospectively in monthly bundled payments</li> </ul>
<b>Enabling strategies</b>			
<b>Health workforce development</b>	<ul style="list-style-type: none"> <li>• Support PCMH implementation and transition to team-based approach</li> <li>• Encourage clinicians to practice at the top of their licenses</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid beneficiaries and patients of other payers</li> </ul>	<ul style="list-style-type: none"> <li>• Contract with two care coordination vendors to assist participating practices with practice transformation</li> <li>• Refine approach for integrating behavioral health into PCMH by holding provider advisory group</li> </ul>

(continued)



**Table D-1. Overview of Arkansas SIM Initiative models and strategies (continued)**

<b>Models/Strategies</b>	<b>Goals</b>	<b>Target population</b>	<b>Approach</b>
<b>Expand home- and community-based services</b>	<ul style="list-style-type: none"> <li>Expand access to home- and community-based services and supports</li> <li>Match services with functional needs</li> </ul>	<ul style="list-style-type: none"> <li>Medicaid beneficiaries with intellectual, developmental, physical, and age-related disabilities and those with behavioral health needs</li> </ul>	<ul style="list-style-type: none"> <li>Assess each population to determine individuals' functional needs</li> <li>Prepare and submit Medicaid SPAs for HCBS under 1915(k) and 1915(i)</li> <li>Use assessment results to set individual budgets for developmental disabilities and LTSS</li> <li>Use assessment results to stratify behavioral health consumers into three tiers, depending on degree of severity</li> </ul>
<b>Health information technology</b>	<ul style="list-style-type: none"> <li>Enhance clinical data sharing by increasing number of hospital and provider interfaces with Arkansas's health information exchange, SHARE</li> </ul>	<ul style="list-style-type: none"> <li>Statewide that includes Medicaid and commercially insured populations</li> </ul>	<ul style="list-style-type: none"> <li>Arkansas DHS to work with SHARE professionals to define system requirements for improved connectivity and enable new capabilities</li> </ul>

Note: CPC = Comprehensive Primary Care, DHS = Department of Human Services, ER = emergency room, HCBS = home and community-based services, LTSS = long-term services and supports, PCMH = patient-centered medical home, PMPM = per member per month, SHARE = State Health Alliance for Records Exchange, SPA = state plan amendment

**Table D-2. Overview of Maine SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Models</b>			
<b>Health Homes— Stage A</b>	<p><b>Objective: Support implementation of MaineCare Health Homes by expanding PCMH Learning Collaborative to all Health Home practices</b></p> <p>Year 1 Targets:</p> <ul style="list-style-type: none"> <li>• Launch PCMH Learning Collaborative to 82 new Health Homes, for a total of 157 participating practices</li> <li>• Provide QI support to ensure that ≥75% of the new Health Homes practices reach Must-Pass elements and ≥75% practices implement Health Homes Year 2 MaineCare screening requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid enrollees with two chronic conditions or one chronic condition and are at risk for another</li> </ul>	<ul style="list-style-type: none"> <li>• Perform baseline onsite assessments of Health Homes practice status, and develop Communications Plan, Education Plan and Data Management Plan</li> <li>• Provide quality improvement support to Health Homes, monitoring and supporting practice transformation</li> <li>• Ensure connection to Community Care Team and sustainability of Health Homes/CCT model</li> </ul>
<b>Health Homes— Stage B</b>	<p><b>Objective: Implement MaineCare Behavioral Health Homes Initiative</b></p> <p>Year 1 Targets:</p> <ul style="list-style-type: none"> <li>• Recruit 15 BHHOs with 7,000 enrolled members with SMI/ SED</li> </ul> <p><b>Objective: Launch Behavioral Health Homes Learning Collaborative</b></p> <p>Year 1 Targets:</p> <ul style="list-style-type: none"> <li>• Launch enrollment of up to 35 new BHHs into BHH Learning Collaborative to provide QI support for BHH organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Adult Medicaid enrollees with serious mental illness and children with serious emotional disturbance</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Implementation.</b> Issue RFP and select eligible BHHO's. Obtain CMS approval for SPA and AG approval for MaineCare rule, which includes a capitated financial model developed by the state. Develop BHH enrollment portal for providers with member eligibility and enrollment determined by MaineCare. Provide utilization and quality reports to BHHO at the end of each year.</li> <li>• <b>Collaborative.</b> Perform baseline onsite assessments of BHH practice status, developing core expectations for participation, development of a BHH Communications Plan, Education Plan and Data Management Plan, identification of BHH/PCMH/Health Homes education plan, and practice monitoring to support practice transformation and ensure connection to Community Care Team and sustainability of Health Home/CCT model.</li> </ul>

(continued)

**Table D-2. Overview of Maine SIM Initiative models and strategies (continued)**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Accountable Communities</b>	<p><b>Objective: Implement MaineCare Accountable Communities shared savings ACO initiative</b> Year 1 Targets:</p> <ul style="list-style-type: none"> <li>Implement Accountable Communities that impact 50,000 patient lives above and beyond those impacted through medical homes, 3.8% of Maine’s 1.3M population</li> <li>Achieve participation from six Accountable Communities, including providers under current Medicare and commercial ACOs within the state (all four major health, systems plus group of FQHC’s)</li> <li>Achieve 25,000 MaineCare lives to Accountable Communities, 8.9% of the 281,000 MaineCare population</li> </ul>	<ul style="list-style-type: none"> <li>Statewide; particular focus on Medicaid enrollees</li> </ul>	<ul style="list-style-type: none"> <li>Implement shared-savings payment arrangements with provider organizations that deliver care to a defined patient population</li> <li>Create an ACI work group to identify core ACO metrics to be used in public reporting, contracting, and performance measurement</li> </ul>
<b>Enabling strategies</b>			
<p><b>Health information to influence market forces and inform policy</b></p> <ul style="list-style-type: none"> <li>Track health care costs</li> <li>VBID</li> <li>PTE work groups</li> </ul>	<p><b>Objective: Track health care costs</b> Year 1 Targets:</p> <ul style="list-style-type: none"> <li>Build claims database representing approximately 900K covered lives that spans Medicare, MaineCare and commercial populations of Maine</li> <li>Develop/refine appropriate metrics and approach to measuring and tracking cost of care over time</li> <li>Publish initial edition of Health Care Cost Fact Book and convene CEO Roundtable</li> </ul> <p><b>Objective: VBID</b> Year 1 Targets:</p> <ul style="list-style-type: none"> <li>Adoption of core set of metrics against which plan designs may be benchmarked</li> <li>Publication of initial rankings of benefit designs</li> </ul>	<ul style="list-style-type: none"> <li>Statewide; particular support for MaineCare ACOs and practices in PCMH/Health Homes model</li> </ul>	<ul style="list-style-type: none"> <li><b>Track health care costs.</b> Establish and execute DUA and BAA’s with vendors Maine DHHS, MHDO, CMS, and commercial plans to build claims database. Update statewide commercial claims on an ongoing, quarterly basis and to obtain initial Medicare claims data feeds. Convene two workgroups to refine fact book algorithms.</li> <li><b>VBID.</b> Use work of ACI and health care cost work groups to identify key elements of the design, quality performance and cost effectiveness measures, and opportunities to align patient cost with provider quality through patient/provider incentives. Evaluate, test, and publish rank plans according to adopted VBID metrics, updating annually.</li> </ul>

(continued)

**Table D-2. Overview of Maine SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
	<p><b>Objective: Identify common metrics payers for public reporting through PTE work groups</b>                      Year 1 Targets:</p> <ul style="list-style-type: none"> <li>• Identification of core metrics for reporting, vetted and approved through PTE and Board. Publish initial benchmarked rankings.</li> <li>• Percent of Maine residents covered by alternative payment arrangement grows to 219,982 or 17%</li> <li>• Identification of core metric set for behavioral health (integration and quality)</li> <li>• Identification of core metrics for Advanced Primary Care Recognition</li> </ul>		<ul style="list-style-type: none"> <li>• <b>PTE work groups.</b> The work of five PTE work groups, (1) PTE Physician, (2) APC, (3) PTE Systems, (4) ACI Metrics, and (5) Behavioral Health PTE, will be leveraged to identify common metrics across payers for public reporting and payment. PTE work groups are multi-stakeholder and will vet a series of measures that will be used annually on the state’s public reporting Web site, in benefit design, or payment arrangements. In addition, 2012 CG-CAHPS survey data will be a publically available source of information on patient experience of care.</li> </ul>
<p><b>Health information technology</b></p> <ul style="list-style-type: none"> <li>• Real-time MaineCare member notifications</li> <li>• Health IT/HIE adoption incentives for 20 behavioral health provider sites/ organizations</li> <li>• HIE access to behavioral health providers</li> </ul>	<p><b>Objective: Provide real-time notifications from the HIE to MaineCare and health system care managers when MaineCare members are admitted or discharged from inpatient and ER settings across all provider organizations connected to the HIE.</b>                      Year 1 Target:</p> <ul style="list-style-type: none"> <li>• Increase from 450 to an average of 550 unique provider organization users either accessing the ER notifications or the HIE portal per week</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide; particular support for MaineCare</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Real-time MaineCare member notifications.</b> Establish DUA with MaineCare to build, test, and implement notification system. Work with MaineCare stakeholders to provide content and process improvements as needed.</li> <li>• <b>Health IT/HIE adoption incentives for 20 behavioral health provider sites/ organizations.</b> Support awardee quality measure development and reporting via the HIE.</li> <li>• <b>HIE access to behavioral health providers.</b> Technical assistance provided to behavioral health providers to increase HIE connections.</li> </ul>

(continued)

