HEALTHCARE AND HUMAN SERVICES POLICY, RESEARCH, AND CONSULTING—WITH REAL-WORLD PERSPECTIVE.

Maine State Innovation Model Self Evaluation

First Annual Report

Prepared for: **Maine Department of Health and Human Services**

Submitted by: **The Lewin Group, Inc.**

December 11, 2015

Table of Contents

I. REPORT ROADMAP

In this first of two annual evaluation reports, Lewin presents findings from quantitative and qualitative data analysis of activities that occurred between October 2013 and September 2015 for Maine State Innovation Model (SIM) objectives. To provide an accessible narrative, the report is designed to provide the highest level of data first, followed by in-depth discussions. Detailed descriptions of SIM objectives, hypotheses, evaluation methods, and evaluation tools are compiled in the Appendix. The evaluation of Maine SIM implementation is a dynamic process, one that is continuously updated with fresh data, new insights and informed by feedback from stakeholders. We encourage the reader to view this report as a snapshot of SIM implementation.

Following is a brief description of each section of the report.

Executive Summary:
The Executive Summary highlights key preliminary findings from the Maine Self-Evaluation study.

Introduction:
The Introduction provides a brief background of the strategic framework and goals for Maine SIM, the organizations with lead roles to implement SIM efforts, and the self-evaluation study design.

Data Sources and Analysis:
Within the report, we present findings from various quantitative and qualitative data sources:

1. **Accountability Measures and Targets –** Accountability Targets are initial markers of progress with the implementation of SIM initiatives that are reported quarterly by the implementing partners.
2. **Cost Effectiveness and Impact Findings from Claims Analysis –** Molina, the state's MMIS vendor provided Lewin with Medicaid data for the evaluation. Commercial and Medicare activities are not evaluated as part of SIM[1]. The Medicaid data was supplemented with data from the Muskie School of Public Service, University of Southern Maine, identifying members in MaineCare Stage A and B Health Homes.
    a. **Overall Approach**: Lewin analyzed health claims data to evaluate care utilization, expenditures, and progress on meeting Core Metrics[2].
        i. **Definitions:** The evaluation generally employed definitions of metrics developed by the SIM Core Metrics group. In some instances, we suggested

[1] This evaluation focuses primarily on the Medicaid program as Lewin received this dataset well in advance of commercial data and, most recently, Medicare data.

[2] The SIM Core Metrics were selected by a workgroup of stakeholders in 2014 and include Emergency Department Utilization, Hospital Readmissions, Appropriate Use of Imaging Services, Fragmentation of Care, Pediatric/Adolescent Care, Mental Health, and Diabetes Care. See the Maine SIM Evaluation Measures section of the Appendix for further detail regarding the SIM Core Metrics.

adjustments to provide clarification; any changes were reviewed and approved through the Maine SIM governance process.

ii. **Control groups:** To assure accurate comparison, Lewin selected individuals for the control groups who were similar to those in the intervention groups. Multiple matching scenarios were used that considered utilization patterns, risk, and propensity scores[3] to maximize the similarities between the two groups.

iii. **Cost Avoidance**: Cost avoidance was calculated as the difference between the expected and actual cost trends between intervention and matched control groups as measured by claims data. This approach allowed us to estimate what would have happened to the intervention group had they not received the intervention (i.e., MaineCare Stage A Health Homes, MaineCare Stage B Behavioral Health Homes , etc.), even if actual costs increased over time. While our analysis revealed claims based cost avoidance with some of the intervention groups, our analysis does not include the costs of administering the programs or payments made outside of the claims systems, and therefore does not reflect savings or losses for the overall program.

iv. **Significance Testing:** We applied appropriate statistical tests to the results to determine whether differences between the intervention and control groups for Core Metrics were statistically significant. In this report, we identify results where there was a statistically significant difference of at least p-value < 0.05 level; in other words there is a very low probability that the difference observed occurred by chance alone. Statistically significant findings are flagged with asterisks.

- **MaineCare Stage A Health Homes: MaineCare** Stage A Health Homes focus on strengthening primary care services provided MaineCare (Medicaid) enrollees with chronic conditions. There were approximately 48,200 individuals in the intervention group and the "pre"- intervention period was calendar year 2012 and the intervention or "post"-period was calendar year 2013. This post period was used to measure the changes in utilization and quality of care immediately following the implementation of the intervention in January 2013, the approach that was similarly used for MaineCare Stage B Behavioral Health Homes and is described below.
- **MaineCare Stage B Behavioral Health Homes:** MaineCare Stage B Behavioral Health Homes are designed to integrate behavioral health and primary care components of care. There were approximately 1,300 individuals enrolled in the intervention group and we used a "pre"- intervention period of April 2013 through December 2013 and an intervention or "post"- period of April 2014 through December 2014 for the cost effectiveness evaluation. The impact findings focus on a "pre"-intervention period of April 2013 through March 2014 and an intervention or "post"-period of April 2014 through March 2015, as many quality measures require an entire year of claims and

[3] Propensity scoring is a statistical technique that uses logistic regression to compute the probability that potential controls are similar to members in the intervention group. This produces a control group that is comparable to the intervention group on all covariates included in the regression.

eligibility data. This is a more recent period than MaineCare Stage A Health Homes to reflect the more recent start of MaineCare Stage B Behavioral Health Homes.

3. **Consumer Survey Findings –** Market Decisions conducted interviews with over 1,500 MaineCare enrollees to assess their experiences with the health care system. The sample was stratified to obtain representative numbers of people served in MaineCare Stage A Health Homes, MaineCare Stage B Behavioral Health Homes, and MaineCare Accountable Communities, and their respective control groups. See the Market Decisions Final Report and Methodology sections of the Appendix for more detailed information on how control groups were identified.

4. **Provider and Stakeholder Interview Findings –** Interviews were conducted with 84 providers participating in MaineCare Stage A Health Homes, MaineCare Stage B Behavioral Health Homes, and Community Care Teams to seek their feedback on the SIM implementation process. We coordinated with Maine Quality Counts to select providers who had actively participated in training sessions (Learning Collaboratives). We conducted separate interviews with 18 key stakeholders who were involved in SIM governance and implementation from different perspectives to assess their perceptions about the SIM implementation process.

Findings:

Subsequent sections of the report offer an in-depth description of the findings organized by specific SIM objectives and components[4]:

- **MaineCare Stage A Health Homes** that provide primary care. (Note: While not a specific SIM objective, MaineCare Stage A Health Homes are an integral component of health care reform efforts in Maine and as such, are included in this evaluation.)
- **MaineCare Stage B Behavioral Health Homes** providing integrated primary and behavioral health care.
- **MaineCare Accountable Communities (**Note: Limited findings are available given the August 2014 initiation of this objective.)
- **Other Maine SIM Infrastructure components** including information services, workforce development, and payment model development.

Overall Self-Evaluation Summary and Next Steps:

This section provides an overall summary of the results of the first annual self-evaluation report, notes evaluation challenges and mitigation strategies, and offers recommendations for enhancements for the second and final annual SIM evaluation due late fall of 2016.

[4] See the Appendix of this report for more detail on the specific SIM objectives and the pillars with which they are aligned for strategic system change in Maine.

Appendix:

Detailed descriptions of methodologies, interview and survey tools, a full analysis of Accountability Target reporting by SIM objective, and an environmental scan of the SIM Governance Committee activities are compiled in the Appendix.

II. EXECUTIVE SUMMARY

The Lewin Group (Lewin) has been engaged since July 2014 to provide independent support for Maine's self-evaluation of the implementation, cost effectiveness and impacts of its State Innovation Model (SIM) cooperative agreement. This first annual report reviews data collected by Lewin for SIM activities occurring between October 2013 and September 2015, including key findings regarding the implementation and effectiveness of MaineCare Stage A Health Homes (HH) and MaineCare Stage B Behavioral Health Homes (BHH), as well as initial feedback on other infrastructure development and workforce related components of SIM. We provide limited findings regarding Accountable Communities, reflecting the recent start-up of that program. This report focuses largely on SIM impacts on the MaineCare (Medicaid) focused interventions, as MaineCare provided detailed data well in advance of other payers.

MaineCare Stage A Health Homes

Quality

The Maine SIM project established Core Metrics, key process and outcome measures designed to track improvements in care. MaineCare Stage A Health Homes differed significantly[5] from the control group on three Core Metrics:

- **Non-emergent ED use** showed a 14.0% decrease in the MaineCare Stage A Health Home group compared to a 2.6% decrease in the comparison group. The goal is to see a decrease in non-emergent ED use.
- **Fragmentation of care index** in the MaineCare Stage A Health Home population remained stable with a 0% increase between 2012 and 2013; however, members in the control group experienced higher fragmentation with a 6.8% increase. The goal is to see a decrease in fragmentation of care.
- **Access to primary care for children ages 7 – 11:** The MaineCare Stage A Health Home members experienced a 3.2% decrease in access to primary care for children as compared to a 0.05% increase in the control group. The goal is to see an increase in access to primary care.

Consumer Experience

As part of the implementation evaluation, we conducted interviews with 1,500 MaineCare consumers to understand their perceptions of care in SIM and non-SIM settings. As a subset of these consumers, 427 MaineCare Stage A Health Home enrollees and 115 consumers from a matched control group were interviewed. In evaluating patient-provider communications in MaineCare Stage A Health Homes, the results[6] include:

---

[5] In this report, we identify results where there was a statistically significant difference of at least p-value < 0.05 level.

[6] The survey tool poses several related questions for a single topic or "domain". Each group of related questions are considered together to generate a "composite" score. We calculated composite scores by assigning a value between zero and 100 to every possible answer category for each question that comprises the composite. Higher values represent more positive responses. Scores were summed and averaged across the number of valid responses provided by the respondent. This average or "composite" score is the statistic reported.

- Of those interviewed 90% of intervention and 91% of control group members reported that they felt that providers are communicating well with them.
- Consumers provided lower scores on how well providers engage patients as partners in their health care:
  - ***Encouraging patients to ask questions*** - 73% of the intervention and 67% of the control group members reported that their provider always encouraged them to ask questions.
  - ***Seeking ideas from parents regarding their child's health*** - 45% of intervention and 61% of control group members reported that their provider always sought input regarding their child's health.
  - ***Providing support to patients to take care of their own or their child's health*** - 52% of the intervention and 58% of the control group members reported that their provider always gave them support to take care of their own or their child's health.

Service Utilization and Expenditures

Maine has been working to improve primary care and reduce unnecessary service utilization for several years, starting with a Primary Care Medical Home project, which evolved into MaineCare Stage A Health Homes beginning January 2014. Preliminary results indicate that:

- MaineCare Stage A Health Homes generated notable cost avoidance of $110 per member per month (PMPM) over a matched control group.

Exhibit 1 below shows total cost avoidance, as well as the key areas with most robust avoidance. Please refer to the Appendix for more information regarding the methodology of this analysis and further detail on cost avoidance.

Exhibit 1. MaineCare Stage A Health Homes – PMPM Cost Avoidance by Category

Service Category	PMPM Cost Avoidance	Percent of total PMPM
Total	$110	17.9%
Inpatient Med/Surgical	$40	6.5%
Outpatient Clinic Expenditures[7]	$11	1.8%
Professional Behavioral Health Services[8]	$11	1.8%

*Average PMPM in the MaineCare Stage A Health Home group was $615 in the post period.
*Average PMPM in the MaineCare Stage A Health Home control group was $690 in the post period.

7 Facility outpatient clinics refer to hospital-based outpatient clinics that provide services, such as urgent care, preventive medicine, dialysis, and cardiology.

8 Professional behavioral health includes diagnostic evaluation, psychotherapy, drug services, and prescription management in an office setting.

The cost avoidance generated by lower inpatient medical/surgical costs point to MaineCare Stage A Health Homes providing improved, more efficient care. Specifically:

- A 17.9% reduction in PMPM is notable, pointing to the positive impact of SIM and related interventions designed to strengthen primary care.
- The control group's inpatient medical/surgical expenditures increased at a higher rate than the intervention group. Of the additional expenditure trend in the control group, 8.2% was attributed to injury related admissions, 7.8% to septicemia, and 3.4% to complications of medical care.
    - Some of the injury related inpatient admissions likely could not have been avoided with any amount of care coordination. Septicemia and other complications of medical care are often acquired in the hospital setting. Current research indicates that with improved care coordination, the prevalence of these conditions is lower or the conditions are detected and treated earlier.[9,10]

Although it is difficult to compare across populations and different Medicaid programs, cost avoidance from MaineCare Stage A Health Homes exceed many other published estimates. Missouri reports that CMHC health homes are saving the state $76.33 per member per month in total Medicaid costs.[11] Although North Carolina's Health Home program applied to a much broader population than Maine's program, Milliman estimated savings of $25 per member per month in 2010.[12] Colorado implemented a Health Home program focused on children that saved $102 per member per month for children with chronic conditions.[13]

These findings point to decreases in costs associated with inpatient medical/surgical services, non-emergent Emergency Department visits, and facility outpatient clinic care, including:

- A 22.6% increase in facility outpatient clinic costs for the intervention group, compared to a 52.2% increase for the control group. Members in MaineCare Stage A Health Homes were more likely to get the services they need at their primary care office.

---

9 Loenen, Tessa et al (2014). Organizational aspects of primary care related to avoidable hospitalization: a systematic review. Family Practice, 30(5): 502-516. Accessed November 17, 2015 from: http://fampra.oxfordjournals.org/content/31/5/502.full.pdf+html.

10 Gardner, R. et al (2014). Is implementation of the care transitions intervention associated with cost avoidance after hospital discharge? J Gen Intern Med. 29(6): 878-885. Accessed November 17, 2015 from: http://www.ncbi.nlm.nih.gov/pubmed/24590737.

11 Interim Report to Congress on the Medicaid Health Home State Plan Option. Accessed November 8th 2015 from: http://www.medicaid.gov/medicaid-chip-program-information/by-topics/long-term-services-and-supports/integrating-care/health-homes/downloads/medicaid-health-home-state-plan-option.pdf.

12 Cosway R, Girod C, Abbot B (2011) Analysis of Community Care of North Carolina Cost Savings. Accessed November 8th 2015 from: http://www.ncleg.net/documentsites/Committees/HouseAppropriationsHHS/Interim%20Meetings/2012/1)_Jan%203%202012/Presentations%20and%20Handouts/Milliman%20-%20CCNC%20Evaluation/Milliman%20Analysis%20of%20CCNC%20Cost%20Savings%2012-15-2011%20(2).pdf

13 Grumbach K, Grundy P (2010) Outcomes of Implementing Patient-Centered Medical Home Interventions: A Review of the Evidence From Prospective Evaluation Studies in the United States. Accessed November 8th 2015 from: http://www.ebri.org/pdf/programs/policyforums/Grundy-outcomes1210.pdf

- A 14.0% decrease in non-emergent Emergency Department visits in the intervention group, compared to a 2.6% decrease among the control group. Decreased reliance on Emergency Departments for non-emergent care likely reflects a strengthening of primary care and coordination that is helping to keep MaineCare Stage A members out of higher cost, institution-based service areas.