**Table D-2. Overview of Maine SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<ul style="list-style-type: none"> <li>HIE clinical dashboard for MaineCare</li> </ul>	<p><b>Objective: Provide HIT and HIE adoption incentives to up to 20 behavioral health provider sites/organizations.</b>            Year 1 Target:</p> <ul style="list-style-type: none"> <li>20 Behavioral health organizations demonstrate live use of EHR and milestone 1 incentive delivered.</li> </ul> <p><b>Objective: Provide HIE access to behavioral health providers</b>            Year 1 Target:</p> <ul style="list-style-type: none"> <li>Up to five sites go live with bi-directional HIE participation.</li> </ul> <p><b>Objective: Provide a clinical dashboard to MaineCare from the HIE enabling MaineCare to clinically monitor MaineCare members' health care utilization and outcomes at the population and individual level. Develop and deploy real-time discrete data feeds for MaineCare prescription data to HIN.</b>            Year 1 Target:</p> <ul style="list-style-type: none"> <li>Consistent meeting with MaineCare established for MaineCare IT staff to facilitate discrete medication feeds and roles for the dashboard access. DIS approval of data access strategy. Go live with real-time medication feed. Establishment of VPNs for MaineCare to access dashboard. Provide training for MaineCare staff in dashboard use. Make 291,000+ population data available in HIN dashboard.</li> </ul>		<ul style="list-style-type: none"> <li><b>HIE clinical dashboard for MaineCare.</b> Stakeholder collaboration will be used to inform development of the dashboard. Stakeholders will discuss analytic needs that may be met by the dashboard, evaluate current measures and potential data deficiencies, and adjust metrics as needed.</li> </ul>

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**Table D-2. Overview of Maine SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<p><b>Consumer engagement</b></p> <ul style="list-style-type: none"> <li>• Consumer engagement campaign</li> <li>• P3 Pilots</li> <li>• Blue Button Pilot</li> </ul>	<p><b>Objective: Consumer engagement and education regarding payment and system delivery reform</b>            Year 1 Targets:</p> <ul style="list-style-type: none"> <li>• Educate brokers, patient advocates, human resources specialists, and union leaders on merits of VBID. Outreach to 200 people.</li> </ul> <p><b>Objective: Provide QI Support for P3 Pilots</b>            Year 1 Targets:</p> <ul style="list-style-type: none"> <li>• Launch three P3 Pilots with nine provider sites</li> </ul> <p><b>Objective: Provide Maine patients with access to their statewide HIE record leveraging the “Blue Button” standards promoted by the Office of the National Coordinator for Health IT. HIN will conduct a 12-month pilot with a provider organization to make the patient chart available via a certified EHR portal administered by the pilot site.</b>            Year 1 Targets:</p> <ul style="list-style-type: none"> <li>• Establish contract with pilot site, establish project management process for implementation, and implement PHR CCD export by month 6. Demonstrate download of CCD by 5% of the pilot sites’ active PHR users within go-live period of project.</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide population; groups targeted by location of pilot programs</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Consumer engagement campaign.</b> Plans include a payment reform media campaign that will specifically address the benefits of VBID. Free training to AAA, advocates, navigators free care providers, brokers and human resources specialists on VBID and payment reform including a free video for payers and purchasers. VBID curriculum distributing continuing education credits for brokers and human resources specialists and a CME curriculum and credits for providers.</li> <li>• <b>P3 Pilots.</b> P3 advisory group will be established to support pilot. Pilot sites will be selected and supported through the advisory group’s developed P3 Communication Plan, and collaboration among sites will be supported and facilitated.</li> <li>• <b>Blue Button Pilot.</b> One partner site will be chosen for a 12-month pilot. Pilot practice support will focus on consumer education tools and potential modifications to technical and technology requirements for EHR access using national standards.</li> </ul>

(continued)

Table D-2. Overview of Maine SIM Initiative models and strategies

Models/Strategies	Goals, metrics, targets	Target population	Approach
<p><b>Health workforce development</b></p> <ul style="list-style-type: none"> <li>Physical Health Component to Mental Health Rehab Tech curriculum</li> <li>Autism spectrum disorder and intellectual disabilities training</li> </ul>	<p><b>Objective: Develop and implement Physical Health Integration workforce development component to Mental Health Rehabilitation Technician/Community (MHRT/C) Certification curriculum</b></p> <p>Year 1 Targets:</p> <ul style="list-style-type: none"> <li>Curriculum and training plan developed for Physical Health Integration component to Mental Health Rehabilitation Technician/Community Training</li> </ul> <p><b>Objective: Provide training to primary care practices on serving youth and adults with autism spectrum disorder and intellectual disabilities.</b></p> <p>Year 1 Targets:</p> <ul style="list-style-type: none"> <li>Curriculum and training plan developed for adult practice sites, curriculum piloted at five adult practice sites, training conducted at 15 pediatric sites</li> </ul>	<ul style="list-style-type: none"> <li>Providers statewide, focus on primary and behavioral health care integration</li> </ul>	<ul style="list-style-type: none"> <li><b>Physical Health Component to Mental Health Rehab Tech curriculum.</b> Provides additional support toward integration of physical and mental services in the state. Curriculum development throughout Year 1 will be implemented in Year 2 of the initiative.</li> <li><b>Autism spectrum disorder and intellectual disabilities training.</b> Provides additional support toward integration of physical and mental services in the state. Training for pediatric and adult practice sites will be developed in Year 1. Training will begin in Year 1 and be carried out through the life of the initiative.</li> </ul>
<p><b>Population health improvement</b></p> <ul style="list-style-type: none"> <li>NDPP</li> <li>CHW Pilot</li> </ul>	<p><b>Objective: Implementation of the NDPP</b></p> <p>Year 1 Targets:</p> <ul style="list-style-type: none"> <li>5 out of 15 NDPP provider sites have written agreements and are delivering NDPP to MaineCare beneficiaries.</li> </ul> <p><b>Objective: CHW Pilot Project</b></p> <p>Year 1 Targets:</p> <ul style="list-style-type: none"> <li>Contracts for five CHW pilot sites in place.</li> <li>The five CHW pilot sites will have formal referral mechanisms with at least one and up to three providers.</li> </ul>	<ul style="list-style-type: none"> <li>Statewide population; groups targeted by type and location of pilot program (e.g., diabetes)</li> </ul>	<ul style="list-style-type: none"> <li><b>NDPP.</b> State capacity assessment and formal reimbursement structure establishment through research of other state Medicaid program support for preventive health care initiatives. Lifestyle coach workforce will be trained and supported to provide CDC-recognized NDPP program to qualified beneficiaries.</li> <li><b>CHW Pilot.</b> Community members trained to serve as CHWs provide potential para-professional career opportunities and leverage existing community connections to address population health needs.</li> </ul>

Note: ACI = Accountable Care Implementation, ACO = accountable care organization, AG = Attorney General (Maine), APC = advanced primary care, BAA = Business Associates Agreement, BHH = Behavioral Health Home, BHHO = Behavioral Health Home Organization, CCD = continuity of care document, CCT = community care team, CDC = Centers for Disease Control and Prevention, CEO = chief executive officer, CG-CAHPS = Clinician and Group Surveys-Consumer

Assessment of Healthcare Providers and Systems, CHW = community health worker, CME = continuing medical curriculum, CMS = Centers for Medicare & Medicaid Services, DHHS = Department of Health and Human Services, DUA = Data Use Agreement, EHR = electronic health record, health IT = health information technology, HIE = health information exchange, HIN = HealthInfoNet, FQHC = federally qualified health centers, MHDO = Maine Health Data Organization, NDPP = National Diabetes Prevention Program, P3 = patient-provider partnership, PCMH = patient-centered medical home, PHR = personal health record, PTE = Pathways to Excellence, QI = quality improvement, RFP = request for proposals, SED = serious emotional disturbance, SMI = serious mental illness, SPA = state plan amendment, VBID = value-based insurance design



**Table D-3. Overview of Massachusetts SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Models</b>			
<b>Value-based and integrated care models</b>	<ul style="list-style-type: none"> <li>• 25% of MassHealth (Medicaid) beneficiaries are enrolled in a managed care plan implementing payment reform by the end of 2014</li> <li>• 50% of MassHealth (Medicaid) beneficiaries are enrolled in a managed care plan implementing payment reform by the end of 2015</li> <li>• 80% of MassHealth (Medicaid) beneficiaries are enrolled in a managed care plan implementing payment reform by the end of 2016</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid beneficiaries enrolled in managed care</li> </ul>	<ul style="list-style-type: none"> <li>• Chapter 224 positions government payers, including MassHealth and GIC as drivers of payment reform, by requiring these programs to implement alternative payment methodologies by July 1, 2014.</li> <li>• MassHealth is currently implementing the PCPR Initiative that will introduce risk-adjusted comprehensive primary care payments for providers participating in MassHealth’s managed care networks, including those in the Primary Care Clinician Plan and Managed Care Organizations. Providers participating in this initiative will enter into a shared risk/saving arrangement and receive a risk-adjusted per member per month payment for a defined set of primary care and behavioral health beneficiaries. Participants will also be eligible to receive quality incentive payments based on their performance on 37 quality metrics.</li> <li>• The state collects and monitors financial data for PCPR participants through its MMIS system and will generate cost reports per participant through its Data Warehouse. Cost data will be analyzed internally to ensure accuracy of base rates and participant performance on shared savings. MassHealth is also looking to procure an analytics vendor who will create provider specific reports that analyze cost trends. These reports will be used to analyze shared savings performance.</li> </ul>

(continued)