Community Care Teams (CCT): The expenditures for individuals served by CCTs increased over time:

- PMPM expenditures were significantly higher for the CCT population. PMPM expenditures trended 21% higher over time for this population, which is substantially above the rate of increase for the controls or any other subpopulation analyzed.
- This difference should be further explored; however, we note that, given the complex needs of this population, it was difficult to establish a comparable control group – i.e., there were relatively few MaineCare members with such high needs who were not in the CCT program.

In sum, in their second full year, the data highlighted above indicates that:

- MaineCare Stage A Health Homes are showing robust cost avoidance relative to a control group and significant progress in reducing non-emergent ED use and fragmentation of care. However, the MaineCare Stage A Health Homes are showing a significant decrease in access to primary care for children ages 7-11.
- Consumers indicate that providers are communicating well with them.
- However, it appears that providers are not always engaging consumers by soliciting information from them nor are they encouraging them to ask more questions about their care.

MaineCare Stage B Behavioral Health Homes

Quality

While MaineCare Stage B Behavioral Health Homes showed notable cost avoidance in the first year of implementation, they did not differ in quality-related Core Metrics relative to the control group. Only fragmentation of care had a statistically significant difference[14] in trend between the MaineCare Stage B Behavioral Health population and the control group. This is in part a reflection of the small size of the intervention and control groups. Key findings include:

- **Fragmentation of care index** remained stable in the MaineCare Stage B Behavioral Health Home population with a decrease in fragmentation of 0.9%, while members in the control group experienced significantly *less* fragmentation with a decrease of 8.3%. The goal is to see a decrease in fragmentation of care.
- **Follow-up after hospitalization for mental illness** decreased for both MaineCare Stage B Behavioral Health Home (91.2% in the pre-period vs. 82.4% in the post-period) and

[14] In this report, we identify results where there was a statistically significant difference of at least p-value < 0.05 level.

control group members (83.7% in the pre-period vs. 75.0% in the post-period), with MaineCare Stage B Behavioral Health Home members decreasing at a slower rate relative to the control group (9.7% decrease vs 10.4% decrease). This finding was not statistically significant. The goal is to see an increase in follow-up after hospitalization for mental illness.

Consumer Experience

For the MaineCare Stage B Behavioral Health Home population, consumer expectations related to their care outcomes are also worth noting. Analysis of consumer feedback (320 MaineCare Stage B members and 125 individuals from a matched control group) indicates that:

- Consumers report being very satisfied with the care they are receiving, as displayed by their high domain scores[15] for the following overarching categories of survey questions:
  - Perceptions of access to care (Intervention: 91%/Control: 96%),
  - Cultural sensitivity (Intervention: 100%/Control: 100%),
  - General satisfaction (Intervention: 89%/Control: 95%),
  - Participation in treatment planning (Intervention: 95%/Control: 95%), and
  - Quality and appropriateness of care (Intervention 95%/Control: 94%).
- However, scores were lower for the outcomes of care, including improvements in their behavioral health condition, as highlighted by lower consumer ratings of questions that assess their functioning and outcomes (Intervention: 84%/Control: 86%).

Service Utilization and Expenditures

Many current health reform initiatives seek to better integrate primary care and behavioral health with the premise that overall and non-BH expenditures will be reduced by better care coordination. Key findings include:

- In the relatively short time since their April 2014 implementation, MaineCare Stage B Behavioral Health Homes have also seen a substantial reduction in per member per month overall expenditures in the engaged population compared with the control group.[16]
- The MaineCare Stage B Behavioral Health Home population eligible for inclusion in this analysis is small (approximately 1,300 individuals); but their health care expenditures are roughly twice that of the average MaineCare member, and their behavioral health (BH) expenditures represent approximately 60% of total PMPM expenditures.

---

[15] The domain scores presented here are calculated by assessing whether the respondent has answered with the two most positive response categories (in the case of domains, always Strongly Agree or Somewhat Agree). The statistic reported is the percentage of individuals answering with the two most positive responses to half or more of questions within the domain. Respondents providing valid responses to fewer than half of questions within a domain are removed from that domain's calculation. The items used to calculate domain scores are explored fully in Market Decisions Final Report and Methodology sections in the Appendix of this report.

[16] Cost avoidance analysis is based on a pre-period of April 2013 through December 2013 (3 quarters) and a post-period of April 2014 through December 2014 (3 quarters). Meanwhile, analysis of quality metrics is based on a pre-period of April 2013 through March 2014 (4 quarters) and a post-period of April 2014 through March 2015 (4 quarters).

Results are summarized in E**xhibit 2** below. Please refer to the Appendix for more information regarding the methodology of this analysis and further detail on cost avoidance.

Exhibit 2. MaineCare Stage B Behavioral Health Home – PMPM Cost Avoidance by Category

Service Category	PMPM Cost Avoidance	Percent of Total PMPM
Total	$150	14.4%
Medical[17]	$116	11.2%
Net Behavioral Health (includes professional BH, professional case management, facility outpatient therapy)	$96	9.2%

*Average PMPM in the MaineCare Stage B Behavioral Health Home group was $1,039 in the post period.
*Average PMPM in the MaineCare Stage B Behavioral Health Home control group was $1,241 in the post period.

- Preliminary findings suggest a notable cost avoidance in the MaineCare Stage B Behavioral Health Homes intervention group. Further analysis is needed to fully understand the changes that are occurring in the data.

In sum, MaineCare Stage B Behavioral Health Homes data analysis to date shows:

- Potentially promising claims-based cost avoidances after one year of implementation, however further analysis is needed;
- No significant progress on Core Metrics relative to the control group at this early phase of implementation;
- While consumers are satisfied with the care process, they report less satisfaction with the outcomes of their care.

Data Infrastructure Findings

SIM objectives included enhancements to the data infrastructure in Maine. For example, HealthInfoNet (HIN) is supporting behavioral health providers to adopt new Electronic Health Record (her) technologies to strengthen communication between providers. Key findings from the provider interviews regarding these efforts include:

- 28 of 54 or 52% of providers responding to questions about the impact of the Health Information Exchange (HIE) indicated this support as key to their ability to coordinate care with other providers and have the information they need to effectively care for their patients.
- 28 of 54 or 52% of providers also reported barriers with HIE related activities, including some behavioral health providers reporting issues with developing bidirectional connections.
- Five of 28 (18%) providers who reported challenges above indicated, however, that the interconnectivity is an important part of being able to use the HIE.

[17] Medical cost avoidance are inclusive of behavioral health savings.

Providers in Maine currently utilize multiple data "portals" to report and collect or analyze information about their practices and patients. The use of data provided through portals and practice reports has become a common component to many initiatives both within and outside of SIM. Key findings from provider interviews include:

- While the information provided to practices (e.g. through data portals) is generally seen as valuable, 27 of 69 or 39%of providers interviewed reported that the numerous portals, and other related tasks (attestation related to Health Home members) are burdensome and create confusion about the purpose, capabilities, and operations of each data source.
- Providers also indicate that there are disconnects in the data (e.g. content of the practice reports) they perceive to be valuable for their decision making, including the lack of current data provided. Some Health Home respondents provided specific comments about the strengths and weaknesses of the practice reports, with 16 of 25 (64%) stating that the utility of the reports is limited because the data is not current.
- Some providers (4 respondents) suggest that refinements to data portal input and output design in collaboration with provider input may reduce administrative complexity and enhance provider use of data to inform and target their care coordination activities.

Workforce Development Findings

Workforce training and development activities have offered valuable implementation support across SIM. Key provider and stakeholder interview findings include:

- 47 of 60 providers (78%) and 12 of 18 stakeholders (66%) interviewed noted that Learning Collaboratives have delivered opportunities for best practices development and peer learning among MaineCare Stage A and B Health Home participants.
- 18 providers (30%) stated they would benefit from more advanced topics and 22 providers (37%) indicated they would derive additional value from the sessions with a stronger focus on learning from peers.
- In addition to the Learning Collaboratives, the implementation of the Community Health Worker (CHW) pilots has been seen favorably by 4 of 5 providers (80%) currently working with the four pilots. Providers report that they are working with the CHWs to establish greater cultural sensitivity and continuity with community-based resources in their practices.

Summary and Next Steps

The findings in this report offer the first in-depth look at how Maine SIM activities are affecting the health care landscape in the state. Overall, the data highlighted in this section suggests that MaineCare Stage A Health Homes are showing robust claims-based cost avoidance relative to a control group while further cost analysis is still needed to fully understand the changes that are occurring for the MaineCare Stage B Health Homes. There is evidence of improved care coordination, and for MaineCare Stage A Health Homes, improvements in some performance measures.

Early findings related to consumer engagement suggest providers are sharing information with patients; but that more opportunities exist to engage patients in their health care decision making. The available evaluation data for other SIM objectives related to the impact of

centralizing data, workforce development, and development of new payment models is inconclusive, and more targeted evaluation activities may be directed to these objectives, as directed by the Maine Department of Health & Human Services (DHHS) Office of Continuous Quality Improvement (OCQI) and the Maine Leadership Team.

III. INTRODUCTION

Maine is one of the six states that received a three-year, statewide model test award in 2013 for the State Innovation Models (SIM) Initiative administered by the Center for Medicare and Medicaid Innovation (CMMI). The SIM Innovation Plan represents a significant addition to decades of reform efforts in Maine. Maine's SIM model includes twenty unique objectives, implemented by several organizations, to advance health care system delivery and payment reform activities throughout the state.

Over the past decade, Maine has become an incubator for pilots and demonstrations to test transformation models, including the development of models of care that seek to improve care coordination such as Accountable Care Organizations (ACOs) and the MaineCare Stage A Health Homes. The SIM grant is providing Maine with additional funding, resources, and the overarching framework to tie these efforts together in alignment with the Triple Aim.[18]

According to the Maine SIM Year 2 Operations[19] plan, the working hypothesis for Maine SIM is:

- *By providing a cohesive, streamlined framework for health care reform and innovation which includes fostering engaged consumers and communities, transforming delivery systems to support accountable and integrated patient-centered primary care, and aligning public and private payment, accountability, quality and data infrastructure, Maine will realize improved quality of care and service while positively impacting health outcomes, population health, and cost.*

Key to the SIM effort, are the collaborative partnerships between key health-related organizations, including:

- The Department of Health and Human Services (DHHS), including the Office of MaineCare Services and the Maine Center for Disease Control and Prevention (Maine CDC)
- The Maine Health Management Coalition (MHMC)
- HealthInfoNet (HIN) and
- Maine Quality Counts (QC).

The Maine SIM project includes a Strategic Framework, which groups the twenty objectives into six "Pillars" to convey the key priorities of the model. This framework aligns the SIM objectives to the key areas that the state has identified for meaningful impact through the implementation process. Further details of each Pillar can be found in **Exhibit 3** below.

---

[18] The Triple Aim is a framework developed by the Institute for Healthcare Improvement (IHI) that describes an approach to optimizing health system performance by 1) Improving the patient experience of care (including quality and satisfaction); 2) Improving the health of populations; and 3) Reducing the per capita cost of health care. Adapted from the IHI website: http://www.ihi.org/Engage/Initiatives/TripleAim/Pages/default.aspx.

[19] Chenard, Randal. "Maine State Innovation Model: The Operations Plan for Sustainable Health Care Reform." Maine Department of Health and Human Services, August 2014. Accessed October 2015 from: http://www.maine.gov/dhhs/sim/documents/SIM%20docs/plan%20docs/year%20two/Maine%20State%20Innovation%20Model%20OPS%20Plan%20Yr%202.pdf.

DHHS completed a competitive procurement process to engage an external entity to assist with the CMMI-required self-evaluation process. The Lewin Group (Lewin), a health and human services consulting firm, was engaged beginning July 2014. This report reviews data collected by Lewin for SIM activities occurring between 2013 and September 2015. Lewin employed a "mixed methods" evaluation approach incorporating both qualitative and quantitative data collected on a quarterly, semi-annually and annual basis throughout the model innovation testing period.

The comprehensive self-evaluation is composed of three Study areas:

- Implementation/Process
- Cost Effectiveness
- Impact/Effectiveness

Qualitative data was obtained via provider, consumer, and key stakeholder interviews and surveys; attendance and documentation of SIM committee meetings was also analyzed. Quantitative data on service utilization, expenditures, clinical quality measures, and program attribution was obtained from DHHS, the Maine Health Data Organization's (MHDO's) All Payer Claims Database (APCD), the Maine Health Management Coalition (MHMC), and the Maine Health Home Enrollment System (HHES) managed by the Muskie School of Public Service, University of Southern Maine (Muskie).

Exhibit 3. Maine SIM Strategic Pillars

Strengthen Primary Care	Integrate Physical and Behavioral Health	Develop New Workforce Models	Develop New Payment Models	Centralize Data & Analysis	Engage People & Communities
MaineCare Objective 1:	**MaineCare Objective 2:**	**MHMC Objective 3:**	**MHMC Objective 3:**	**MHMC Objective 1:**	**Maine CDC Objective 1:**
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:	**HIN Objective 2:**	**QC Objective 1:**	**MaineCare Objective 1:**	**MHMC Objective 3:**	**Maine CDC Objective 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:	**HIN Objective 3:**	**QC Objective 3:**	**MHMC Objective 2:**	**HIN Objective 1:**	**MHMC Objective 6:**
HIN's Health Information Exchange (HIE) data will support both MaineCare and provider Care Management of ED and Inpatient utilization by sending automated email's 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 email's 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:	**QC Objective 3:**	**MaineCare Objective 3:**	**MHMC Objective 5:**	**HIN Objective 4:**	**HIN Objective 5:**
Provide Primary Care 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 (MHRT/C) Certification curriculum.	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 claim's 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:	**QC Objective 1:**	**Maine CDC Objective 2:**	**QC Objective 1:**		**QC Objective 4:**
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:	**QC Objective 4:**	**Hanley Center Objective 1**	**Maine CDC Objective 1:**		
Provide training to Primary Care Practices on serving youth and adults with Autism Spectrum Disorder and Intellectual Disabilities.(MDDC)	Provide QI Support for Patient-Provider Partnership Pilots (P3 Pilots)	Provide Leadership development Program through developing a sustainable 5 year leadership strategy, and training of participants	NDPP: Implementation of the National Diabetes Prevention Program (NDPP)		
QC Objective 4:					
Provide QI Support for Patient-Provider Partnership Pilots (P3 Pilots)					

IV. FINDINGS

A. MaineCare Stage A Health Homes

MaineCare Stage A Health Homes play an integral role in the overarching SIM goals and objectives, as Health Homes serve individuals with multiple chronic conditions. This initiative does not fall under the strategic pillars, but factors into overarching SIM goals and objectives. In order to describe the anticipated impact of this intervention, MaineCare has developed the following hypothesis:

- *"If MaineCare members with multiple chronic conditions have access to enhanced primary care and care management services when needed, then they will have improved outcomes, a better service experience, and reductions in cost."*

The MaineCare Stage A Health Homes were first implemented in January 2013. The pre-intervention period for this analysis is calendar year 2012 Quarter 1 to 2012 Q4, and the post intervention-period is calendar year 2013 Q1 to 2013 Q4. This post period was used to measure the changes in utilization and quality of care immediately following the implementation of the intervention in January 2013, the approach that was similarly used for MaineCare Stage B Behavioral Health Homes. For this report, Lewin has used claims data and consumer, provider and stakeholder interviews to assess the initiative's impact to date. It is important to note that we only included members for MaineCare Stage A **not** served by Community Care Teams (CCT)[20].