**Table D-3. Overview of Massachusetts SIM Initiative models and strategies (continued)**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Value-based and integrated care models</b>	<ul style="list-style-type: none"> <li>Commercial payers under GIC to have contracts with IRBOs covering 75% of GIC lives by year 3 of the demonstration (2016)</li> </ul>	<ul style="list-style-type: none"> <li>State employees, retirees, and their families enrolled in managed care plans</li> </ul>	<ul style="list-style-type: none"> <li>In the fall of 2012, GIC re-procured all of its health plans for the 5-year period beginning July 1, 2013; contracts run for 5 years with the aim of encouraging the implementation by health plans of alternative payment methodologies as a means to improve the quality and coordination of care for members and as a way to make providers accountable for the efficient use of financial resources.</li> <li>GIC anticipates that by aligning its efforts with MassHealth and others in a multi-payer approach, it can move the health care market toward higher and more consistent quality of care at lower cost and at a more accelerated rate than would be feasible if each moved without reference to the other.</li> <li>Chapter 224 directs the Health Policy Commission to develop processes for the certification of organizations as ACOs and PCMHs. In coordination with this effort, GIC will conduct an efficiency and provider practice pattern study to examine the IRBOs.</li> </ul>

(continued)

Table D-3. Overview of Massachusetts SIM Initiative models and strategies (continued)

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Enabling strategies</b>			
<b>Coordination with public health/ integration of social and behavioral health services</b>	<ul style="list-style-type: none"> <li>• Nine Community Health Centers implementing e-Referral on three different EHR platforms by 2016</li> <li>• 15 unique Community-Based Organizations on e-Referral 1,000 referrals initiated with at least one feedback report associated with the referral by 2016</li> <li>• 55% of pediatricians in the state accessing behavioral health resources through the MA Child Psychiatry Project by 2016</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide; adults and children in need of mental or behavioral health services</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance e-Referral program will link primary care systems to a wide variety of community resources that offer health education, physical activity opportunities, nutrition consultation, or other health-related services that take place outside of the health care setting</li> <li>• Develop Community Links, provider and consumer portals to better link providers, social services, and consumers, with timely information related to LTSS.</li> <li>• Expand access to pediatric behavioral health consultations in primary care settings through MCPAP</li> </ul>
<b>Health information technology</b>	<ul style="list-style-type: none"> <li>• Ensure that all providers have access to interoperable health care records by end of 2016</li> <li>• Complete testing of APCD provider portal with 10%–15% practicing PCPs by 2016</li> <li>• All PCPR participants have the ability to securely transmit consented patient clinical information</li> <li>• Linkages between Primary Care Practices and LTSS</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• Support health information exchange technical assistance to behavioral health and LTSS providers</li> <li>• Build HIE functionality for quality reporting, upgrading MMIS and offering technical assistance</li> </ul>
<b>Consumer engagement</b>	<ul style="list-style-type: none"> <li>• Two waves of patient experience survey deployed with at least 33% response rate in each wave</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid; Adults and parents of children enrolled in managed care</li> </ul>	

Note: ACO = accountable care organization, APCD = all-payer claims database, EHR = electronic health record, GIC = Group Insurance Commission, HIE = health information exchange, IRBO = integrated risk-bearing organizations, LTSS = long-term services and supports, MCPAP = Multi-Payer Advanced Primary Care Practice, MMIS = Medicaid Management Information System, PCMH = patient-centered medical home, PCP = primary care provider, PCPR = Primary Care Payment Reform.

**Table D-4. Overview of Minnesota SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Models</b>			
<b>Integrated Health Partnerships—an accountable care organization model</b>	<ul style="list-style-type: none"> <li>Nine new IHPs statewide</li> </ul>	<ul style="list-style-type: none"> <li>Medicaid</li> </ul>	<ul style="list-style-type: none"> <li>RFP released in 2014, increase by four IHPs per year up to an additional nine</li> </ul>
<b>Accountable communities for health</b>	<ul style="list-style-type: none"> <li>15 ACHs</li> </ul>	<ul style="list-style-type: none"> <li>Local communities</li> </ul>	<ul style="list-style-type: none"> <li>Intended to be ‘organic’ and based on locally defined needs; RFP will solicit for participation in September 2014.</li> </ul>
<b>Health care homes</b>	<ul style="list-style-type: none"> <li>Expand to 53 new HCHs statewide</li> </ul>	<ul style="list-style-type: none"> <li>Particularly behavioral health</li> </ul>	<ul style="list-style-type: none"> <li>Financial support for infrastructure, health IT and data sharing</li> </ul>
<b>Enabling strategies</b>			
<b>Health information technology</b>	<ul style="list-style-type: none"> <li>Development of clinical health data exchanges and analytic support for ACOs/IHP/HCHs</li> </ul>	<ul style="list-style-type: none"> <li>IHPs, HCHs and providers statewide</li> </ul>	<ul style="list-style-type: none"> <li>Support provided by a series of RFPs to support ACO analytics, support development of e-health roadmaps</li> </ul>

Note: ACH = Accountable Communities for Health, ACO = accountable care organization, APCD = all-payer claims database, GIC = Group Insurance Commission, HCH = health care home, health IT = health information technology, HIE = health information exchange, IHP = Integrated Health Partnership, IRBO = integrated risk-bearing organizations, LTSS = long-term services and supports, MA = Massachusetts, MCPAP = Multi-Payer Advanced Primary Care Practice, MMIS = Medicaid Management Information System, PCMH = patient-centered medical home, PCPR = Primary Care Payment Reform, RFP = request for proposals

**Table D-5. Overview of Oregon SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Models</b>			
<b>Coordinated care model</b>	<ul style="list-style-type: none"> <li>• Enroll 2 million or more Oregonians in coordinated care by July 2016</li> <li>• Reduce Medicaid PMPM cost trend by 1 percentage point by July 2013 and 2 percentage points by July 2014 without reduction in quality</li> <li>• Reduce PMPM cost growth for the state’s public employee coverage (PEBB) by 1 percentage point in FY 2015 and 2 percentage points FY 2016 without reduction in quality</li> <li>• Reduce Medicare dually eligible cost trend in Oregon by 1 percentage point in FY 2016 without reduction in quality</li> </ul>	<ul style="list-style-type: none"> <li>• Almost all (90%) of Medicaid enrollees were in CCOs by January 2013</li> <li>• PEBB contracts will incorporate CCM elements starting in January 2015</li> <li>• QHPs and OEGB contracts will incorporate CCM elements in 2016</li> </ul>	<ul style="list-style-type: none"> <li>• Governor championing the transformation; state driving the change as a purchaser, convener, and integrator</li> <li>• Oregon Health Policy Board to develop recommendations to align Oregon’s health system reform efforts and spread the triple aim goals across all markets</li> <li>• PEBB and OEGB request for proposals and QHP application to include CCM elements</li> <li>• Medicaid-Medicare administrative alignment</li> <li>• CCO key tenets include: integration of physical, dental and mental health; global budgets; show improvement on a core set of metrics</li> <li>• CCOs are governed by multi-stakeholder boards (including counties) and, among other things, are required to have Community Advisory Councils that have 51% consumer representation and to coordinate with the early learning system, public health departments, and other relevant partners in developing their community health risk and needs assessments and community health improvement plans</li> </ul>

(continued)

**Table D-5. Overview of Oregon SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Patient-centered primary care homes</b>	<ul style="list-style-type: none"> <li>500 PCPCHs recognized by 2015</li> <li>600 PCPCHs recognized by 2016</li> </ul>	<ul style="list-style-type: none"> <li>Primary care providers</li> </ul>	<ul style="list-style-type: none"> <li>Contracted with the Patient-Centered Primary Care Institute to provide technical assistance for practice transformation</li> <li>PCPCH Program within OHA develops and updates practice accreditation standards and conducts ongoing program monitoring through clinic site visits in conjunction with providing technical assistance in form of clinical transformation consultants and practice facilitators who provide practice coaching</li> <li>Multi-Payer Primary Care Payment Strategy workgroup developing plan to expand PCPCH to all private and public (except Medicare) payers</li> </ul>
<b>Adoption of alternative payment methodologies</b>	<ul style="list-style-type: none"> <li>PMPM cost trend reductions as described above</li> </ul>	<ul style="list-style-type: none"> <li>CCOs, PEBB, and OEBC health plans, QHPs, commercial payers</li> </ul>	<ul style="list-style-type: none"> <li>CCOs to implement APMs</li> <li>APMs and cost control measures in PEBB, OEBC, and QHP contracts</li> <li>Multi-payer workgroup process to develop strategy for collaboration on APMs beyond primary care and across all payers</li> </ul>

(continued)

**Table D-5. Overview of Oregon SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Long-term services and supports alignment</b>	<ul style="list-style-type: none"> <li>Improve quality of life for Oregonians with long-term care needs; improve care for patients who transition between CCOs and LTSS system</li> </ul>	<ul style="list-style-type: none"> <li>LTSS providers and consumers, CCOs</li> </ul>	<ul style="list-style-type: none"> <li>CCOs required to have jointly developed MOUs with local LTSS offices for coordination between CCOs and LTSS system</li> <li>Development and reporting of performance metrics related to CCO-LTSS coordination</li> <li>Incentives and penalties to CCOs and LTSS system linked to performance metrics</li> <li>LTSS innovator agents begin in 2014 to coordinate, amplify, and accelerate changes to LTSS system</li> <li>Pilot congregate care model, e.g., innovative housing integrated with health and social services</li> </ul>
<b>Enabling strategies</b>			
<b>Oregon Transformation Center</b>	<ul style="list-style-type: none"> <li>Provide technical assistance to CCOs, CACs, and other providers and payers</li> </ul>	<ul style="list-style-type: none"> <li>CCOs, CACs, providers, payers</li> </ul>	<ul style="list-style-type: none"> <li>Transformation Center staff, including innovator agents, hired in July 2013</li> <li>Transformation Center learning collaboratives and technical assistance to CCOs, CACs, and eventually other payers</li> <li>Establish Council of Clinical Innovators who will work to implement health care transformation projects in local communities</li> <li>Transformation Center, OHA, and the Early Learning Council will collaborate and test systems and supports that contribute to kindergarten readiness</li> </ul>

(continued)

**Table D-5. Overview of Oregon SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Health analytics</b>	<ul style="list-style-type: none"> <li>• First multi-payer quarterly dashboard developed in early 2014</li> <li>• Develop Accountable Care Data System; integrated, accessible, actionable data by end of grant period</li> </ul>	N/A	<ul style="list-style-type: none"> <li>• The Office of Health Analytics in OHA established to expand and bring all state research capabilities together</li> <li>• Develop CCO metrics and align quality metrics across the QHPs, PEBB, OEBC, and CCOs</li> <li>• Report multi-payer cost and quality metrics</li> <li>• Procure and monitor SIM Initiative evaluation activities</li> <li>• Continued development of the APAC database</li> </ul>
<b>Health IT/health information exchange development</b>	<ul style="list-style-type: none"> <li>• Phase 1.5 health IT/HIE operational in mid-2015</li> <li>• Phase 2 implementation in early 2016</li> <li>• Develop HIE Provider Directory</li> </ul>	N/A	<ul style="list-style-type: none"> <li>• Health IT/HIE stakeholder process; stakeholder agreement obtained for Phase 1.5 HIT/HIE development (near term)</li> <li>• Continued stakeholder planning on governance and sustainability for Phase 2</li> <li>• Development of health IT training materials</li> <li>• EDIE system to be implemented in all hospitals</li> <li>• Pilots on telehealth and mobile devices</li> </ul>
<b>Health Evidence Review Commission</b>	<ul style="list-style-type: none"> <li>• Develop recommendations for improving the HERC’s clinical evidence synthesis and translation work to aid the spread of the coordinated care model</li> </ul>	<ul style="list-style-type: none"> <li>• Providers and patients</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate usefulness of the HERC products and develop recommendations for translational tools</li> </ul>
<b>Equitable health care transformation</b>	<ul style="list-style-type: none"> <li>• Reduce health disparities</li> </ul>	<ul style="list-style-type: none"> <li>• All Oregonians</li> </ul>	<ul style="list-style-type: none"> <li>• Three additional Regional Health Equity Coalitions</li> <li>• Three new cohorts of participants in DELTA</li> <li>• Designing strategy to expand health care interpreter workforce</li> </ul>

(continued)



**Table D-5. Overview of Oregon SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Population health</b>	<ul style="list-style-type: none"> <li>Improve the lifelong health of the population</li> </ul>	<ul style="list-style-type: none"> <li>All Oregonians</li> </ul>	<ul style="list-style-type: none"> <li>Community prevention grants to partnerships between local public health departments and CCOs</li> <li>Coordinator position within Public Health Division funded by SIM, charged with coordinating public health and transformation</li> <li>Surveys for CCO population and increased public health data availability to support public health-CCO integration</li> <li>Develop public health assessment tool</li> </ul>

Note: ACA = Affordable Care Act, ACDS = Accountable Care Data System, APAC = All-Payer-All-Claims, APM = alternative payment methodologies, CAC = Community Advisory Council, CCM = coordinated care model, CCO = coordinated care organizations, DELTA = Developing Equity Leadership through Training and Action, FY = fiscal year, health IT = health information technology, HERC = Health Evidence Review Commission, HIE = health information exchange, LTSS = long-term services and supports, OEBC = Oregon Educators Benefit Board, OHA = Oregon Health Authority, PCPCH = patient-centered primary care home, PEBB = Public Employees Benefit Board, PMPM = per member per month, QHP = qualified health plan, SIM = State Innovation Models

**Table D-6. Overview of Vermont SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Models</b>			
<p><b>Accountable care organizations</b></p> <ul style="list-style-type: none"> <li>• Medicaid ACOs</li> <li>• Commercial payer ACOs</li> </ul>	<ul style="list-style-type: none"> <li>• Support development of provider networks that coordinate preventive and acute health care services across all sectors, including advanced primary care, specialty care, and long-term services and supports</li> <li>• Improve consumer experience in at least three patient experience composite measures from the PCMH portion of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey</li> <li>• Improve at least two mental health and substance abuse process of care measures: follow-up after hospitalization for mental illness, initiation and engagement of alcohol and other drug dependence treatment, adult depression screening and follow-up, depression screening by 18 years of age</li> <li>• Improve at least two adult process of care measures: adult weight screening and follow-up, colorectal cancer screening, mammography/breast cancer screening, Chlamydia screening in women, avoidance of antibiotic treatment for adults with acute bronchitis</li> <li>• Improve at least two pediatric process of care measures: pediatric weight assessment and counseling, childhood immunization status, adolescent well-care visits, developmental screening in the first 3 years of life, appropriate testing for children with pharyngitis</li> </ul>	<ul style="list-style-type: none"> <li>• Medicaid and the commercially insured (BCBS/MVP) attributed to participating ACOs</li> <li>• Across the three payment reform models: 2,000 providers, 41,304 commercial beneficiaries, 28,500 Medicare beneficiaries, and 137,456 Medicaid beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>• Develop ACO model standards and measures through an intensive, multi-stakeholder work group process</li> <li>• Submit Medicaid state plan amendment</li> <li>• Execute two Medicaid ACO contracts effective January 1, 2014</li> <li>• Execute two commercial ACO contracts effective January 1, 2014</li> <li>• Establish learning collaborative for providers engaged in reform activity</li> <li>• Develop technical assistance program for providers implementing payment reform</li> </ul>

(continued)

**Table D-6. Overview of Vermont SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
	<ul style="list-style-type: none"> <li>Improve at least one chronic disease outcome measure: cardiovascular conditions (LDL screening only); diabetes (HbA1c poor control; diabetes composite (HbA1c control, LDL control, blood pressure control, tobacco non-use, aspirin use)</li> <li>Improve in at least one hospital admission or readmission measure: add-cause readmission, ambulatory care sensitive condition admissions (such as COPD), ACSC admissions (Prevention Quality Indicators)</li> </ul>		
<p><b>Episode of Care Models</b></p> <ul style="list-style-type: none"> <li>Develop EOC programs that are intended to expand on the Medicare model, relying on the existing work with the Medicare (BPCI) program</li> <li>Three EOC models for Medicaid and Commercial payers</li> </ul>	<ul style="list-style-type: none"> <li>Replace volume-based incentives with episodic-based payments which encourage collaboration and efficiency across providers and systems with emphasis on integration of specialty care with primary care</li> <li>Better control growth in spending by targeting the top drivers of spending</li> <li>Improve care (see above)</li> <li>Improve health (see above)</li> <li>Reduce costs (see above)</li> </ul>	<ul style="list-style-type: none"> <li>Medicaid and the commercially insured (BCBS/MVP) with specific but currently unknown clinical conditions</li> <li>Number of targeted beneficiaries or insured for the EOC models unknown</li> <li>Providers of focus unknown</li> </ul>	<ul style="list-style-type: none"> <li>The SIM Payment Models Work group provide input on recommendations of infrastructure of the EOC programs by October 2013</li> <li>Implementation of three statewide EOCs by October 2014</li> <li>Launch EOC Learning Collaborative by October 2014</li> <li>Hire a learning collaborative leader to help facilitate the program</li> <li>Hire an evaluation contractor to collect patient experience data, clinical information, and performance measures</li> </ul>

(continued)

**Table D-6. Overview of Vermont SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<p><b>Pay for Performance Models</b></p> <ul style="list-style-type: none"> <li>Expand Vermont Oncology Pilot</li> <li>Medicaid P4P Value-Based Purchasing</li> </ul>	<ul style="list-style-type: none"> <li>Replace volume-based incentives with individual provider P4P based on quality and efficiency of care</li> <li>Improve care (see above)</li> <li>Improve health (see above)</li> <li>Reduce costs (see above)</li> </ul>	<ul style="list-style-type: none"> <li>Medicaid beneficiaries; unknown number</li> <li>Targeted providers unknown at this time</li> </ul>	<ul style="list-style-type: none"> <li>SIM Payment Models Work Group begin planning in late 2013</li> <li>Develop and launch “Value-Based Purchasing Plan” by July 2014</li> <li>Launch P4P Learning collaborative by July 2014</li> </ul>
<p><b>Vermont Blueprint for Health Advanced Primary Care Practices</b></p> <ul style="list-style-type: none"> <li>Enhanced coordination of current population health improvement efforts and SIM-related initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Improve care coordination</li> <li>Reduce utilization of preventable and unnecessary services</li> <li>Improve adherence to clinical standards</li> <li>Integrate EHR analytics</li> <li>Reduce growth of total cost of care; improve consumer experience</li> <li>Expand the Medicaid Health Home’s “Hub and Spoke” primary care model of treatment for opiate-addicted beneficiaries to those with complex mental or physical health needs</li> <li>Enhance LTSS and mental health and substance abuse care coordination for Medicare and Medicaid dual eligible beneficiaries as envisioned within the Financial Alignment Demonstration</li> <li>Expand rollout of the Integrated Care Providers model envisioned in the Financial Alignment Demonstration to Medicaid beneficiaries with highly complex physical or mental health needs</li> </ul>	<ul style="list-style-type: none"> <li>Medicaid beneficiaries aligned with Blueprint practices that have complex needs</li> <li>Uncertain the degree to which commercial insured Vermonters will be targeted</li> </ul>	<ul style="list-style-type: none"> <li>SIM Initiative funds will increase organizational and financial alignment between Blueprint practices and specialty care</li> <li>Hire two full-time equivalent practice facilitators</li> <li>Offer six new learning collaboratives</li> <li>Expand the scope of the payment models to include population health</li> </ul>