To assist in understanding the population enrolled in MaineCare Stage A Health Homes, **Exhibit 4** depicts select demographic, risk, and diagnostic information. The retrospective risk scores, comorbid conditions, and diagnostic categories are derived from the Episode Risk Grouper (ERG) software in the Optum Symmetry Suite[21]. The similarity in the intervention and control characteristics in the pre period is a reflection of efforts to match the two groups.

Exhibit 4. MaineCare Stage A Health Homes – Group Characteristics

	Members		Average Risk		Average Age		Percent Male		Average Comorbid Conditions		Percent Diabetic		Percent with Mental Health/ Substance Abuse	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Health Home Stage A	48,206	48,200	2.5	2.5	35.2	36.2	40.6%	40.6%	3.0	3.0	11.8%	12.6%	40.2%	40.4%
Control Group	48,206	48,206	2.5	3.0	34.9	35.9	40.9%	40.9%	3.0	3.5	11.8%	12.2%	41.1%	44.9%

[20] Community Care Teams provide care coordination activities for individuals determined to be in the top 5% at risk for increased service utilization. Previous findings noted in the recent Objective Review Report indicated that the cost effectiveness results to date for members served by CCT were inconclusive.

[21] More information about Optum Symmetry Suite is available here: https://www.optum.com/providers/analytics/health-plan-analytics/symmetry/symmetry-episode-risk-groups.html

1. Cost Effectiveness Findings

MaineCare members participating for at least six months in MaineCare Stage A Health Homes exhibited a 5% increase in costs after engagement in Health Homes compared to the pre-engagement period. By comparison, expenditures for a control group of similar but not engaged members increased 23.8% during the same period of time. If expenditures for MaineCare Stage A Health Homes members increased at the same rate as the control group, expected costs for this population would have been approximately $725 Per Member Per Month (PMPM), or $110 PMPM higher than they actually were ($615 PMPM). The table below (**Exhibit 5**) summarizes the change in total cost avoidance for members enrolled in MaineCare Stage A Health Homes.

Exhibit 5. MaineCare Stage A Health Homes - Total PMPM Cost Avoidance Estimate

	Pre (2012)	Post (2013)	Change	Expected PMPM	Cost Avoidance
Stage A Health Home Member	$586	$615	5.0%	$725	$110
Control Group	$557	$690	23.8%		

To reach the conclusions presented in this section, Lewin applied a Difference-in-Difference method, which is a robust quasi-experimental design that uses a matched control group of members with similar characteristics to assess what would have happened in the absence of the intervention. This approach controls for many confounding factors like member characteristics, changes in MaineCare policy and other external factors, as these factors occur in both the MaineCare Stage A Health Home and control groups. The analysis also only includes members with at least 6 months of Health Home enrollment, which ensures adequate exposure to the intervention and is common practice in many health related analyses. Please see page 20 of the Claims Data Analysis Methodology section of the Appendix for more information regarding the Difference-in-Difference method.

The methodology here has several advantages that allow the evaluator to definitively test whether the model implementation has led to changes in utilization patterns. The case matching process selected a comparison group of MaineCare members that were largely similar except for Health Home participation. The control group was selected based on propensity score matching, and cross-validated with cell-based matching. We ran multiple iterations of the case matching process using different combinations of factors in the propensity scores, and evaluated the similarity of the groups in the baseline period in each iteration. See page 21 of the Claims Data Analysis Methodology section in the Appendix for more detail about the case matching methodology. As noted in **Exhibit 5** above, the total PMPM expenditures during the pre- or baseline period were similar for both MaineCare Stage A Health Home members and the control group ($586 vs $557, or only 5% higher in the Health Home group). While this matching process can yield similar intervention and controls, a "perfect" match is not possible as MaineCare Stage A members by definition tend to have more chronic conditions than most MaineCare enrollees.

Expenditures across Lewin's 46 categories of service[22] were also evaluated in the baseline period for both groups (see page 22 of the Claims Data Analysis Methodology section of the Appendix for detail). Baseline expenditures were mostly similar, whether compared on a PMPM basis or on a percentage basis. Similar baseline expenditures indicate that the case matching process selected a clinically similar control group and not just one that was similar in total cost, which helps to avoid many common pitfalls in quasi-experimental design. For example, it reduces the likelihood that changes in cost over time are simply due to other factors (e.g., inflation), since both groups would experience the same influences. In addition, because both groups experience the same set of external factors, there is no need to explicitly estimate parameters like changes in benefit design, fee schedules, or other concurrent events.

Lower total expenditures were driven by medical expenditures that did not increase as quickly as the control group, as shown in **Exhibit 6** below. Pharmacy expenditures were lower for both groups, however, expenditures for MaineCare Stage A members decreased more rapidly than for the control group (down 2.8% vs 1.2%). While medical expenditures rose in the MaineCare Stage A Health Home group, the control group experienced a much more rapid increase in expenditures. Baseline medical expenditures were 6% lower in the control group, but rose much more rapidly over time and a year later were 13% higher than members participating in MaineCare Stage A Health Homes.

Exhibit 6. MaineCare Stage A Health Homes - Medical PMPM Cost Avoidance Estimate

	Pre (2012)	Post (2013)	Change	Expected PMPM	Cost Avoidance
Stage A Health Home Member	$496	$528	6.4%	$639	$111
Control Group	$466	$599	28.7%		

Within medical spending, **Exhibit 7** below shows the top three categories that explain most of the cost avoidance. A full breakdown of cost avoidance by all categories of service is included in the Claims Data Analysis Methodology section of the Appendix on page 25.

Exhibit 7. MaineCare Stage A Health Homes - Cost Avoidance by Category

Service	Cost Avoidance
Inpatient Med/Surgical	$40
Outpatient Clinic Expenditures	$11
Professional Behavioral Health Services	$11

The largest driver of cost avoidance in MaineCare Stage A Health Homes was lower inpatient medical/surgical expenditures, as shown in **Exhibit 8**. The baseline expenditures are only 6% lower in the control group, but rise sharply in the post period. The MaineCare Stage A group

[22] Lewin has developed customized category of service logic as a way to classify cost and utilization data through our work with clients around the country and in consultation with internal experts.

experienced a small decrease in expenditures (-1.8%), while the control group rose by 69.3%, leading to sizable reduction over the expected PMPM.

Exhibit 8. MaineCare Stage A Health Homes - Inpatient Med/Surgical PMPM Cost Avoidance Estimate

	Pre (2012)	Post (2013)	Change	Expected PMPM	Cost Avoidance
Stage A Health Home Member	$57	$56	-1.8%	$96	$40
Control Group	$53	$90	69.3%		

Inpatient expenditures in the control group were higher in nearly all diagnosis categories, but approximately one third of the increase was driven by the seven diagnosis categories shown in **Exhibit 9**.

Exhibit 9. MaineCare Stage A Health Homes Control Group - Percentage of Inpatient Med/Surgical Cost Growth

Diagnosis Category	Percent of Inpatient Cost Growth Control	PMPM Pre (2012) Control	PMPM Post (2013) Control	PMPM Pre (2012) Stage A	PMPM Post (2013) Stage A
Septicemia	7.8%	$2.47	$5.05	$1.69	$2.81
Complications from surgical procedures and medical care	3.4%	$1.01	$2.12	$1.76	$1.37
Intracranial injuries	2.6%	$0.45	$1.30	$1.05	$0.61
Spinal cord injuries	2.3%	$0.05	$0.79	$0.07	$0.00
Crushing or internal injuries	3.3%	$0.41	$1.48	$0.47	$0.34
Epilepsy; convulsions	3.2%	$0.44	$1.50	$0.83	$0.50
Respiratory failure	1.9%	$1.09	$1.72	$0.58	$0.72

Examination of the septicemia claims showed that some of these admissions were caused by Methicillin Resistant Staphylococcus Aureus (MRSA) and other staph infections which are often acquired in a hospital-setting. E-codes on injury related claims showed that some were caused by accidents, which are typically unpredictable events. To ensure that cost avoidance relative to the control group was not driven by a small number of outliers or random events, two additional analyses were performed. First, total cost avoidance relative to controls using the same cohorts was essentially the same in 2014 as in 2013, indicating that the avoidance of costs were not explained by infrequent or random events. Second, examination of expenditure percentiles showed that the entire control group cost distribution increased and higher total costs were not driven by a small number of outliers.

Thirty-day Hospital Readmissions increased by 39.4% in the MaineCare Stage A Health Home population, while the rate for the control group increased at a lower rate by 26.6%, as shown in **Exhibit 10**, although the difference in trends was not statistically significant (p-value > 0.05). The expected post readmission rate would be 11.2%, indicating the readmissions were 1.3% higher than expected. High readmissions can lead to higher inpatient costs, so it is surprising that the inpatient medical/surgical expenditures decreased while readmissions increased.

Exhibit 10. MaineCare Stage A Health Homes – Readmission Change

	Pre (2012)	Post (2013)	Change
Stage A Health Home Member	8.9%	12.5%	39.4%
Control Group	9.8%	12.4%	26.6%

To assist in understanding the MaineCare Stage A Health Home members who were readmitted to a hospital, **Exhibit 11** shows some demographic, risk, and diagnostic information, similar to **Exhibit 10** above.

Exhibit 11. MaineCare Stage A Health Homes – Readmission Group Characteristics

	Members		Average Risk		Average Age		Percent Male		Average Comorbid Conditions		Percent Diabetic		Percent with Mental Health/ Substance Abuse	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Stage A Health Home Member	183	275	14.0	14.7	54.7	61.0	42.1%	43.6%	7.7	8.0	35.5%	39.3%	57.9%	49.1%
Control Group	179	332	12.0	14.5	51.6	55.6	48.0%	46.4%	6.9	8.0	30.7%	41.0%	69.3%	60.8%

Additional avoidances of cost were also explained by lower than expected growth in outpatient facility clinic expenditures (see **Exhibit 12**). Outpatient facility clinic expenditures for MaineCare Stage A members increased by 22.6% over time, but expenditures in the comparison group increased by more than 50% during the same time period. Outpatient facility clinics refer to hospital-based outpatient clinics that provide services, such as urgent care, preventive medicine, dialysis, and cardiology.

Exhibit 12. MaineCare Stage A Health Homes- Facility Outpatient Clinic PMPM Cost Avoidance Estimate

	Pre (2012)	Post (2013)	Change	Expected PMPM	Cost Avoidance
Stage A Health Home Member	$38	$46	22.6%	$57	$11
Control Group	$33	$50	52.2%		

Non-Emergent Emergency Department Utilization decreased in both the MaineCare Stage A Health Home population and the control group, but the Health Home members significantly decreased at a faster rate of -14.0% (p-value < 0.001). See **Exhibit 13**.

Exhibit 13. MaineCare Stage A Health Homes – Non-Emergent ED Utilization

	Pre (2012)	Post (2013)	Change
Stage A Health Home Member	162.2	139.4	-14.0%
Control Group	202.8	197.5	-2.6%

To assist in understanding the MaineCare Stage A Health Home members who experienced non-emergent ED utilization, **Exhibit 14** shows some demographic, risk, and diagnostic information, similar to **Exhibit 13** above.

Exhibit 14. MaineCare Stage A Health Homes – Non-Emergent ED Utilization Group Characteristics

	Members		Average Risk		Average Age		Percent Male		Average Comorbid Conditions		Percent Diabetic		Percent with Mental Health/ Substance Abuse	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Stage A Health Home Member	5,863	5,195	3.2	3.5	32.2	34.2	35.9%	35.7%	3.5	3.7	10.8%	12.9%	47.3%	49.3%
Control Group	6,655	6,672	3.2	3.7	30.4	31.6	38.0%	40.9%	3.4	3.9	10.2%	11.7%	49.6%	51.8%

Although the MaineCare Stage A Health Home model did not focus on behavioral health issues, there were avoidances in cost in professional behavioral health expenditures relative to the control group (see **Exhibit 15**). The MaineCare Stage A group had an increase in expenditures of 27.2%, but the control group saw an increase almost double at 49.8%. The facility outpatient clinic and the professional behavioral health expenditure cost avoidances were close to $11 PMPM each.

Exhibit 15. MaineCare Stage A Health Homes – Professional Behavioral Health PMPM Cost Avoidance Estimate

	Pre (2012)	Post (2013)	Change	Expected PMPM	Cost Avoidance
Stage A Health Home Member	$47	$59	27.2%	$70	$11
Control Group	$53	$79	49.8%		

2. Impact Findings from Claims Analysis

The pre-intervention period for this analysis spanned January 2012 through December 2012, prior to MaineCare Stage A Health Homes implementation. The post-engagement period spans January 2013 through December 2013. These are the same pre- and post- periods used in the cost effectiveness evaluation described above. For each measure, we tested if the change from the pre- period to the post- period was significantly different at a $p < 0.05$ level between the intervention and control groups.

To assess if the model leads to improvements in care coordination and less fragmentation of care, we evaluated changes in non-emergent ED utilization, the fragmented care index (FCI), and readmission rates relative to the control group.

Measurement of the FCI provides insight to the number of providers engaged in a member's care. When members see multiple providers for their care, these providers may not consistently communicate and coordinate with each other regarding the overall management approach for a member's health. Limited care coordination may result in an increase in cost when more visits occur; it may also lead to a decrease in the quality of care if one provider is not aware of the

decisions other providers have made regarding a member's needs. The goal is to see a decrease in fragmentation of care. The median FCI was unchanged for MaineCare Stage A Health Home members before and after engagement in Health Homes. By comparison, the median FCI increased for the control group, indicating more fragmentation of care over time. This difference in trends was statistically significant (p-value < 0.001). See **Exhibit 16**.