(continued)

**Table D-6. Overview of Vermont SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Enabling strategies</b>			
<b>Health workforce development</b>	<ul style="list-style-type: none"> <li>• Develop health care professional surveys for roughly 40 types of health professionals</li> <li>• Collect demand-side data related to Vermonters’ access to care</li> <li>• Collect and analyze workforce data</li> <li>• Develop measures of access to care, barriers to care, and gaps in provider supply and add these measures to the annual household health insurance telephone survey</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• Form SIM work group(s) to engage stakeholders</li> <li>• By January 2014, execute contracts for survey development, data analysis and systemwide capacity assessment</li> </ul>
<b>Health information technology</b> <ul style="list-style-type: none"> <li>• Expansion of VHIE</li> <li>• Development of an Integrated Data Platform</li> <li>• Predictive Modeling</li> </ul>	<ul style="list-style-type: none"> <li>• Expand capacity for transmission of high quality clinical data from EHRs and other sources to VHIE and central clinical registry</li> <li>• Speed up end-to-end data capture and quality improvement processes</li> <li>• Support transmission and analysis of data that are well structured, reliable, and sufficiently complete</li> <li>• Fully integrate core data sources (DocSite, VCHURES) with other disparate sources of information.</li> <li>• Contract with experts to support movement toward a Learning Health System using advanced analytics and predictive modeling</li> </ul>	<ul style="list-style-type: none"> <li>• 14 hospitals in Vermont and Dartmouth-Hitchcock Medical Center</li> <li>• Primary care and specialty physicians</li> <li>• Laboratory and diagnostic imaging vendors</li> <li>• Statewide</li> </ul>	<ul style="list-style-type: none"> <li>• The HIE work group will make recommendations on the HIE work plan, the SIM health IT investment budget, and HIE/health IT coordination across agencies and organizations, and help prioritize health IT initiatives</li> </ul>

(continued)

**Table D-6. Overview of Vermont SIM Initiative models and strategies**

Models/Strategies	Goals, metrics, targets	Target population	Approach
<b>Enhanced telemedicine</b>	<ul style="list-style-type: none"> <li>• Pilot test a telemedicine transfer consult program to determine the medical necessity of interfacility transfers among Vermont hospitals</li> <li>• Possibly pilot test a home telemonitoring program for patients with complex chronic diseases or at high risk of hospital readmission</li> </ul>	<ul style="list-style-type: none"> <li>• Unknown</li> </ul>	<ul style="list-style-type: none"> <li>• Unknown</li> </ul>

Note: ACO = accountable care organization, ACSC = ambulatory care sensitive conditions, BCBS = Blue Cross and Blue Shield, BPCI = bundled payments for care improvement, CAHPS = Consumer Assessment of Healthcare Providers and Systems, COPD = chronic obstructive pulmonary disease, EHR = electronic health record, EOC = episodes of care, health IT = health information technology, HIE = health information exchange, LDL = low-density lipoprotein, P4P = pay for performance, PCMH = patient-centered medical home, SIM = State Innovation Models, VCHURES = Vermont Healthcare Claims Uniform Reporting and Evaluation System, VHIE = Vermont health information exchange

## Appendix E: Detailed Cross-State Tables of Outcomes

**Table E-1. Primary care visits per 100 members by age group for the commercially insured population in MarketScan**

SIM Test state	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Comparison group</b>	<b>739</b>	<b>709</b>	<b>760</b>	<b>254</b>	<b>258</b>	<b>274</b>	<b>290</b>	<b>300</b>	<b>312</b>
<b>Arkansas</b>	<b>679</b>	<b>680</b>	<b>669</b>	<b>220</b>	<b>230</b>	<b>237</b>	<b>292</b>	<b>283</b>	<b>285</b>
Comparison group	739	709	760	254	258	274	290	300	312
<b>Maine</b>	—	—	—	—	—	—	—	—	—
Comparison group	—	—	—	—	—	—	—	—	—
<b>Massachusetts</b>	<b>836</b>	<b>809</b>	<b>807</b>	<b>330</b>	<b>323</b>	<b>323</b>	<b>317</b>	<b>310</b>	<b>304</b>
Comparison group	841	830	824	344	344	357	386	375	402
<b>Minnesota</b>	<b>665</b>	<b>648</b>	<b>656</b>	<b>250</b>	<b>255</b>	<b>246</b>	<b>285</b>	<b>280</b>	<b>274</b>
Comparison group	724	704	714	276	272	277	322	326	330
<b>Oregon</b>	<b>632</b>	<b>609</b>	<b>613</b>	<b>215</b>	<b>210</b>	<b>206</b>	<b>271</b>	<b>259</b>	<b>247</b>
Comparison group	682	659	680	257	245	259	308	307	323
<b>Vermont</b>	<b>757</b>	<b>699</b>	<b>592</b>	<b>322</b>	<b>312</b>	<b>312</b>	<b>405</b>	<b>382</b>	<b>356</b>
Comparison group	770	764	763	314	315	309	374	350	345

**Table E-2. Specialist visits per 100 members by age group for the commercially insured population in MarketScan**

SIM Test state Comparison group	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>102</b>	<b>96</b>	<b>89</b>	<b>83</b>	<b>82</b>	<b>86</b>	<b>222</b>	<b>211</b>	<b>212</b>
Comparison group	114	100	105	123	113	119	273	253	261
<b>Maine</b>	—	—	—	—	—	—	—	—	—
Comparison group	—	—	—	—	—	—	—	—	—
<b>Massachusetts</b>	<b>122</b>	<b>115</b>	<b>106</b>	<b>121</b>	<b>121</b>	<b>118</b>	<b>290</b>	<b>284</b>	<b>265</b>
Comparison group	97	100	89	120	119	116	298	290	267
<b>Minnesota</b>	<b>86</b>	<b>83</b>	<b>80</b>	<b>76</b>	<b>75</b>	<b>73</b>	<b>167</b>	<b>165</b>	<b>158</b>
Comparison group	101	89	93	112	104	98	272	257	233
<b>Oregon</b>	<b>63</b>	<b>61</b>	<b>60</b>	<b>92</b>	<b>89</b>	<b>88</b>	<b>248</b>	<b>231</b>	<b>225</b>
Comparison group	84	78	72	108	103	97	271	264	243
<b>Vermont</b>	<b>58</b>	<b>54</b>	<b>48</b>	<b>62</b>	<b>62</b>	<b>64</b>	<b>142</b>	<b>138</b>	<b>144</b>
Comparison group	106	100	97	122	117	118	265	250	239



**Table E-3. Percent of inpatient admissions that had a follow-up visit within 14 days for Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>35</b>	<b>48</b>	<b>57</b>	<b>37</b>	<b>52</b>	<b>59</b>
Comparison group	39	32	42	41	37	37
<b>Maine</b>	<b>41</b>	<b>43</b>	<b>55</b>	<b>39</b>	<b>41</b>	<b>58</b>
Comparison group	28	36	54	36	39	47
<b>Massachusetts</b>	<b>40</b>	<b>37</b>	<b>47</b>	<b>31</b>	<b>39</b>	<b>51</b>
Comparison group	30	39	57	37	42	50
<b>Minnesota</b>	<b>40</b>	<b>44</b>	<b>57</b>	<b>47</b>	<b>50</b>	<b>61</b>
Comparison group	35	38	47	36	43	52
<b>Oregon</b>	<b>41</b>	<b>50</b>	<b>56</b>	<b>41</b>	<b>47</b>	<b>55</b>
Comparison group	31	34	49	28	36	46
<b>Vermont</b>	<b>42</b>	<b>47</b>	<b>59</b>	<b>33</b>	<b>46</b>	<b>59</b>
Comparison group	34	39	52	39	43	52

**Table E-4. Number of visits to primary care and specialty providers per 100 Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state	Primary care providers						Specialty providers					
	Medicare-Medicaid			Other Medicare			Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Comparison group</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>Arkansas</b>	<b>469</b>	<b>463</b>	<b>474</b>	<b>352</b>	<b>349</b>	<b>358</b>	<b>329</b>	<b>326</b>	<b>328</b>	<b>344</b>	<b>340</b>	<b>344</b>
Comparison group	475	469	495	403	398	402	302	307	318	368	363	364
<b>Maine<sup>a</sup></b>	<b>410</b>	<b>422</b>	<b>429</b>	<b>342</b>	<b>355</b>	<b>352</b>	<b>382</b>	<b>391</b>	<b>387</b>	<b>351</b>	<b>357</b>	<b>353</b>
Comparison group	510	505	506	431	429	427	345	343	350	391	390	391
<b>Massachusetts</b>	<b>506</b>	<b>521</b>	<b>522</b>	<b>440</b>	<b>452</b>	<b>455</b>	<b>335</b>	<b>337</b>	<b>346</b>	<b>408</b>	<b>408</b>	<b>413</b>
Comparison group	446	486	500	457	450	447	324	348	358	487	473	476
<b>Minnesota</b>	<b>470</b>	<b>458</b>	<b>473</b>	<b>390</b>	<b>380</b>	<b>384</b>	<b>327</b>	<b>330</b>	<b>334</b>	<b>324</b>	<b>325</b>	<b>325</b>
Comparison group	584	523	475	351	358	363	407	367	339	364	371	375
<b>Oregon</b>	<b>411</b>	<b>386</b>	<b>377</b>	<b>354</b>	<b>350</b>	<b>340</b>	<b>346</b>	<b>341</b>	<b>335</b>	<b>359</b>	<b>352</b>	<b>348</b>
Comparison group	596	635	618	406	398	397	341	362	362	364	355	356
<b>Vermont<sup>a</sup></b>	<b>390</b>	<b>379</b>	<b>374</b>	<b>329</b>	<b>324</b>	<b>327</b>	<b>431</b>	<b>415</b>	<b>409</b>	<b>411</b>	<b>400</b>	<b>400</b>
Comparison group	509	504	505	418	417	416	374	370	373	405	405	404

<sup>a</sup> To address a data anomaly, propensity score models were run separately by dual status for Maine and Vermont for the visits to primary care providers and specialty outcomes only. Future reports will run propensity models by dual status for all states and all outcomes.