Exhibit 16. MaineCare Stage A Health Homes Median Fragmented Care Index

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	0.60	36,984	0.60	35,244	0.0%
Control Group	0.60	32,788	0.64	34,432	6.8%
Overall MaineCare	0.60	191,356	0.62	180,122	1.7%

Non-emergent ED utilization is also a marker of poor care coordination because it measures ED visits that are better handled in primary care settings. The rate of non-emergent ED visits significantly decreased over time at a rate far exceeding the control group (p-value < 0.001), which was the goal of this metric. MaineCare Stage A Health Home members had lower rates of non-emergent ED utilization both before and after engagement. The overall MaineCare rate has decreased over this time period, but not as quickly as the MaineCare Stage A Health Homes. Note that in the table below (**Exhibit 17**), the denominators show member months because the rate is calculated on a per thousand basis.

Exhibit 17. MaineCare Stage A Health Homes Non-Emergent ED Visits Per Thousand

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	162.2	561,409	139.4	566,809	-14.0%
Control Group	202.8	536,177	197.5	534,878	-2.6%
Overall MaineCare	142.5	4,099,761	130.6	3,883,716	-8.4%

30-day hospital readmissions can be driven by a wide variety of reasons including poor medication management, lack of community supports, or infections or complications from care. Some of these reasons can reflect poor care coordination during transitions from hospital to home. The rate of hospital readmissions increased for both MaineCare Stage A Health Home members and controls (see **Exhibit 18**), where the goal was to see a decrease in readmissions. The MaineCare trend mirrors the control group, which shows a high increase in the post period, but not as high as the MaineCare Stage A population. In the post- engagement period, the rate was essentially the same in both the intervention and control, with no statistically significant difference between the rates (p-value > 0.05).

Exhibit 18. MaineCare Stage A Health Homes Readmission Rate

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	8.9%	2,149	12.5%	2,369	39.4%
Control Group	9.8%	1,962	12.4%	2,850	26.6%
Overall MaineCare	11.0%	14,712	14.0%	14,726	27.4%

Improvements in quality and processes of care can be measured by the following core metrics relating to quality:

- Use of Imaging Studies for Low Back Pain
- Well-Child Visits
- Children's and Adolescent Access to Primary Care (ages 7-11)
- Developmental Screenings in the First 3 Years of Life
- Diabetic Care HbA1c (ages 18-75)

Exhibit 19 shows the percent of members with a primary diagnosis of low back pain who did not have an imaging study within 28 days of the diagnosis. In this metric, the goal is to see a decrease in imaging studies, which equates to an increase in members who did not have an imaging study. This differs from other metrics where a higher screening rate is better. The rate decreased at a similar rate in both the MaineCare Stage A and control population, with no significant difference between the trends in these groups (p-value > 0.05).

Exhibit 19. MaineCare Stage A Health Homes Imaging Studies for Low Back Pain

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	90.6%	7,060	86.2%	6,541	-4.9%
Control Group	90.3%	6,876	84.5%	7,347	-6.5%
Overall MaineCare	84.7%	32,549	82.8%	29,657	-2.2%

Exhibit 20 shows that the rate of Well-Child Visits for children ages 3 to 6 was largely unchanged for child Health Home members and control group member, with no significant difference between the two groups (p-value > 0.05). The goal was to see an increase in well-child visits.

Exhibit 20. MaineCare Stage A Health Homes Well-Child Visits (ages 3-6)

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	70.9%	1,886	73.2%	1,530	3.2%
Control Group	70.2%	1,801	73.9%	1,838	5.3%
Overall MaineCare	64.0%	25,962	65.2%	25,090	2.0%

Access to Primary Care for children ages 7 to 11 was not reported in 2012, so the change from 2013 to 2014 was measured instead (see **Exhibit 21**). The access to primary care rate was lower after the intervention while the same measure increased slightly for the control group, leading to a statistically significant difference in trends between the MaineCare Stage A Health Home members and control members (p-value < 0.001). The goal was to see an increase in access to primary care. The rate among the overall MaineCare population was virtually unchanged.

Exhibit 21. MaineCare Stage A Health Homes Children's and Adolescent Access to Primary Care (ages 7-11)

Group	Pre (2013)	Pre Denominator	Post (2014)	Post Denominator	Change
Stage A Health Home Member	97.3%	3,715	94.2%	3,324	-3.2%
Control Group	96.8%	2,770	97.3%	2,596	0.5%
Overall MaineCare	81.3%	36,277	81.1%	36,327	-0.2%

The rate of developmental screenings in the first 3 years of life increased rapidly for both members engaged in MaineCare Stage A Health Homes and for non-engaged controls as shown in **Exhibit 22**, without a significant difference in these increases (p-value > 0.05). The goal was to see an increase in the rate of developmental screenings. Although the rate of increase differed between the two groups, the small sample sizes inhibit the statistical significance of this difference. The increase in the overall MaineCare population mirrors the trend seen in the control group.

Exhibit 22. MaineCare Stage A Health Homes Development Screenings in the First 3 Years of Life

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	19.0%	849	31.0%	770	63.7%
Control Group	12.0%	1,314	23.3%	1,512	93.6%
Overall MaineCare	10.5%	17,789	20.0%	16,686	91.7%

The rates of HbA1c testing for diabetics engaged in MaineCare Stage A Health Homes and in the control group were essentially unchanged over time, with no significant difference (p-value > 0.05) between them (See **Exhibit 23**). The goal was to see an increase in the rate of HbA1c testing.

Exhibit 23. MaineCare Stage A Health Homes Diabetic Care HbA1c (ages 18-75)

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	83.7%	4,331	84.3%	4,519	0.7%
Control Group	80.7%	4,078	81.1%	4,017	0.5%
Overall MaineCare	77.4%	20,999	78.9%	19,958	2.0%

To assess if the model improves the level of integration of physical and behavioral health, the Follow-Up After Hospitalization for Mental Illness metric was used to compare members engaged in MaineCare Stage A Health Homes and non-engaged controls, although the MaineCare data used to compute this measure does not include complete data on adult admissions to Institutes of Mental Disease (IMD)[23]. Not all hospitalizations for MaineCare members were captured due to this data exclusion. However, both the comparison and control group lack this data, so the comparison between the two groups is still valid, but should be interpreted with caution. A follow-up visit is recommended to ensure a smooth transition to a member's daily life, and this visit can help detect post-hospitalization reactions[24]. The rate of follow-up decreased over time, while follow-up in the control group increased during the same time period, as shown in **Exhibit 24**. Due to a low number of hospitalizations for mental illness in these groups, the difference in trends was not significantly different (p-value > 0.05). The goal was to see an increase in follow-up visits.

Exhibit 24. MaineCare Stage A Health Homes Follow-Up After Hospitalization for Mental Illness

Group	Pre (2012)	Pre Denominator	Post (2013)	Post Denominator	Change
Stage A Health Home Member	68.5%	273	64.3%	401	-6.1%
Control Group	72.0%	457	75.1%	766	4.3%
Overall MaineCare	69.3%	3,395	65.4%	3,654	-5.7%

No claims based metrics assess if MaineCare Stage A Health Homes lead to improvements in beneficiary health, well-being, function, and reduced health risk behaviors. This is best addressed via clinical measures, which have yet to be collected.

3. Consumer Survey Findings

The following section presents consumer experience of care data collected from members of MaineCare Stage A Health Homes. While comparisons between the intervention group and the

---

[23] Reflects hospitalization only to Acadia and Spring Harbor facilities.

[24] National Quality Measures Clearinghouse (2015). Follow-up after hospitalization for mental illness: percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visit, an intensive outpatient encounter, or partial hospitalization with a mental health practitioner within 7 days of discharge. Accessed December 1, 2015 from: http://www.qualitymeasures.ahrq.gov/content.aspx?id=48642.

control group are made, this initial administration of the MaineCare Patient Experience Survey is best used as a baseline which future surveys can use to identify change related to the interventions.

Composite Measures[25]

Within the MaineCare Stage A Health Homes intervention and control groups, the highest scoring composite measures point to positive member experience and provider communications, including:

- 'Helpful, Courteous and Respectful Office Staff' (Intervention: 93%/Control: 97%)
- 'How Well Providers Communicate With Patients' (Intervention: 90%/Control: 91%).

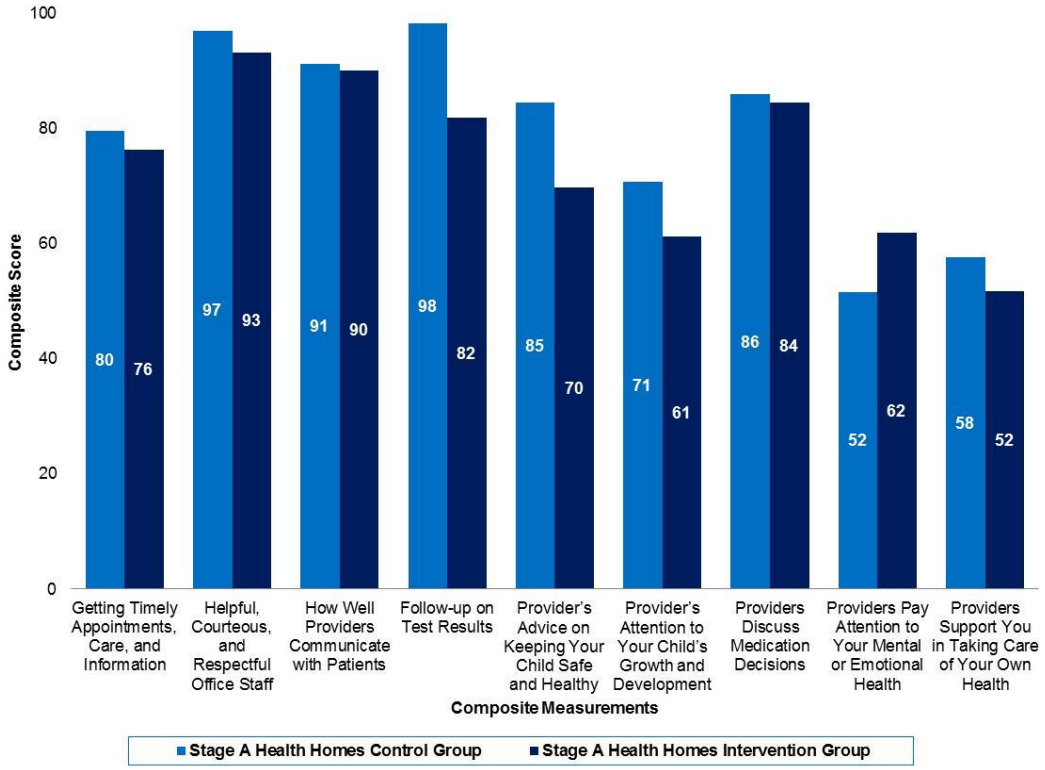
Consumers are less likely to be engaged in the care process or asked about their ideas by providers, as indicated by lower composite scores in the following categories:

- 'Providers Support You in Taking Care of Your Own Health' (Intervention: 52%/Control: 58%)
- 'Provider's Attention to Your Child's Growth and Development' (Intervention: 61%/Control: 71%)
- 'Providers Pay Attention to Your Mental or Emotional Health' (Intervention: 62%/Control: 52%)

None of these differences between the intervention and control group rise to the level of statistical significance. (See **Exhibit 25** on the following page for more details.)

[25] The survey tool poses several related questions for a single topic or "domain". Each group of related questions are considered together to generate a "composite" score. We calculated composite scores by assigning a value between zero and 100 to every possible answer category for each question that comprises the composite. Higher values represent more positive responses. Scores were summed and averaged across the number of valid responses provided by the respondent. This average or "composite" score is the statistic reported.

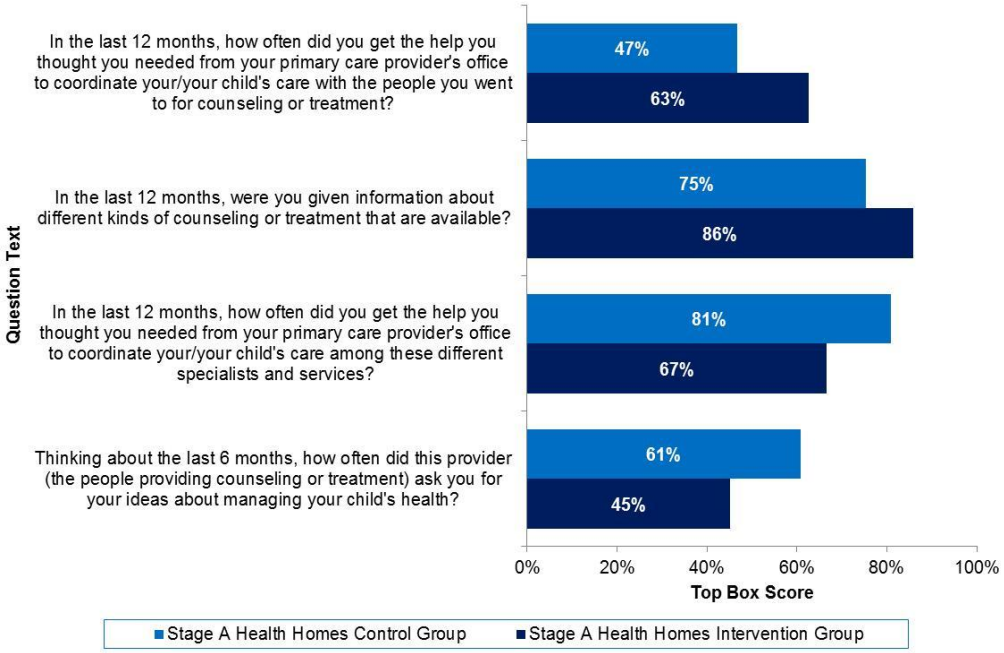
Exhibit 25. Summary of Composite Measures for MaineCare Stage A Health Homes



Individual Items

There are also groups of items in the survey instrument that fall outside of the composite measures. These items are grouped into areas of broad thematic focus as they relate to each other and to the goals of the ME SIM Grant Evaluation program. The following are key observations regarding the impact of the health home model on member experience outside of the above composite measures (see **Exhibit 26** on the following page).

Exhibit 26. MaineCare Stage A Health Homes Individual Items[26] of Interest



Care Coordination

Specific items identified consumer experience with care coordination in the MaineCare Stage A Health Home setting, as highlighted above in Exhibit 26. Members of the MaineCare Stage A Health Homes Intervention group are more likely than those in the control groups (Intervention: 63%/Control: 47%) to say their provider always helped coordinate care with the people they or their child saw for counseling or treatment. Intervention group members reported that they are also given information on different kinds of counseling or treatment available to them at higher rates than the control group members (Intervention: 86%/Control: 75%). However, the intervention group is less likely to report that their provider asked for their ideas about managing their health than the control group members (Intervention: 45%/Control: 61%). Intervention group members are also less likely to get the help they thought they needed to coordinate care between different specialists and providers (Intervention: 67%/Control: 81%).

Patient-Provider Communications

A number of survey measures examine communications between patients and providers. For members in MaineCare Stage A Health Homes, the survey includes a patient/provider communications composite. Members rate their providers highly on this composite, with a composite score 90% among those in MaineCare Stage A Health Homes and 91% among

[26] The related individual item percentages are all given using the top box score, i.e. the percentages for the most positive response option available.

controls[27]. These results indicate that providers are effective in providing information to their members. Providers scored particularly well in providing information to member's parents about managing their child's health care (Intervention: 86%/ Control: 86%). In addition to guidance in managing their child's health, providers are giving their member's parents information about the types of counseling or treatment options available for behavioral health care (Intervention: 63%/Control: 47%). Members, however, see their providers, or other staff at their provider's office, as being less effective in speaking about specific goals for their health care (Intervention: 64%/ Control: 77%).

Communication between members and providers on issues related to their mental health is another key component of care integration. In general, members in MaineCare Stage A Health Homes indicate that their providers are more effective in in communicating about physical health or lifestyle than behavioral health. Members indicate that their providers (or others at their office) ask about the growth of their child and television viewing habits. Members also indicate that their primary care physician's (PCP) office was effective in asking about times when they felt sad or depressed (Intervention: 73%/Control: 56%), however this may simply reflect that members are often asked to fill out a standard assessment while in the waiting room and not that their providers ask them directly. According to the members surveyed, providers are less likely to ask about their child's moods or emotions (Intervention: 64%/Control: 76%), their child's learning ability (Intervention: 38%/Control: 49%), or whether a member experiences personal or family problems that may impact their health (Intervention: 50%/Control: 47%).

4. Provider Interview Findings

During the provider interview process, 59 health home representatives were interviewed. They provided insight on the many changes they have made at their practices as a result of becoming a health home, including adding staff or redefining staff responsibilities, adding behavioral health providers on care teams, coordinating patient care with CCTs, extending hours of service, increasing the frequency of care team meetings, and other initiatives focused on improving the quality and patient-centeredness of care. See **Exhibit 27** for more details.

Exhibit 27. Changes Made to Become a Health Home

Changes Made Since Model Adoption	Number of Health Home Providers Citing Change
Coordinated patient care with CCTs	32
Added staff or redefined staff responsibilities	28
Included behavioral health providers on care teams	24
Extension of service or otherwise changed scheduling procedures to allow for same day hours access	20
Increased the frequency of care team meetings	20
Added other services (specify)	13

[27] See the Market Decisions Final Report included in the Appendix for a description of the composite score calculation.

Respondents generally had a more difficult time articulating how their participation in the health home initiative has improved patient engagement, but 34 of 59 MaineCare Stage A Health Home providers said that their program participation has led to somewhat (n=20, 48%) or much more (n=14, 33%) patient engagement. Representative comments include:

- "We've made baby steps. We don't have a patient advisory committee yet, but it has increased awareness."
- "I think so. We made some internal changes. We started making sure that patients have preferred providers. We're collaborating on that."
- "That's tough….. For a long time we've had a patient and chronic disease registry and we're continuing that. We're beginning to have everyone document their conversations with patients and how they're going to approach things, but I don't think the Health Homes have helped with this. Being part of PCMH (Patient Centered Medical Home) and NCQA (National Committee for Quality Assurance) are the factors."

Among the 40 Health Home respondents who identified specific ways in which the model improved patient care, access to patient data / improving care was the most frequently mentioned item. See **Exhibit 28** for further details.

Exhibit 28. Changes Having the Biggest Impact on Improving Care in Health Homes

	Number of Health Home Providers Citing Impact
Access to patient data / better care	16
Integrated care	9
Quality measures / risk management	8
Internal communications / teamwork / education	6

5. Stakeholder Interview Findings

Of the 18 stakeholders interviewed, 9 stakeholders made positive comments about Health Homes and 8 made negative comments. Their comments point to the benefits of the Health Home model to patients, but also highlight their concerns about operational issues and patient outcomes. Representative comments include:

- "The concept is a no-brainer – the PCP and patient are at the center. [Providers] need to manage the whole care – including the social impacts. They need to understand everything in the patient's lives, and collaborate. Providers need to be at risk for achieving that. If not, the health of the individual won't improve."
- "I think it's [the Health Home model] an exciting, really energizing pilot."
- "Health Home performance is yet to be fully understood [now after] two years. [We are] paying for impact in admissions, readmissions and on ED. The Annual Report slides showed some positive impact on the Emergency Department; the others' [impact is less clear]. We need to see impact on outcomes –translating to better outcomes."

Broad commentary from stakeholders on the overall SIM effort to strengthen primary care can also be tied to the Health Home implementation. Several stakeholders (approximately 10) had in-depth knowledge of the SIM program, how it began, its current status, or some administrative details of its operation. Regarding general impressions of Pillar 1 activities, some representative comments include:

- "There has been lots of value added to the first…practices. With more practices coming on board as it has grown exponentially, it may not be going as well in individual practices [now] because in the first 25 it was possible to sit down with the leadership of every one [of them]. That's not possible now."
- "My impression is that they are very effective at managing care and reducing cost. So far there is very little data to support that impression."
- "It's [the Health Home model] simply beginning to change the understanding of what PCPs should be doing: establish culture of team, educate people on the team, revise the role of the physicians."
- "Providers should drive the SIM structure in [closer] collaboration with MaineCare, and a neutral convener should be the one managing the process."
- "It's moving in the right direction. Kudos for MaineCare. The execution is slow because it's complicated."

6. *Interview Findings Related to MaineCare Stage A Health Homes Regarding CCTs*

In total, 50 Health Home and CCT respondents shared insights regarding the Community Care Team (CCT) initiative. Of the 50, 29 (or 58%) shared positive comments about the program, mostly regarding the overall ability of the CCTs to positively impact patient care and/or integration with the HH. Representative comments include:

- "If I could have more of the CCT's nurse time I think we could have a bigger impact in helping reduce ER usage and re-hospitalization. She helps refer patients to our behavioral department, to our dental department, [and other] community resources. I wish we had more access to her time wise."
- "I wish that the [CCT] piece could be expanded out."
- "CCT people are absolutely wonderful. I can't say enough good about them . . . I have very difficult patients. They [the CCTs] understand that patients don't do well because of a variety of social issues [in this area]."

Representative comments from CCTs include:

- Regarding integrating with the Health Home: "We co-locate staff members, conduct regularly scheduled meetings at each practice that we serve, jointly review the dashboard and identify high utilizers for the CCT, and, use full access to the Electronic Medical Record (EMR) and jointly conduct chart review."
- "This program doesn't fit any normal model. [CCTs] need to be entrepreneurial."

Eight respondents provided one or more comments regarding areas for improvement. Five of the eight respondents made comments relating to operational aspects of the program, including a perceived need to standardize the services of the program. Respondents stated that there is a

wide variation in how CCTs operate, which they viewed positively to some extent, as it indicated the CCTs' responsiveness and flexibility in the provision of services (e.g. some CCT's make home visits while some do not). However, there were also suggestions that more standardization would be beneficial. Specific examples include:

- Embedding or co-locating CCT staff with the Health Homes
- Standardizing patient ratios
- Making provider-credentialing requirements more uniform.

Four provider respondents and one stakeholder stated that the CCT program faces unique challenges in more rural parts of the state. Additionally, three respondents stated that enrollment criteria are somewhat challenging, particularly program duration (i.e., CCT program is a short-term program and many clients have ongoing needs). Representative comments include:

- "We need more in-home services, like community paramedics who can check in on people. Low-level follow up is a good idea."
- "The CCT is not working well for our rural location . . . The CCT person meets once per month with the team and then patient involvement dithers."

Eight stakeholders had positive comments about CCTs – generally supporting the integrated care aspect of the model while offering some insights about concerns. About the same number (9) expressed some concerns or mentioned opportunities for improvement. Representative comments include:

- "Our CCT has gone through a rapid evolution. We know that we have positively impacted ED usage, in-patient utilization."
- "There's a cost associated with having CCTs. Practices that are using them successfully may be less likely to deploy them to others. It's not a competitive issue; it's just that it's hard to deploy people. It takes a sophisticated practice to take advantage of all of this."

The CCT respondents had particular insight about the capabilities, impact, and needs of the CCT program. In order to become a CCT, two respondents said that they added staff, three indicated they realigned services in order to better integrate services, and three made better use of data. All respondents indicated that the CCTs provide a mix of integrated services designed to achieve goals such as managing high-utilizers of services, enhancing patient engagement, and meeting the Triple Aim.

The majority of the CCTs included in the evaluation indicated that the CCT model has effectively led to service-related changes. Specifically, the multidisciplinary approach to managing high-risk patients was mentioned by two organizations as a key benefit of the program. In the category of areas for improvement, two CCTs also indicated that administrative burdens were heavy and may adversely impact care. Some noted that financial issues constrain, or may soon constrain, the ability of the CCT to meet patients' needs.

When asked about services that the CCT team provides and how they integrate with the Health Home practice, there was a wide array of responses. Two CCTs said that they offer a broad

range of services including, home health (including home visits), coordinated / integrated medical and behavioral care services, and other services customized to individual patient needs.

7. Summary of Key Findings

Results from MaineCare Stage A Health Homes Initiative show reduced expenditures for per member per month in categories including total, medical, and behavioral health costs. Results are summarized in Exhibit **29** below.

Exhibit 29. MaineCare Stage A Health Homes - Cost Avoidance by Category

	PMPM Cost Avoidance
Total	$110
Inpatient Med/Surgical	$40
Outpatient Clinic Expenditures	$11
Professional Behavioral Health Services	$11

*Average PMPM in the MaineCare Stage A Health Home group was $615 in the post period.
*Average PMPM in the MaineCare Stage B Health Home control group was $690 in the post period.

MaineCare Stage A Health Homes were designed to reduce costs by strengthening primary care and improving care coordination. Members engaged in MaineCare Stage A Health Homes showed far less inpatient medical/surgical cost growth than the control group which suggests that additional care coordination avoided some hospital utilization compared to controls. Further examination of the top diagnostic category drivers of the control group inpatient expenditure trend provides a mixed picture of how MaineCare Stage A Health Homes could avoid inpatient utilization. Some of the injury related inpatient claims likely could not have been avoided with any amount of care coordination. Conversely, some of the septicemia and complications of medical care related admissions observed in the control group could be avoided through better care coordination. For example, some septicemia admissions begin as less significant infections that, if detected early, can be treated without hospitalization.

Although inpatient medical/surgical costs trended far lower than the control group, the readmission rate for MaineCare Stage A members increased at a faster rate than the control group. The control group readmission increase was similar to the trend in overall MaineCare. Increasing focus on reducing readmission rates will continue to lead to cost reductions, particularly in inpatient expenditures.

Facility outpatient clinic costs and non-emergent Emergency Department visits decreased quicker in the MaineCare Stage A group relative to controls. The downward trend of non-emergent ED visits in the control group mirrors the overall MaineCare trend. This indicates that members are not just being redirected from inpatient facilities to other service locations, but costs overall are decreasing. A decrease in facility outpatient clinic costs may mean that the members are getting the services they need at their primary care office instead of another location. Additionally, the decrease in non-emergent Emergency Department visits show that members are not going to the emergency room for conditions that require a physician visit

instead. These results suggest that the enhanced primary care provided through the Health Home model is keeping members out of higher cost service areas.

MaineCare Stage A Health Homes also showed professional behavioral health cost avoidances. Stronger primary care coordination includes all aspects of a member's health, including their behavioral and mental health. Members may be experiencing better coordination between their primary care physicians and behavioral health professionals, leading to lower professional behavioral health costs for MaineCare Stage A.

In the year following implementation, MaineCare Stage A Health Homes have led to reduced per member per month expenditures within the engaged population. MaineCare Stage A Health Homes have engaged a larger population than MaineCare Stage B, so the avoidance of $110 per member per month over the control group provides greater total progress toward SIM goals of cost reduction. It is important to note that this cost avoidance estimate does not capture the administrative cost of running the program or payments made to the MaineCare Stage A Health Homes outside of the claims data.[28]

Although it is difficult to compare across populations and different Medicaid programs, cost avoidance from MaineCare Stage A Health Homes exceed many other published estimates. Missouri reports that CMHC Health Homes are saving the state $76.33 per member per month in total Medicaid costs[29]. Although North Carolina's Health Home program applied to a much broader population than Maine's program, Milliman estimated savings of $25 per member per month in 2010[30]. Colorado implemented a Health Home program focused on children that saved $102 per member per month for children with chronic conditions[31].

Most quality metrics showed little reliable change over time for MaineCare Stage A members relative to controls across all quality metrics that could be assessed via claims data. Non-emergent ED utilization was perhaps the most notable exception, which decreased far more rapidly for Health Home members compared to controls. Some measures, like "all-cause" readmissions, can be markers of poor care coordination but can also be driven by other unrelated factors, and may not reflect Health Home performance or care coordination. The table below aligns each metric and performance relative to the control group.

---

28 http://www.maine.gov/dhhs/oms/vbp/health-homes/index.html

29 Interim Report to Congress on the Medicaid Health Home State Plan Option, http://www.medicaid.gov/medicaid-chip-program-information/by-topics/long-term-services-and-supports/integrating-care/health-homes/downloads/medicaid-health-home-state-plan-option.pdf accessed November 8th 2015.