**Table E-5. All-cause hospital admissions per 1,000 members by age group for the commercially insured population in MarketScan**

SIM Test state	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>457</b>	<b>474</b>	<b>462</b>	<b>18</b>	<b>20</b>	<b>19</b>	<b>72</b>	<b>70</b>	<b>68</b>
Comparison group	362	352	426	15	16	15	57	57	55
<b>Maine</b>	<b>240</b>	<b>248</b>	<b>287</b>	<b>15</b>	<b>14</b>	<b>16</b>	<b>57</b>	<b>54</b>	<b>52</b>
Comparison group	454	440	425	18	18	18	73	71	68
<b>Massachusetts</b>	<b>543</b>	<b>567</b>	<b>559</b>	<b>19</b>	<b>18</b>	<b>17</b>	<b>63</b>	<b>62</b>	<b>58</b>
Comparison group	504	469	465	17	17	16	60	57	51
<b>Minnesota</b>	<b>579</b>	<b>581</b>	<b>592</b>	<b>18</b>	<b>19</b>	<b>18</b>	<b>64</b>	<b>63</b>	<b>62</b>
Comparison group	493	496	493	17	17	15	59	59	52
<b>Oregon</b>	<b>553</b>	<b>545</b>	<b>534</b>	<b>15</b>	<b>15</b>	<b>14</b>	<b>55</b>	<b>55</b>	<b>52</b>
Comparison group	488	487	487	16	15	14	62	59	53
<b>Vermont</b>	<b>477</b>	<b>472</b>	<b>456</b>	<b>9</b>	<b>13</b>	<b>10</b>	<b>48</b>	<b>50</b>	<b>45</b>
Comparison group	442	442	430	16	16	15	65	61	56

**Table E-6. All-cause emergency room visits per 1,000 members by age group for the commercially insured population in MarketScan**

SIM Test state	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>405</b>	<b>419</b>	<b>439</b>	<b>172</b>	<b>189</b>	<b>195</b>	<b>228</b>	<b>243</b>	<b>256</b>
Comparison group	330	338	380	167	177	185	192	205	214
<b>Maine</b>	<b>383</b>	<b>415</b>	<b>402</b>	<b>267</b>	<b>262</b>	<b>245</b>	<b>258</b>	<b>254</b>	<b>248</b>
Comparison group	424	426	428	264	269	259	253	260	263
<b>Massachusetts</b>	<b>387</b>	<b>384</b>	<b>391</b>	<b>219</b>	<b>219</b>	<b>207</b>	<b>223</b>	<b>225</b>	<b>215</b>
Comparison group	293	306	301	199	201	191	212	217	213
<b>Minnesota</b>	<b>373</b>	<b>382</b>	<b>412</b>	<b>160</b>	<b>172</b>	<b>167</b>	<b>154</b>	<b>161</b>	<b>167</b>
Comparison group	366	365	336	177	181	165	181	190	175
<b>Oregon</b>	<b>270</b>	<b>271</b>	<b>276</b>	<b>146</b>	<b>145</b>	<b>137</b>	<b>164</b>	<b>164</b>	<b>162</b>
Comparison group	357	354	333	192	183	168	188	186	177
<b>Vermont</b>	<b>257</b>	<b>227</b>	<b>302</b>	<b>197</b>	<b>208</b>	<b>213</b>	<b>223</b>	<b>224</b>	<b>220</b>
Comparison group	372	371	357	213	211	196	209	208	204

**Table E-7. Emergency room visits that did not lead to hospitalization per 1,000 members by age group for the commercially insured population in MarketScan**

SIM Test state	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>372</b>	<b>382</b>	<b>408</b>	<b>164</b>	<b>180</b>	<b>187</b>	<b>201</b>	<b>216</b>	<b>230</b>
Comparison group	306	311	351	160	170	177	170	184	193
<b>Maine</b>	<b>362</b>	<b>390</b>	<b>374</b>	<b>258</b>	<b>254</b>	<b>236</b>	<b>234</b>	<b>232</b>	<b>227</b>
Comparison group	395	396	400	254	259	248	222	229	232
<b>Massachusetts</b>	<b>346</b>	<b>340</b>	<b>351</b>	<b>207</b>	<b>208</b>	<b>196</b>	<b>196</b>	<b>199</b>	<b>191</b>
Comparison group	264	275	271	189	190	182	188	194	192
<b>Minnesota</b>	<b>338</b>	<b>347</b>	<b>373</b>	<b>150</b>	<b>161</b>	<b>156</b>	<b>133</b>	<b>139</b>	<b>145</b>
Comparison group	334	338	309	167	172	156	160	168	155
<b>Oregon</b>	<b>248</b>	<b>251</b>	<b>253</b>	<b>137</b>	<b>137</b>	<b>129</b>	<b>147</b>	<b>146</b>	<b>145</b>
Comparison group	331	329	307	184	175	160	166	164	156
<b>Vermont</b>	<b>232</b>	<b>196</b>	<b>286</b>	<b>192</b>	<b>202</b>	<b>208</b>	<b>204</b>	<b>205</b>	<b>204</b>
Comparison group	344	343	331	204	202	187	182	183	180

**Table E-8. All-cause hospital admissions per 1,000 Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state Comparison group	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>486</b>	<b>474</b>	<b>451</b>	<b>281</b>	<b>269</b>	<b>261</b>
Comparison group	506	487	455	316	303	284
<b>Maine</b>	<b>345</b>	<b>339</b>	<b>311</b>	<b>231</b>	<b>224</b>	<b>206</b>
Comparison group	432	423	395	306	301	281
<b>Massachusetts</b>	<b>417</b>	<b>403</b>	<b>372</b>	<b>323</b>	<b>313</b>	<b>285</b>
Comparison group	430	419	398	282	276	255
<b>Minnesota</b>	<b>383</b>	<b>369</b>	<b>349</b>	<b>284</b>	<b>274</b>	<b>261</b>
Comparison group	384	373	352	249	240	229
<b>Oregon</b>	<b>354</b>	<b>332</b>	<b>308</b>	<b>211</b>	<b>209</b>	<b>197</b>
Comparison group	411	405	385	274	265	251
<b>Vermont</b>	<b>269</b>	<b>299</b>	<b>282</b>	<b>208</b>	<b>203</b>	<b>198</b>
Comparison group	424	408	381	282	275	256

**Table E-9. All-cause emergency room visits per 1,000 Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state Comparison group	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>1,297</b>	<b>1,319</b>	<b>1,334</b>	<b>509</b>	<b>515</b>	<b>525</b>
Comparison group	1,354	1,377	1,401	571	578	586
<b>Maine</b>	<b>1,247</b>	<b>1,270</b>	<b>1,269</b>	<b>567</b>	<b>576</b>	<b>566</b>
Comparison group	1,238	1,261	1,266	561	577	575
<b>Massachusetts</b>	<b>1,336</b>	<b>1,331</b>	<b>1,338</b>	<b>616</b>	<b>617</b>	<b>607</b>
Comparison group	1,403	1,424	1,439	565	574	568
<b>Minnesota</b>	<b>1,261</b>	<b>1,284</b>	<b>1,336</b>	<b>517</b>	<b>535</b>	<b>547</b>
Comparison group	1,324	1,309	1,315	507	514	518
<b>Oregon</b>	<b>1,206</b>	<b>1,177</b>	<b>1,130</b>	<b>462</b>	<b>469</b>	<b>469</b>
Comparison group	1,307	1,307	1,317	527	534	535
<b>Vermont</b>	<b>1,177</b>	<b>1,170</b>	<b>1,179</b>	<b>505</b>	<b>517</b>	<b>532</b>
Comparison group	1,243	1,263	1,271	544	555	555

**Table E-10. Emergency room visits that did not lead to hospitalization per 1,000 Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Comparison group</b>						
<b>Arkansas</b>	<b>981</b>	<b>992</b>	<b>1,021</b>	<b>355</b>	<b>359</b>	<b>370</b>
Comparison group	1,007	1,034	1,073	378	387	402
<b>Maine</b>	<b>1,022</b>	<b>1,053</b>	<b>1,070</b>	<b>429</b>	<b>442</b>	<b>442</b>
Comparison group	907	930	954	358	367	377
<b>Massachusetts</b>	<b>990</b>	<b>988</b>	<b>1,025</b>	<b>370</b>	<b>376</b>	<b>389</b>
Comparison group	1,026	1,050	1,078	358	366	374
<b>Minnesota</b>	<b>999</b>	<b>1,025</b>	<b>1,088</b>	<b>360</b>	<b>377</b>	<b>395</b>
Comparison group	1,063	1,046	1,066	370	374	383
<b>Oregon</b>	<b>968</b>	<b>953</b>	<b>922</b>	<b>347</b>	<b>354</b>	<b>358</b>
Comparison group	1,007	1,004	1,026	353	362	369
<b>Vermont</b>	<b>1,016</b>	<b>1,002</b>	<b>1,013</b>	<b>400</b>	<b>406</b>	<b>421</b>
Comparison group	966	988	1,013	386	394	405