30 Cosway R, Girod C, Abbot B (2011) Analysis of Community Care of North Carolina Cost Savings, http://www.ncleg.net/documentsites/Committees/HouseAppropriationsHHS/Interim%20Meetings/2012/1)_Jan%203%202012/Presentations%20and%20Handouts/Milliman%20-%20CCNC%20Evaluation/Milliman%20Analysis%20of%20CCNC%20Cost%20Savings%2012-15-2011%20(2).pdf accessed November 8th 2015

31 Grumbach K Grundy P (2010) Outcomes of Implementing Patient-Centered Medical Home Interventions: A Review of the Evidence From Prospective Evaluation Studies in the United States, http://www.ebri.org/pdf/programs/policyforums/Grundy-outcomes1210.pdf accessed November 8th 2015

Exhibit 30. Summary of Quality Metric Performance

Metrics	Performance relative to control group	Significance
Non-emergent ED utilization	Better performance in the intervention than the control group	*P-value < 0.001
All-cause readmissions	The intervention group has the same readmit rate as the controls, but has a faster increase in readmits over time	P-value > 0.05
Median Fragmentation of Care Index (FCI)	No change over time for the intervention group, but fragmentation increased for control group over time.	*P-value < 0.001
Use of Imaging Studies for Low Back Pain	Less decrease in the intervention than in the controls	P-value > 0.05
Well-child Visits (ages 3-6)	Less increase in the intervention than in the controls	P-value > 0.05
Children's and Adolescent Access to Primary Care (ages 7-11)	The intervention group decreased while the control group increased, comparing 2013 to 2014 due to a lack of 2012 measurement	*P-value < 0.001
Developmental Screenings in the First 3 Years of Life	Less increase in the intervention than in the controls, but the intervention group had a higher rate overall	P-value > 0.05
Diabetic Care HbA1c (ages 18-75)	Remained essentially unchanged over time for both groups	P-value > 0.05
Follow-Up After Hospitalization for Mental Illness	The intervention group decreased while the control group increased	P-value > 0.05

In evaluating patient/provider communications, the results of member interviews suggest that providers are routinely providing information to their patients, including providing general information about their health care and various behavioral health treatment options that might be available to them. Furthermore, information is provided in a manner that MaineCare members indicate is easy to understand. One aspect where providers are less effective is engaging members as partners in their health care: encouraging patients to ask questions, seeking input from the member in regards to their or their child's health, and providing support to members to take care of their own or their child's health.

Care coordination in the health home setting is reliant on effective communication between the MaineCare member's providers. Most members receiving care through a health home believe that their or their child's provider was up to date on important information about their medical history. Members were less likely to indicate their physician was informed and up to date about the care they or their child received from a specialist. Members also indicated their PCPs were less effective at keeping current on any counseling or treatment they received through a behavioral health provider. These findings suggest that implementing strategies that enhance the effectiveness of coordination between providers and communication between members and providers may lead to improved outcomes for Health Home members.

Provider interview respondents cited many positive changes that they have made at their practices as a result of being a health home, including adding staff or redefining staff responsibilities, adding behavioral health providers on care teams, coordinating patient care with CCTs, extending hours of service, increasing the frequency of care team meetings, and other initiatives focused on improving the quality and patient-centeredness of care.

B. MaineCare Stage B Behavioral Health Homes

The MaineCare Stage B Behavioral Health Homes began serving MaineCare members in April 2014. This objective seeks to build on the existing patient-centered models by targeting care coordination and other activities for adults with Serious Mental Illness (SMI) and children with Serious Emotional Disturbances (SED) [32], who also have a significant impairment or limitation.

This objective falls under the strategic pillar of integrating physical and behavioral health. In order to describe the anticipated impact of the MaineCare Stage B Behavioral Health Homes, MaineCare developed the following hypothesis:

- *"If we implement a payment system where providers may share in savings, with savings payment based also on provider performance on quality measures, we will see a reduction in total cost of care, improvement in quality, and improvement in population health."*

For this report, we reviewed data from accountability target reporting, claims data, consumer interviews, and provider and stakeholder interviews to assess the implementation of the objective and related outcomes to date. The pre-period for this analysis is calendar year 2013 Quarter 2 to 2013 Quarter 4, and the post-period is calendar year 2014 Quarter 2 to 2014 Quarter 4.

To assist in understanding the population enrolled in MaineCare Stage B Behavioral Health Homes, **Exhibit 31** shows some demographic, risk, and diagnostic information. The retrospective risk scores, comorbid conditions, and diagnostic categories are derived from the Episode Risk Grouper (ERG) software in the Optum Symmetry Suite.[33]

Exhibit 31. MaineCare Stage B Behavioral Health Homes – Group Characteristics

Population	Members		Average Risk		Average Age		Percent Male		Average Comorbid Conditions		Percent Diabetic	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Stage B Health Home Member	1,300	1,300	4.2	4.7	39.7	40.7	39.0%	39.0%	4.4	4.5	18.5%	18.9%
Control Group	1,300	1,293	4.6	4.7	39.2	40.2	35.0%	35.0%	4.7	4.7	17.6%	17.6%

[32] Maine Quality Counts. "2014 Practice Requirements: Core Expectations."

[33] https://www.optum.com/providers/analytics/health-plan-analytics/symmetry/symmetry-episode-risk-groups.html

1. Accountability Targets Review

Thus far, MaineCare has successfully recruited and contracted with providers to participate in this objective and successfully created a strategic plan to ensure the implementation of SIM encourages alignment of behavioral health efforts. However, while increasing steadily over the past year, enrollment of consumers in this new care model continues to fall below targets.

- As of Fiscal Year 2 Quarter 2 (FFY2 Q2) ending March 2015, goals were exceeded for recruiting behavioral Health Homes (Target 15/Actual 24 or 160%). Reporting of this Accountability target is no longer required.
- As of FFY2 Q3 ending June 2015, goals were met for creating strategic plans to ensure behavioral health alignment among SIM activities (Target 100%/Actual 100%) and to submit quarterly updates of summary description of MaineCare VBP projects and deliverables (Target 100%/Actual 100%).
- While increasing steadily over the past year, enrollment in MaineCare Stage B is below target in FFY2 Q2 ending in March 2015 (Target 2400/Actual 2101; 88% of goal); FFY2 Q3 ending in June 2015 (Target 2500/Actual 2325; 93% of goal).

2. Cost Effectiveness Findings

MaineCare members participating for at least six months in MaineCare Stage B Behavioral Health Homes exhibited a 5.3% decrease in cost after engagement in the initiative compared to the pre-engagement period. By comparison, expenditures for a control group of similar but not engaged members increased 8.3% during the same period of time. If expenditures for MaineCare Stage B Health Home members increased at the same rate as the control group, expected costs for this population would have been approximately $1,189 Per Member Per Month (PMPM), or $150 PMPM higher than they actually were ($1,039 PMPM). **Exhibit 32** below summarizes the change in total expenditures for members enrolled in MaineCare Stage B Behavioral Health Homes.

Exhibit 32. MaineCare Stage B Behavioral Health Homes- Total PMPM Cost Avoidance Estimate

	Pre (2013 Q2-Q4)	Post (2014 Q2-Q4)	Change	Expected PMPM	Cost Avoidance
Stage B Health Home Member	$1,098	$1,039	-5.3%	$1,189	$150
Control Group	$1,146	$1,241	8.3%		

To reach the conclusions presented in this section, we used the Difference-in-Difference quasi-experimental design used to evaluate MaineCare Stage A Health Homes as described previously. The Difference-in-Difference method uses a control group of roughly similar members to assess what would have happened in the absence of the intervention. This approach controls for many confounding factors like member characteristics, changes in MaineCare policy and other external factors. In addition, a simple observation of trends shows a decrease in expenditures in the MaineCare Stage B Behavioral Health Home group, which is uncommon in healthcare. Even without a comparison to a control group, it is clear that this group has saved money from the previous year. The analysis also only includes members with at least 6 months of Health Home enrollment which, despite the short existence of the program,

ensures adequate exposure to the intervention and is commonly used in many health related analyses. Please see page 20 of the Claims Data Analysis Methodology section of the Appendix for more information regarding the Difference-in-Difference method.

The methodology here allows us to test if the model implementation has led to changes in utilization patterns. The case matching process is the same as the MaineCare Stage A Health Homes analysis, where we selected a control group of MaineCare members that were largely similar except for Health Home participation. The control group was selected based on propensity score matching, and cross-validated with cell-based matching. We ran multiple iterations of the case matching process using different combinations of factors in the propensity score matching, and evaluated the similarity of the groups in the baseline period in each iteration. Please see page 21 of the Claims Data Analysis Methodology section of the Appendix for more detail about the case matching methodology. Total PMPM expenditures during the pre- or baseline period were similar for both MaineCare Stage B Health Home members and the control group ($1098 vs $1146, or only 4% higher in the control group). Ideally the baseline variance would be zero, however this is often not possible in practice because MaineCare Stage B Health Home members are a relatively difficult population to match and are very different than most MaineCare members.

Expenditures across Lewin's 46 categories of service[34] were also evaluated in the baseline period for both groups (see page 22 of the Claims Data Analysis Methodology section of the Appendix for detail) to ensure comparability. The baseline expenditures are similar for the MaineCare Stage B Health Home and control population, just as the MaineCare Stage A Health Home and respective control population had similar expenditures. We used Optum Symmetry Episode Treatment Groups (ETGs)[35] to check if there was a similar distribution of conditions in the pre and post periods to ensure that fluctuations in cost were not due to a shift in the underlying conditions. Also, we looked at the 25th, 50th, and 75th percentile distribution of costs among the groups in both the pre and post periods to ensure that the cost avoidance analysis was not driven by a few outliers.

Lower total expenditures were driven by lower medical expenditures as shown in **Exhibit 33** below. Pharmacy expenditures were higher for both groups, however, expenditures for MaineCare Stage B members, increased less rapidly then for the control group (up 59% vs 75%). Baseline medical expenditures were only 2% higher in the control group.

---

[34] Lewin has developed customized category of service logic as a way to classify cost and utilization data through our work with clients around the country and in consultation with internal experts.

[35] More information on Optum Symmetry Episode of Treatment Groups can be found here: https://www.optum.com/providers/analytics/health-plan-analytics/symmetry/symmetry-episode-treatment-groups.html

Exhibit 33. MaineCare Stage B Behavioral Health Homes - Medical PMPM Cost Avoidance Estimate

	Pre (2013 Q2-Q4)	Post (2014 Q2-Q4)	Change	Expected PMPM	Cost Avoidance
Stage B Health Home Member	$988	$864	-12.5%	$981	$116
Control Group	$1,010	$1,003	-0.7%		

Readmissions trended lower for MaineCare Stage B Health Home members but trended much higher in the control group as shown in **Exhibit 34**. Due to the small number of index admissions in each group, statistical significance could not be established (p-value > 0.05).

Exhibit 34: MaineCare Stage B Behavioral Health Homes - Readmission Change

	Pre (2013 Q2 – 2014 Q1)	Post (2013 Q2 – 2014 Q1)	Change
Stage B Health Home Member	15.2%	12.6%	-17.4%
Control Group	9.9%	15.8%	59.3%

Lower medical expenditures were driven by lower professional behavioral health and case management expenditures for Behavioral Health Home members as shown in the **Exhibits 35** and **36** below. Professional behavioral health includes diagnostic evaluations, psychotherapy, drug services, and prescription management in an office setting, while professional case management includes case management and coordination of care in an office setting. Baseline professional behavioral health and case management expenditures were 10% and 15% higher respectively in the control group. **Exhibit 31** above shows that these groups are similarly matched among many demographic and diagnostic categories. Although the baseline variance between the intervention and comparison groups is not ideal, the magnitude of the decrease is so large that it is difficult to conclude the change in expenditures is due to chance or some factor other than Health Home participation. **Exhibits 35** and **36** show PMPM cost avoidance estimates for professional behavioral health and professional case management respectively. Further analysis is needed to fully understand the cost changes that are occurring in the data.

Exhibit 35. MaineCare Stage B Behavioral Health Homes - Professional Behavioral Health PMPM Cost Avoidance Estimate

	Pre (2013 Q2-Q4)	Post (2014 Q2-Q4)	Change	Expected PMPM	Cost Avoidance
Stage B Health Home Member	$569	$366	-35.6%	$509	$143
Control Group	$627	$561	-10.5%		

Exhibit 36. MaineCare Stage B Behavioral Health Homes - Professional Case Management PMPM Cost Avoidance Estimate

	Pre (2013 Q2-Q4)	Post (2014 Q2-Q4)	Change	Expected PMPM	Cost Avoidance
Stage B Health Home Member	$41	$7	-82.7%	$34	$27
Control Group	$47	$40	-15.3%		

While Non-Emergent Emergency Department Utilization trended lower for both Behavioral Health Home members and the control group as shown in **Exhibit 37** below, this measure decreased more rapidly for Behavioral Health Home members than the control group (p-value > 0.05).

Exhibit 37. MaineCare Stage B Behavioral Health Homes - Non-Emergent ED Utilization

	Pre (2013 Q2 – 2014 Q1)	Post (2013 Q2 – 2014 Q1)	Change
Stage B Health Home Member	216.7	200.5	-7.5%
Control Group	213.6	205.4	-3.8%

There were substantially higher facility outpatient therapy expenditures in **Exhibit 38**. Facility outpatient therapy includes occupational therapy, physical therapy, and alcohol and drug therapy in an outpatient setting. Again, further analysis is needed to understand these cost shifts.

Exhibit 38: MaineCare Stage B Behavioral Health Homes - Facility Outpatient Therapy PMPM Cost Avoidance Estimate

	Pre (2013 Q2-Q4)	Post (2014 Q2-Q4)	Change	Expected PMPM	Cost Avoidance
Stage B Health Home Member	$58	$158	173.2%	$84	-$74
Control Group	$34	$49	45.2%		

Exhibit 39 shows the three categories of service reported above that experienced the largest cost changes. Additional analysis is needed to further understand these cost changes. A full breakdown of cost avoidance by all categories of service is included in the Claims Data Analysis Methodology section of the Appendix on page 23.

Exhibit 39: MaineCare Stage B Behavioral Health Homes – Category of Service Cost Avoidance Estimate Rollup

	Category of Service	Pre (2013 Q2-Q4)	Post (2014 Q2-Q4)	Change	Expected PMPM	Cost Avoidance
Stage B Health Home Member	Professional Behavioral Health	$569	$366	-35.6%	$509	$143
Stage B Health Home Member	Professional Case Management	$41	$7	-82.7%	$34	$27
Stage B Health Home Member	Facility Outpatient Therapy	$58	$158	173.2%	$84	-$74
Stage B Health Home Member	**Sum**	**$667**	**$531**	**-20.3%**	**$627**	**$96**
Control Group	Professional Behavioral Health	$627	$561	-10.5%		
Control Group	Professional Case Management	$47	$40	-15.3%		
Control Group	Facility Outpatient Therapy	$34	$49	45.2%		
Control Group	**Sum**	**$708**	**$650**	**-8.2%**		

3. Impact Findings from Claims Analysis

The pre-intervention or baseline period for this analysis spans April 2013 through March 2014, prior to the implementation of MaineCare Stage B Behavioral Health Homes. The post intervention period spans April 2014 through March 2015. Breaking up the analysis in this way will cleanly show the effect that the MaineCare Stage B Health Home had on the population enrolled. Please note that this differs from our approach in the cost effectiveness evaluation, where we used the last three quarters of 2013 compared to the last three quarters of 2014[36]. Many quality measures require an entire year of claims and eligibility data, which is why the additional quarter was added for this analysis. For each measure, we tested if the change from the pre to the post period differed significantly at an α=0.05 level between the MaineCare Stage B and comparison populations.

[36] The cost effectiveness evaluation was kept to match the time period reported previously, while the metrics needed a full year to match specifications

To assess if the model leads to improvements in care coordination and less fragmentation of care, we evaluated changes in non-emergent ED utilization, the fragmented care index (FCI), and all-cause readmission rates relative to the control group.

The median FCI was essentially unchanged for MaineCare Stage B Health Home members before and after engagement in Health Homes as shown in **Exhibit 40**, while the goal was to see a decrease in fragmentation of care. By comparison, the median FCI decreased for the control group, indicating less fragmentation of care over time. The decrease in the control group mirrors the FCI trend in overall MaineCare. These FCI changes between the groups were statistically significant (p-value > 0.05).

Exhibit 40. MaineCare Stage B Behavioral Health Homes Median Fragmented Care Index

Group	Pre (2013 Q2 – 2014 Q1)	Pre Denominator	Post (2014 Q2 – 2015 Q1)	Post Denominator	Change
Stage B Health Home Member	0.67	1,136	0.66	1,135	-0.9%
Control Group	0.65	1,120	0.60	1,045	-8.3%
Overall MaineCare	0.64	172,853	0.58	157,972	-9.0%

Non-emergent ED utilization is also a marker of poor care coordination because it measures ED visits that are better handled in primary care settings. The rate of non-emergent ED visits for MaineCare Stage B Behavioral Health Homes decreased over time more quickly than in the control group, and the goal was to see a decrease in non-emergent ED use. However, this was not a statistically significant difference (p-value > 0.05). Non-emergent ED utilization has remained steady over time for MaineCare overall. Note that in **Exhibit 41** below, the denominators show member months because the rate is calculated on a per thousand basis. While this rate has been decreasing, non-emergent ED utilization among MaineCare Stage B Health Home members are still nearly double that of the overall MaineCare population, as shown below.

Exhibit 41. MaineCare Stage B Behavioral Health Homes Non-Emergent ED Visits Per Thousand

Group	Pre (2013 Q2 – 2014 Q1)	Pre Denominator	Post (2014 Q2 – 2015 Q1)	Post Denominator	Change
Stage B Health Home Member	216.7	11,410	200.5	11,601	-7.5%
Control Group	213.6	11,412	205.4	11,307	-3.8%
Overall MaineCare	127.1	3,802,493	128.2	3,535,444	0.9%

30-Day hospital readmissions are driven by a wide variety of reasons including poor medication management, lack of community supports, infections or complications from care. Some of these reasons can reflect poor care coordination during transitions from hospital to home. The rate of readmissions declined for MaineCare Stage B Health Home members, which was the goal, but increased substantially in the control group. Due to the small number of

index admissions, there was no statistically significant difference between these groups (p-value > 0.05). The overall MaineCare population experienced a small increase in readmissions compared to the increase in the control group.

Exhibit 42. MaineCare Stage B Behavioral Health Homes Readmission Rate

Group	Pre (2013 Q2 – 2014 Q1)	Pre Denominator	Post (2014 Q2 – 2015 Q1)	Post Denominator	Change
Stage B Health Home Member	15.2%	105	12.6%	151	-17.4%
Control Group	9.9%	111	15.8%	133	59.3%
Overall MaineCare	15.6%	14,686	16.1%	14,378	3.6%

Improvements in quality and processes of care can be measured by the following quality metrics.

- Use of Imaging Studies for Low Back Pain
- Well-Child Visits (ages 3-6)
- Children's and Adolescent Access to Primary Care (ages 7-11)
- Developmental Screenings in the First 3 Years of Life
- Diabetic Care HbA1c (ages 18-75)

Relatively few children are engaged in MaineCare Stage B Behavioral Health Homes which results in a very small number of members included in the Developmental Screenings in the First 3 Years of Life, Access to Primary care (ages 7-11), and Well-Child Visits (ages 3-6) measures. Consequently these measures are not reported.

Exhibit 43 shows the percent of members with a primary diagnosis of low back pain who did not have an imaging study within 28 days of the diagnosis. In this metric, the goal is to see a decrease in imaging studies, which would be an increase in members who did not have an imaging study. This differs from other metrics where a higher screening rate is better. The rate decreased at approximately the same rate among the MaineCare Stage B Health Home members and the control group. This difference in rate changes was not statistically significant (p-value > 0.05).

Exhibit 43. MaineCare Stage B Behavioral Health Homes Imaging Studies for Low Back Pain

Group	Pre (2013 Q2 – 2014 Q1)	Pre Denominator	Post (2014 Q2 – 2015 Q1)	Post Denominator	Change
Stage B Health Home Member	85.0%	266	82.2%	253	-3.2%
Control Group	81.3%	262	78.6%	229	-3.3%
Overall MaineCare	84.9%	28,634	83.8%	25,680	-1.3%

The rate of HbA1c testing for diabetics engaged in MaineCare Stage B Behavioral Health Homes decreased, which was the goal, while the rate increased slightly for the control group population. The difference between these rate changes was not statistically significant (p-value > 0.05).

Exhibit 44. MaineCare Stage B Behavioral Health Homes Diabetic Care HbA1c (ages 18-75)

Group	Pre (2013 Q2 – 2014 Q1)	Pre Denominator	Post (2014 Q2 – 2015 Q1)	Post Denominator	Change
Stage B Health Home Member	77.7%	206	71.1%	232	-8.4%
Control Group	82.4%	204	83.9%	223	1.8%
Overall MaineCare	78.7%	19,330	73.1%	18,904	-7.1%

To assess if the model improves the level of integration of physical and behavioral health, we evaluated the Follow-Up After Hospitalization for Mental Illness metric for members engaged in Behavioral Health Homes compared to non-engaged controls. A follow-up visit is recommended to ensure a smooth transition to a member's daily life, and this visit can help detect post-hospitalization reactions.[37] Although the MaineCare data used to compute this measure does not include Institutes of Mental Disease (IMD) [38] for inpatient mental health treatment, the rate of follow-up decreased at a similar rate for both the members engaged in MaineCare Stage B Behavioral Health Homes and the control group, while the goal was to see an increase in follow-up visits. Not all hospitalizations for MaineCare members were captured due to this data exclusion. However, both the comparison and control group lack this data, so the comparison between the two groups is still valid. Due to the small number of index hospitalizations and incomplete data, these rates should be interpreted with caution. The difference between these rate changes was not statistically significant (p-value > 0.05).

Exhibit 45. MaineCare Stage B Behavioral Health Homes Follow-Up After Hospitalization for Mental Illness

Group	Pre (2013 Q2 – 2014 Q1)	Pre Denominator	Post (2014 Q2 – 2015 Q1)	Post Denominator	Change
Stage B Health Home Member	91.2%	57	82.4%	51	-9.7%
Control Group	83.7%	49	75.0%	40	-10.4%
Overall MaineCare	69.0%	3,470	76.4%	3,163	10.7%

[37] National Quality Measures Clearinghouse (2015). Follow-up after hospitalization for mental illness: percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visit, an intensive outpatient encounter, or partial hospitalization with a mental health practitioner within 7 days of discharge. Accessed December 1, 2015 from: http://www.qualitymeasures.ahrq.gov/content.aspx?id=48642.

[38] Reflects hospitalization only to Acadia and Spring Harbor facilities.

No claims based metrics assess if MaineCare Stage B Behavioral Health Homes lead to improvements in beneficiary health, well-being, function, and reduced health risk behaviors. This is best addressed via clinical measures, which have yet to be collected.

4. Consumer Interview Findings

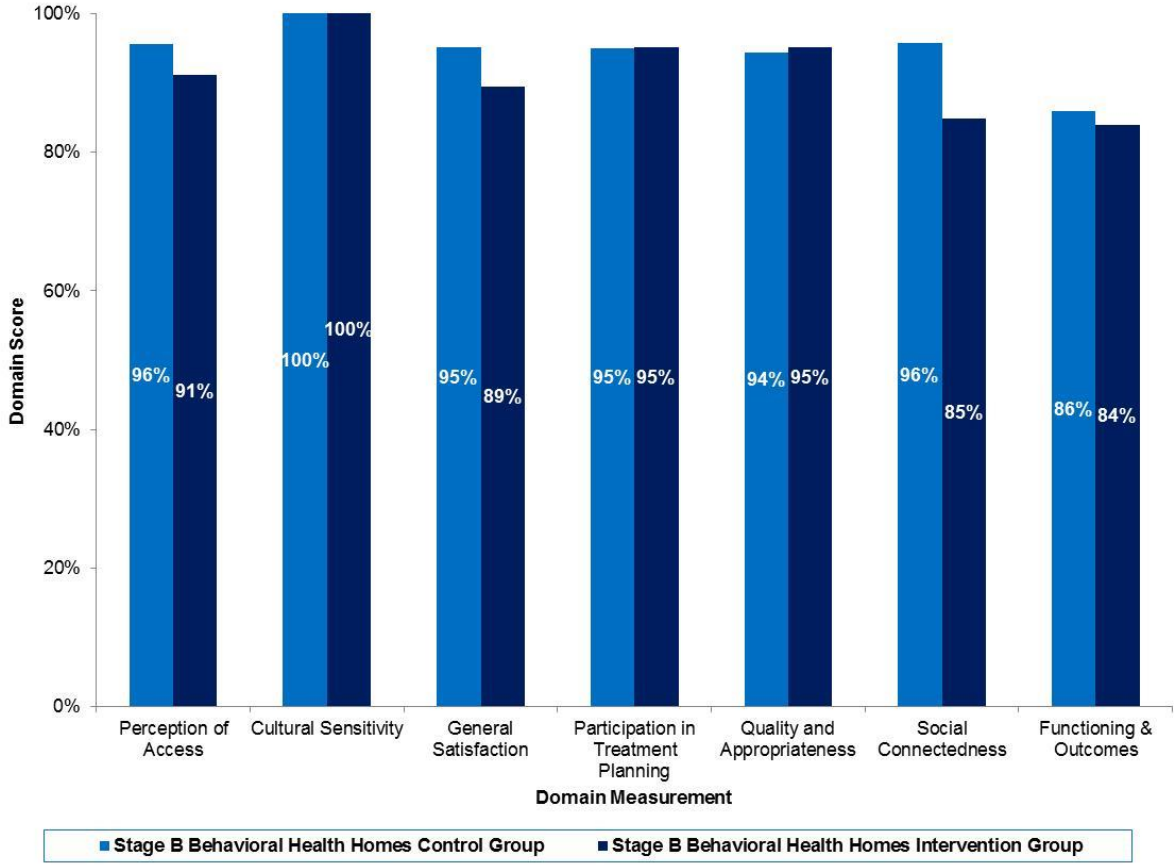
The following section presents consumer experience of care data collected from MaineCare members of Stage B Behavioral Health Homes. While comparisons between the Intervention Group and the Control Group are made, this initial administration of the MaineCare Patient Experience Survey is best used as a baseline which future surveys can use to identify change related to the interventions.

Domain Scores[39]

The invention group and control group score similarly in six of seven of the final domain measures. The only domain in which their scores deviate considerably is Social Connectedness, for which the intervention group's score was 96% over the control group's score of 85%. Social Connectedness includes the availability of support from family or friends, ability to do enjoyable things with others, availability of other people to talk to outside of current service providers. The MaineCare Stage B Behavioral Health Homes intervention group scores highest in the areas of Cultural Sensitivity with universal approval (100% for both groups). The Behavioral Health Home members had high scores in the 'Participation in Treatment Planning' (95% for both groups) and 'Quality and Appropriateness' (Intervention: 95%/Control: 94%) domains. However, the Behavioral Health Home members did not score their experience as well in the areas of 'Functioning & Outcomes' (Intervention: 84%/Control: 86%). None of these differences rise to the level of statistical significance.

[39] Domains are calculated by assessing whether the respondent has answered within the two most positive response categories (in the case of domains, always Strongly Agree or Somewhat Agree). The statistic reported is the percentage of individuals answering within the two most positive responses to half or more of questions within the domain. Respondents providing valid responses to fewer than half of questions within a domain are removed from that domain's calculation. The items used to calculate domain scores are explored fully in Market Decisions Final report included in the Appendix of this report.

Exhibit 46. Summary of Domain Scores for MaineCare Stage B Behavioral Health Homes



Individual Items[40]

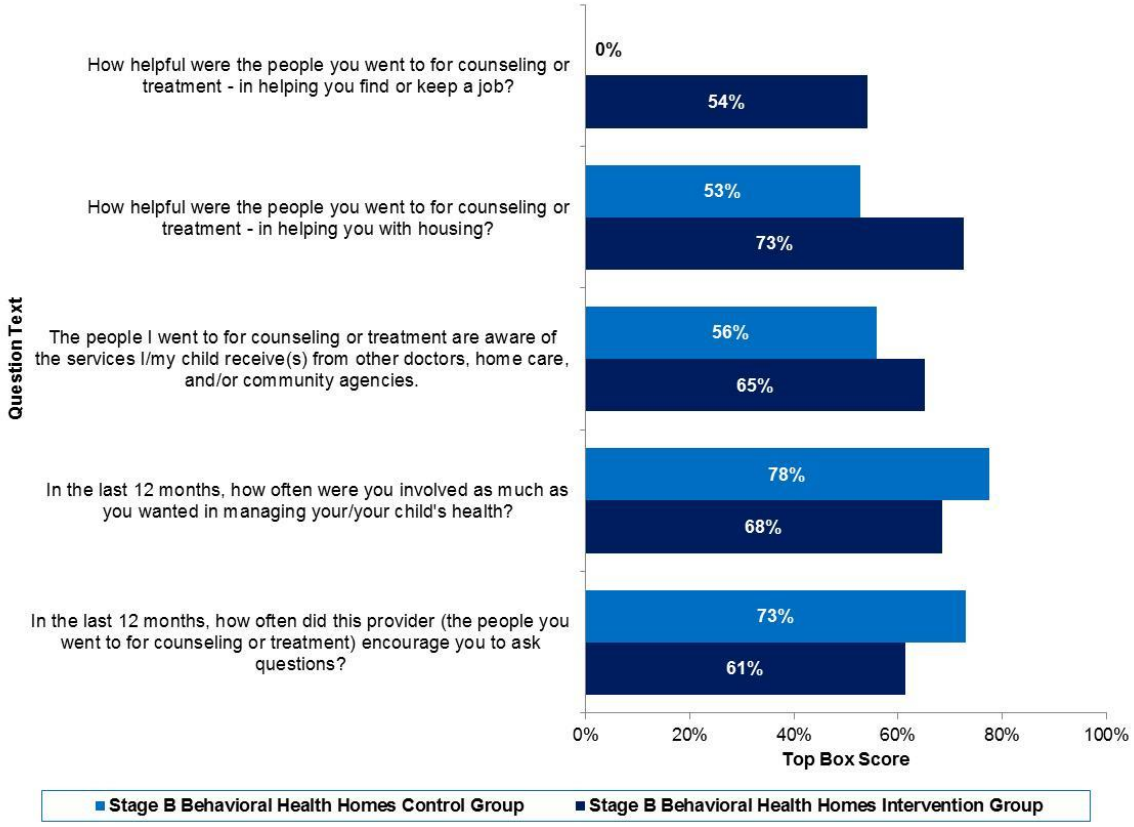
There are also groups of items in the survey which fall outside of the domain measures. These items are grouped into areas of broad thematic focus as they relate to each other and to the goals of the Maine SIM Grant Evaluation program. The following percentages are all given using the top box score, i.e. the percentages for the most positive response option available. This top box method is the standard approach for reporting utilized for CAHPS® and was used in this evaluation to capture variation in responses between the intervention and control groups.