**Table E-11. Readmissions per 1,000 discharges for Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state Comparison group	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>199</b>	<b>205</b>	<b>197</b>	<b>154</b>	<b>160</b>	<b>155</b>
Comparison group	202	205	197	160	164	160
<b>Maine</b>	<b>174</b>	<b>174</b>	<b>165</b>	<b>141</b>	<b>143</b>	<b>141</b>
Comparison group	214	213	206	167	170	163
<b>Massachusetts</b>	<b>217</b>	<b>214</b>	<b>205</b>	<b>175</b>	<b>176</b>	<b>169</b>
Comparison group	211	206	202	162	165	158
<b>Minnesota</b>	<b>217</b>	<b>211</b>	<b>207</b>	<b>152</b>	<b>153</b>	<b>152</b>
Comparison group	192	190	184	140	140	137
<b>Oregon</b>	<b>178</b>	<b>186</b>	<b>180</b>	<b>128</b>	<b>131</b>	<b>127</b>
Comparison group	208	214	206	161	165	161
<b>Vermont</b>	<b>162</b>	<b>174</b>	<b>169</b>	<b>135</b>	<b>135</b>	<b>135</b>
Comparison group	209	206	200	162	165	158

**Table E-12. Average total per member per month (PMPM) payment for the commercially insured population in MarketScan by age group<sup>a,b</sup>**

SIM Test state	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>672</b>	<b>541</b>	<b>692</b>	<b>65</b>	<b>73</b>	<b>75</b>	<b>213</b>	<b>219</b>	<b>224</b>
Comparison group	480	525	617	68	74	79	194	204	212
<b>Maine</b>	<b>382</b>	<b>513</b>	<b>486</b>	<b>119</b>	<b>122</b>	<b>122</b>	<b>344</b>	<b>354</b>	<b>348</b>
Comparison group	504	505	530	108	117	123	301	313	323
<b>Massachusetts</b>	<b>682</b>	<b>763</b>	<b>791</b>	<b>146</b>	<b>149</b>	<b>155</b>	<b>329</b>	<b>329</b>	<b>330</b>
Comparison group	705	634	592	113	123	122	316	322	319
<b>Minnesota</b>	<b>773</b>	<b>766</b>	<b>856</b>	<b>117</b>	<b>136</b>	<b>136</b>	<b>281</b>	<b>297</b>	<b>303</b>
Comparison group	622	712	694	105	116	114	284	304	290
<b>Oregon</b>	<b>567</b>	<b>588</b>	<b>600</b>	<b>103</b>	<b>109</b>	<b>108</b>	<b>324</b>	<b>327</b>	<b>322</b>
Comparison group	550	621	625	92	100	97	267	274	264
<b>Vermont</b>	<b>455</b>	<b>500</b>	<b>443</b>	<b>95</b>	<b>127</b>	<b>119</b>	<b>334</b>	<b>338</b>	<b>342</b>
Comparison group	499	519	527	99	103	103	273	269	265

<sup>a</sup> Excludes prescription payments because drug claims are not included for all members in MarketScan.

<sup>b</sup> The inpatient, other facility, and professional component expenditures do not add up exactly to the total expenditures because the inpatient component expenditure value does not include inpatient payments included in the outpatient MarketScan table, but the total expenditure value includes all payments.

**Table E-13. Average inpatient facility per member per month (PMPM) payment for the commercially insured population in MarketScan by age group**

SIM Test state Comparison group	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>420</b>	<b>336</b>	<b>468</b>	<b>17</b>	<b>20</b>	<b>18</b>	<b>67</b>	<b>70</b>	<b>68</b>
Comparison group	268	293	365	14	15	17	50	54	55
<b>Maine</b>	<b>187</b>	<b>277</b>	<b>275</b>	<b>21</b>	<b>20</b>	<b>26</b>	<b>89</b>	<b>90</b>	<b>90</b>
Comparison group	250	237	256	18	19	20	75	77	79
<b>Massachusetts</b>	<b>360</b>	<b>404</b>	<b>431</b>	<b>24</b>	<b>23</b>	<b>23</b>	<b>78</b>	<b>78</b>	<b>79</b>
Comparison group	406	382	320	20	22	21	77	78	76
<b>Minnesota</b>	<b>442</b>	<b>442</b>	<b>469</b>	<b>25</b>	<b>29</b>	<b>30</b>	<b>73</b>	<b>76</b>	<b>79</b>
Comparison group	347	424	399	24	27	25	77	84	79
<b>Oregon</b>	<b>294</b>	<b>316</b>	<b>330</b>	<b>19</b>	<b>22</b>	<b>23</b>	<b>83</b>	<b>89</b>	<b>86</b>
Comparison group	285	341	349	19	21	20	75	77	75
<b>Vermont</b>	<b>195</b>	<b>290</b>	<b>230</b>	<b>9</b>	<b>28</b>	<b>15</b>	<b>66</b>	<b>72</b>	<b>69</b>
Comparison group	246	254	257	17	17	16	69	67	65

**Table E-14. Average other facility per member per month (PMPM) payment for the commercially insured population in MarketScan by age group**

SIM Test state Comparison group	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>33</b>	<b>35</b>	<b>35</b>	<b>16</b>	<b>18</b>	<b>19</b>	<b>57</b>	<b>60</b>	<b>66</b>
Comparison group	33	37	40	20	23	24	62	68	73
<b>Maine</b>	<b>36</b>	<b>45</b>	<b>54</b>	<b>43</b>	<b>43</b>	<b>40</b>	<b>152</b>	<b>154</b>	<b>152</b>
Comparison group	49	49	53	35	39	42	115	124	133
<b>Massachusetts</b>	<b>66</b>	<b>65</b>	<b>67</b>	<b>40</b>	<b>40</b>	<b>41</b>	<b>124</b>	<b>122</b>	<b>122</b>
Comparison group	44	45	50	32	34	35	107	112	119
<b>Minnesota</b>	<b>50</b>	<b>56</b>	<b>58</b>	<b>28</b>	<b>32</b>	<b>34</b>	<b>70</b>	<b>78</b>	<b>80</b>
Comparison group	54	61	60	33	37	37	93	100	95
<b>Oregon</b>	<b>42</b>	<b>41</b>	<b>40</b>	<b>28</b>	<b>30</b>	<b>29</b>	<b>99</b>	<b>100</b>	<b>102</b>
Comparison group	44	48	48	27	30	30	84	88	86
<b>Vermont</b>	<b>54</b>	<b>31</b>	<b>38</b>	<b>36</b>	<b>42</b>	<b>44</b>	<b>156</b>	<b>154</b>	<b>164</b>
Comparison group	48	46	48	31	33	34	102	104	106

**Table E-15. Average professional per member per month (PMPM) payment for the commercially insured population in MarketScan by age group**

SIM Test state	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>173</b>	<b>173</b>	<b>204</b>	<b>31</b>	<b>35</b>	<b>37</b>	<b>88</b>	<b>88</b>	<b>90</b>
Comparison group	173	186	212	33	36	38	80	81	83
<b>Maine</b>	<b>162</b>	<b>195</b>	<b>159</b>	<b>54</b>	<b>60</b>	<b>56</b>	<b>103</b>	<b>109</b>	<b>106</b>
Comparison group	203	217	222	55	59	61	111	112	111
<b>Massachusetts</b>	<b>256</b>	<b>282</b>	<b>296</b>	<b>81</b>	<b>85</b>	<b>90</b>	<b>128</b>	<b>128</b>	<b>129</b>
Comparison group	227	232	223	62	67	66	131	132	124
<b>Minnesota</b>	<b>260</b>	<b>282</b>	<b>291</b>	<b>64</b>	<b>73</b>	<b>71</b>	<b>136</b>	<b>141</b>	<b>142</b>
Comparison group	211	233	227	47	52	51	113	120	116
<b>Oregon</b>	<b>225</b>	<b>235</b>	<b>243</b>	<b>55</b>	<b>57</b>	<b>56</b>	<b>141</b>	<b>138</b>	<b>134</b>
Comparison group	199	218	215	46	48	46	108	109	103
<b>Vermont</b>	<b>195</b>	<b>189</b>	<b>175</b>	<b>49</b>	<b>56</b>	<b>60</b>	<b>111</b>	<b>112</b>	<b>109</b>
Comparison group	204	217	221	50	53	53	101	98	94

**Table E-16. Average outpatient pharmacy per member per month (PMPM) payment for the commercially insured population in MarketScan by age group<sup>a</sup>**

SIM Test state Comparison group	Infant			Child			Adult		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>15</b>	<b>12</b>	<b>15</b>	<b>15</b>	<b>17</b>	<b>18</b>	<b>54</b>	<b>53</b>	<b>54</b>
Comparison group	13	13	14	18	21	21	56	61	63
<b>Maine</b>	<b>10</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>23</b>	<b>25</b>	<b>69</b>	<b>74</b>	<b>73</b>
Comparison group	10	10	8	22	23	23	70	72	72
<b>Massachusetts</b>	<b>15</b>	<b>14</b>	<b>18</b>	<b>23</b>	<b>22</b>	<b>24</b>	<b>65</b>	<b>64</b>	<b>67</b>
Comparison group	13	14	12	24	25	25	73	75	72
<b>Minnesota</b>	<b>10</b>	<b>17</b>	<b>10</b>	<b>19</b>	<b>21</b>	<b>22</b>	<b>51</b>	<b>53</b>	<b>53</b>
Comparison group	12	10	8	17	19	19	57	61	61
<b>Oregon</b>	<b>9</b>	<b>7</b>	<b>7</b>	<b>14</b>	<b>16</b>	<b>17</b>	<b>56</b>	<b>54</b>	<b>55</b>
Comparison group	11	9	7	20	21	19	69	68	63
<b>Vermont</b>	<b>7</b>	<b>9</b>	<b>5</b>	<b>20</b>	<b>18</b>	<b>22</b>	<b>64</b>	<b>59</b>	<b>65</b>
Comparison group	12	13	10	21	22	22	66	65	64

<sup>a</sup> Denominator only includes members with drug claims captured in MarketScan.

**Table E-17. Average total per member per month (PMPM) payment for Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Comparison group</b>						
<b>Arkansas</b>	<b>952</b>	<b>961</b>	<b>966</b>	<b>597</b>	<b>602</b>	<b>607</b>
Comparison group	1,025	1,028	1,010	683	687	682
<b>Maine</b>	<b>794</b>	<b>819</b>	<b>809</b>	<b>579</b>	<b>596</b>	<b>590</b>
Comparison group	970	988	974	727	748	745
<b>Massachusetts</b>	<b>1,067</b>	<b>1,076</b>	<b>1,086</b>	<b>851</b>	<b>869</b>	<b>872</b>
Comparison group	1,115	1,122	1,125	775	784	770
<b>Minnesota</b>	<b>813</b>	<b>831</b>	<b>834</b>	<b>642</b>	<b>656</b>	<b>661</b>
Comparison group	902	909	915	616	627	636
<b>Oregon</b>	<b>881</b>	<b>839</b>	<b>833</b>	<b>544</b>	<b>564</b>	<b>568</b>
Comparison group	993	1006	1,006	682	684	683
<b>Vermont</b>	<b>807</b>	<b>820</b>	<b>824</b>	<b>600</b>	<b>613</b>	<b>630</b>
Comparison group	925	931	927	658	677	677

**Table E-18. Average inpatient facility per member per month (PMPM) payment for Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>398</b>	<b>396</b>	<b>393</b>	<b>239</b>	<b>235</b>	<b>235</b>
Comparison group	406	404	388	260	254	247
<b>Maine</b>	<b>294</b>	<b>299</b>	<b>286</b>	<b>206</b>	<b>203</b>	<b>198</b>
Comparison group	392	398	385	275	277	272
<b>Massachusetts</b>	<b>462</b>	<b>459</b>	<b>471</b>	<b>337</b>	<b>338</b>	<b>342</b>
Comparison group	461	456	452	289	287	279
<b>Minnesota</b>	<b>371</b>	<b>377</b>	<b>368</b>	<b>253</b>	<b>252</b>	<b>249</b>
Comparison group	360	354	355	221	218	220
<b>Oregon</b>	<b>354</b>	<b>339</b>	<b>338</b>	<b>202</b>	<b>206</b>	<b>202</b>
Comparison group	398	397	393	256	251	248
<b>Vermont</b>	<b>314</b>	<b>329</b>	<b>326</b>	<b>229</b>	<b>224</b>	<b>229</b>
Comparison group	365	361	353	243	245	241



**Table E-19. Average other facility per member per month (PMPM) payment for Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Comparison group</b>						
<b>Arkansas</b>	<b>314</b>	<b>325</b>	<b>333</b>	<b>162</b>	<b>169</b>	<b>177</b>
Comparison group	365	369	363	217	225	227
<b>Maine</b>	<b>319</b>	<b>336</b>	<b>338</b>	<b>227</b>	<b>241</b>	<b>240</b>
Comparison group	336	348	346	240	256	257
<b>Massachusetts</b>	<b>360</b>	<b>372</b>	<b>372</b>	<b>301</b>	<b>316</b>	<b>314</b>
Comparison group	367	380	385	255	264	261
<b>Minnesota</b>	<b>246</b>	<b>258</b>	<b>263</b>	<b>226</b>	<b>241</b>	<b>245</b>
Comparison group	330	346	346	211	222	226
<b>Oregon</b>	<b>320</b>	<b>298</b>	<b>298</b>	<b>176</b>	<b>187</b>	<b>194</b>
Comparison group	349	363	362	221	228	229
<b>Vermont</b>	<b>333</b>	<b>337</b>	<b>335</b>	<b>248</b>	<b>264</b>	<b>269</b>
Comparison group	345	356	357	233	247	250

**Table E-20. Average professional per member per month (PMPM) payment for Medicare beneficiaries by dual Medicare-Medicaid eligibility status**

SIM Test state	Medicare-Medicaid			Other Medicare		
	2010	2011	2012	2010	2011	2012
<b>Arkansas</b>	<b>240</b>	<b>240</b>	<b>240</b>	<b>195</b>	<b>197</b>	<b>196</b>
Comparison group	254	255	259	206	208	208
<b>Maine</b>	<b>180</b>	<b>184</b>	<b>185</b>	<b>146</b>	<b>152</b>	<b>151</b>
Comparison group	241	242	243	212	215	215
<b>Massachusetts</b>	<b>245</b>	<b>245</b>	<b>243</b>	<b>212</b>	<b>216</b>	<b>215</b>
Comparison group	288	286	288	231	233	229
<b>Minnesota</b>	<b>196</b>	<b>196</b>	<b>203</b>	<b>163</b>	<b>163</b>	<b>168</b>
Comparison group	212	210	213	183	187	190
<b>Oregon</b>	<b>207</b>	<b>202</b>	<b>196</b>	<b>166</b>	<b>170</b>	<b>172</b>
Comparison group	247	246	251	205	205	207
<b>Vermont</b>	<b>159</b>	<b>154</b>	<b>163</b>	<b>124</b>	<b>125</b>	<b>132</b>
Comparison group	215	215	216	182	186	186

## Appendix F: Maine's SIM Initiative Strategic Framework

Strengthen Primary Care	Weight	Integrate Physical and Behavioral Health	Weight	Develop New Workforce Models	Weight	Develop New Payment Models	Weight	Centralize Data & Analysis	Weight	Engage People & Communities	Weight
MaineCare Objective 1:	5	MaineCare Objective 2:	5	MHMC Objective 3:	5	MHMC Objective 3:	5	MHMC Objective 1:	5	Maine CDC Objective 1:	3
Implement MaineCare Accountable Communities Shared Savings ACO Initiative		Implement MaineCare Behavioral Health Homes Initiative		Public Reporting for Quality/Improvement and Payment Reform		Public Reporting for Quality Improvement and Payment Reform		Track Healthcare Costs to Influence market forces and inform policy		NDPP: Implementation of the National Diabetes Prevention Program (NDPP)	
QC Objective 1:	4	HIN Objective 2:	4	QC Objective 1:	4	MaineCare Objective 1:	5	MHMC Objective 3:	5	Maine CDC Objective 2:	2
Provide learning collaborative for MaineCare Health Homes		Through a RFP process, HIN will select 20 qualified Behavioral Health organizations to provide \$70,000 each towards their EHR investments including their ability to measure quality.		Provide learning collaborative for MaineCare Health Homes		Implement MaineCare Accountable Communities Shared Savings ACO Initiative		Public Reporting for Quality/Improvement and Payment Reform		Community Health Workers Pilot Project	
HIN Objective 1:	3	HIN Objective 3:	4	QC Objective 3:	4	MHMC Objective 2:	4	HIN Objective 1:	3	MHMC Objective 6:	2
HIN's Health Information Exchange (HIE) data will support both MaineCare and provider Care Management of ED and Inpatient utilization by sending automated emails to Care Managers to notify them of a patient's visit along with associated medical record documents.		Connect Behavioral Health providers to HIN's Health Information Exchange		Provide QI Support for Behavioral Health Homes Learning Collaborative		Stimulate Value Based Insurance Design		HIN's Health Information Exchange (HIE) data will support both MaineCare and provider care Management of ED and Inpatient utilization by sending automated emails to Care Managers to notify them of a patient's visit along with associated medical record documents.		Consumer engagement and education regarding payment and system delivery reform	
MHMC Objective 4:	3	QC Objective 3:	3	MaineCare Objective 3:	3	MHMC Objective 5:	3	HIN Objective 4:	2	HIN Objective 5:	1
Provide PrimaryCare Providers access to claims data for their patient panels (portals)		Provide QI Support for Behavioral Health Homes Learning Collaborative		Develop and Implement Physical Health Integration workforce development component to Mental Health Rehabilitation Technician/Community (MHR/T/C) Certification curriculum 6		Provide practice reports reflecting practice performance on outcomes measures		HIN will provide MaineCare with a web-based analytics tool referred to as a "Dashboard". The Dashboard will combine the current real-time clinical HIE data with MaineCare's claims data. This is the first test of Maine's HIE to support a "payer" using clinical EHR data.		HIN will provide patients with access to their HIE medical record by connecting a Provider's "Patient Portal" to the HIE. The patient will access the HIE record via a "blue button" in their local patient portal environment.	
MHMC Objective 5:	3	QC Objective 1:	5	Maine CDC Objective 2:	2	QC Objective 1:	4			QC Objective 4:	1
Provide practice reports reflecting practice performance on outcomes measures		Provide learning collaborative for MaineCare Health Homes		Community Health Workers Pilot Project		Provide learning collaborative for MaineCare Health Homes				Provide QI Support for Patient-Provider Partnership Pilots (P3 Pilots)	
MaineCare Objective 4:	2	QC Objective 4:	1			Maine CDC Objective 1:	3				
Provide training to PrimaryCare Practices on serving youth and adults with Autism Spectrum Disorder and Intellectual Disabilities.		Provide QI Support for Patient-Provider Partnership Pilots (P3 Pilots)				NDPP: Implementation of the National Diabetes Prevention Program (NDPP)					
QC Objective 4:	1										
Provide QI Support for Patient-Provider Partnership Pilots (P3 Pilots)											
<p>Legend</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; width: 100px; height: 15px; background-color: #f4a460;"></div> <div style="border: 1px solid black; width: 100px; height: 15px; background-color: #c0c0c0;"></div> <div style="border: 1px solid black; width: 100px; height: 15px; background-color: #90ee90;"></div> <div style="border: 1px solid black; width: 100px; height: 15px; background-color: #add8e6;"></div> <div style="border: 1px solid black; width: 100px; height: 15px; background-color: #f08080;"></div> </div>											