The MaineCare Stage B Behavioral Health Homes intervention group generally rated highly in terms of social support than the control group. Three quarters (73%) of intervention group patients feel the people they went to for counseling or treatment were very helpful in helping them with housing, compared to 53% for the Control Group. Likewise, just over half (54%) feel the people they went to for counseling or treatment were very helpful in helping them find or keep a job (0% in the Control Group). However, MaineCare Stage B Intervention patients generally rate their providers lower on issues of communication. Only 68% report always being

[40] The following percentages are all given using the top box score, i.e. the percentages for the most positive response option available.

involved in managing their or their child's health as much as they wanted (78% for the control group). The groups are similarly distinct when asked if they were always encouraged to ask questions (61%). **Exhibit 47** below offers greater detail of these response rates.

Exhibit 47. MaineCare Stage B Individual Items of Interest



Experience of Care

Additionally, while those consumers receiving care through a behavioral health home rate their experiences as highly positive and are satisfied with their care, they feel less positive about their outcomes. For example, they do not indicate that their symptoms have improved, that they're doing better in social situations or able to do better in work or school. They have also not indicated they are able to get along better with others or able to handle things better when they go wrong. Given members' high ratings of their care experience and relatively low ratings of their outcomes, an improved patient experience may not result in improved patient satisfaction with their health outcomes.

Care Coordination

Under new care coordination models, patient-provider communication is a key part of the patient experience. Based on these interview results, members look upon communications with their provider positively, but members are less frequently engaged by their providers or being asked for their input into their own care. The survey results suggest that providers offer information to their patients, and do so in a manner that patients can understand. The weakest aspect in patient-provider communications is engaging the patient and asking for their input.

Members indicate that their providers listen, but are less likely to indicate that a provider will encourage them to ask questions. Further, they feel there is less engagement in asking about ideas for managing their or their child's health or asking about challenges parents face in taking care of their or their child's health.

Similarly, provider's awareness of the factors that may influence an individual's health and wellbeing is a key component for integrating physical and behavioral health care. Members indicate providers frequently ask about their or their child's physical health, and aspects of their lifestyle that may impact their physical health. They are less apt to ask about behavioral health such as moods or emotions, a child's learning ability, or whether a patient is experiencing personal or family problems, alcohol use, drug use, or a mental or emotional illness. Asking about a patient's behavioral health and aspects of their life that may impact their behavioral health needs should have a more prominent role in patient-provider discussions.

5. *Provider Interview Findings*

For this component of the evaluation, 18 behavioral health home providers (BHH) participated in the interviews, with 15 providing opinions regarding the overall effectiveness of the BHH model. Of this group, 13 (or 87%) made positive comments about impacts of the initiative: 11 regarding integrated care or patient care coordination, four about improved use of data, and four about improved operations or patient outcomes. Respondents also generally felt that more time would be needed to fully demonstrate results. Representative comments include:

- "Patient outcomes have improved. We're still at a place where our tracking is not the best. The outcomes are not just about behavioral health symptoms; we're able to work with them on their overall health more. No quantitative data yet, but we're hoping to get there."
- "In terms of looking at BHH outcomes… there needs to be some patience with it. I think care coordinators and CCTs are working on it more than ever, but making inroads it takes time. I hope that's taken into account when evaluating the program. A year seems like a long time, but it's not."

Respondents noted certain components of the model have impacted issues related to its sustainability. Regarding areas of improvement, the majority (16 of 18 or 89%) provided comments expressing concern about the PMPM or case rate. Thirteen stated that the current rate was not sustainable. Representative comments include:

- "If we want to make SIM successful, there's a disconnect that needs to be addressed. I think I can speak for all providers when I say that these things come up frequently and from the provider side we know it's in our best interest to participate. We are generally inclined to want to participate, but the policy folks seem to be out of sync with what we need to do to manage day-to-day issues and run our agencies."
- "Payment structure is woefully low."
- "We have some concerns about the rate. Up to this point it hasn't been a big problem, but we're a little concerned that it could be. Mainly because we're still serving same target population and there's no way around the fact that they're just going to need more [services]."

- I feel very committed to this program and I think it's the best thing for clients and for case managers/community mental health workers. I hope it's sustainable, which would likely require a rate increase… I hope that the department or whoever is looking at it can [help the program] continue."

Respondents also feel that administrative burdens are heavy and approaching a tipping point for some practices. This is negatively impacting short-term patient needs and long-term effectiveness/efficiency. Representative comments include:

- "Administrative burdens are heavy: billing through diverse systems using non-standard terms is difficult; reporting on similar but slightly different metrics to disparate reporting agencies takes time; managing MOUs take time, too."
- "Reduce administrative burdens by trying to get on a simpler reimbursement system; we pay incentives to PCPs who have MOUs with us, and this leads to a lot of admin time."
- "Reduce the administrative burden. We report similar—but not identical—data on four or more disparate systems."
- "Here's a recommendation: To reduce administrative burdens (1) standardize reporting forms so that I don't need to enter the same information multiple times on various forms from the same organization, (2) maximize the use of data and auto-reporting to generate required reports."

Seven respondents (including stakeholders) also noted that the BHH process would benefit from additional direction from State leadership: four stated a need to establish best practices and provide practices with more detailed care coordination strategies and two stated that staff turnover at the state level has been problematic for some.

Four respondents (two BHHs, one HH, one stakeholder) who were particularly well-informed about pediatric behavioral health issues perceive that the current BHH structure is less than ideal for children. The following is a representative comment of this identified theme:

- "Nationally there's no research or literature on children in BHHs. All anyone ever says is that it has been a struggle. Children represent 10% of total enrolled. I suggested a separate meeting for pediatric providers and it didn't happen. We need more attention to kids [because they're] getting lost."

Of BHH respondents, eight stated that they have received support through HIN's Behavioral Health IT grant activities. Among the eight, most were using the funds to better manage patient care including monitor alerts (6), identify and monitor high-utilizers of services (4), and/or linking the HIE to their EMR (3). Seven of the eight grantees stated that funds are being used to improve service delivery.

6. Stakeholder Interview Findings

All stakeholders (18) provided some sort of commentary regarding activities to integrate physical and behavioral health, but there were varying levels of knowledge and direct experience with specific topics. Approximately seven (39%) made positive comments about some aspect of BHH efforts. Representative comments include:

- "One of the most important impacts has been changing the way community mental health providers see their patients' overall health. It is a huge step forward for them to see not only the mental health condition, but problems related to tobacco usage, diabetes, and congestive heart failure."
- "The challenge is finding human resources. We do not have enough psychiatrists."
- "This is an area that has very significant potential for strong health outcomes for a select subset of MaineCare members- and a strong budgetary impact."
- "This is probably one of the brighter spots. They haven't been at it as long as primary care, give them time."
- "[BHHs] are a success story – we are far advanced in terms of the percentage of population and providers who are participating."

Stakeholder feedback was positive regarding behavioral health home implementation and they recognized that BHHs are in too early of a phase for there to be significant impact related findings. Looking forward to future evaluation activities, the impact of this effort on the outcomes of individuals with mental illness and care integration will be examined thoroughly.

Regarding implementation of the MaineCare Stage B Behavioral Health Homes, seven respondents (including stakeholders) also noted that the model's process would benefit from additional direction from State-level leaders: four stated a need to establish best practices and provide practices with more detailed care coordination.

7. Summary of Findings

The results described above highlight how the MaineCare Stage B Behavioral Health Home objective has reduced expenditures and changed service utilization patterns among the target population. These results are summarized in **Exhibit 48** below. Note that each category of expenditure noted in the hypothesis is a subset of the prior category so the results below should not be added together. Further, because medical expenditures represent more than 85% of total costs, reductions in medical expenditures will necessarily lead to reductions in total expenditures.

Exhibit 48. MaineCare Stage B Behavioral Health Homes – Estimated Cost Avoidance by Category

	Cost Avoidance
Total	$150
Medical	$116
Net Behavioral Health (includes professional BH, professional case management, facility outpatient therapy)	$96

*Average PMPM in the MaineCare Stage B Health Home group was $1,039 in the post period.
*Average PMPM in the MaineCare Stage B Health Home control group was $1,241 in the post period.

For the population engaged in MaineCare Stage B Behavioral Health Homes, behavioral health (BH) expenditures represent approximately 60% of total baseline PMPM. Many current health reform initiatives seek to better integrate primary care and behavioral health with the premise

that overall and non-BH expenditures will be reduced by better care coordination. In this evaluation, we primarily see total changes in cost driven by lower BH expenditures.

The purpose of MaineCare Stage B Behavioral Health Homes is to integrate physical and behavioral health and better coordinate care for members with behavioral health illnesses. Further analysis is needed to fully understand the cost changes that are occurring in the data.

Non-emergent Emergency Department visits decreased at a faster rate than the control group. Increasing focus on keeping these non-emergent visits low can help continue to reduce medical costs. In MaineCare overall, the rate of non-emergent ED visits remained fairly constant. Inpatient readmissions decreased while the control group had a dramatic increase, and the MaineCare Stage B Health Home group had a lower rate than the general MaineCare population. The overall MaineCare population experienced a small increase in readmissions compared to the increase in the control group. Although this population has low inpatient costs compared to the rest of their utilization, a decrease in readmissions helps ensure adequate care and follow up were given during the initial hospitalization, in addition to reducing inpatient costs.

In a relatively short time since implementation, MaineCare Stage B Behavioral Health Homes have led to reduced per member per month expenditures within the engaged population. It is important to note that the cost avoidance estimates does not capture the administrative cost of running the program or payments made to the Health Homes outside of the claims data.[41] **Exhibit 49** below shows the payments made outside of the claims system to the Behavioral Health Home Organizations and Health Home Practices during the time period included in our analysis. This population is small but approximately twice as expensive as the average MaineCare member. The small size of the engaged population limits the ability of this program to meet larger statewide goals for lower costs. There is little published cost savings analysis that is comparable to the MaineCare Stage B Health Home population. Please see the MaineCare Stage A discussion section for articles that provide context for MaineCare Stage A.

Exhibit 49: MaineCare Stage B Behavioral Health Home Administrative Payments

Organization	Enrollment Type	Rate	Effective Dates
Behavioral Health Home Organization	Child	$325	4/1/2014 - 6/30/2014
Behavioral Health Home Organization	Adult	$365	4/1/2014- 6/30/2014
Behavioral Health Home Organization	Child	$314	7/1/2014- 12/31/2014
Behavioral Health Home Organization	Adult	$357	7/1/2014 - 12/31/2014
Stage B Health Home Practice	Child/Adult	$15	4/1/14- 12/31/2014

Most quality metrics that could be assessed via claims data showed little difference over time for MaineCare Stage B Health Home members relative to the control group. Follow-up after hospitalization for mental illness did increase more rapidly for MaineCare Stage B Health Home

[41] http://www.maine.gov/dhhs/oms/vbp/health-homes/stageb.html

members relative to the control group, but was still lower than the control group in the post-engagement period. Fragmentation of care remained stable in the MaineCare Stage B Health Home population, while members experienced less fragmentation in the control population, which is an indicator of higher care coordination. Due to the small sizes of the MaineCare Stage B Health Home population and its associated control group, only fragmentation of care had a statistically significant difference in trend between the MaineCare Stage B population and the control group. **Exhibit 50** below aligns each metric and performance relative to the control group.

Exhibit 50. MaineCare Stage B Behavioral Health Home Summary of Quality Metric Performance

Metrics	Performance relative to control group	Significance
Non-emergent ED utilization	The intervention group decreased at a faster rate than the control group.	P-value > 0.05
All-cause readmissions	The intervention group decreased, while the controls had a increased.	P-value > 0.05
Median Fragmentation of Care Index (FCI)	The intervention group showed no change over time while the controls improved significantly	*P-value < 0.01
Use of Imaging Studies for Low Back Pain	The intervention group and control group decreased at a similar rate	P-value > 0.05
Well-child Visits (ages 3-6)	Metric not applicable to MaineCare Stage B population	P-value > 0.05
Children's and Adolescent Access to Primary Care (ages 7-11)	Metric not applicable to MaineCare Stage B population	P-value > 0.05
Developmental Screenings in the First 3 Years of Life	Metric not applicable to MaineCare Stage B population	P-value > 0.05
Diabetic Care HbA1c (ages 18-75)	The intervention group decreased, while the control group had a slight increase	P-value > 0.05
Follow-Up After Hospitalization for Mental Illness	The intervention group and control group decreased at a similar rate	P-value > 0.05

In addition to the claims analysis above, important observations can be made about the behavioral health home objective based on this preliminary look at patient experience. Specifically, members (both intervention and control) view the following domains most positively:

- Cultural Sensitivity domain
- Participation in Treatment Planning
- Quality and Appropriateness

The domains that members view least positively are:

- Functioning & Outcomes

When compared to their controls, MaineCare Stage B Health Home participants also rate their outcomes and social connectedness less positively.

Coordination between primary care and other providers is also very important for this population. Most members receiving care through a behavioral health home indicate that the providers they went to for counseling or treatment were aware of the other services they received, suggesting more effective communications with other providers. The strategies used by MaineCare Stage B Behavioral Health Homes may represent a source of information that the primary care setting can look to in order to improve their coordination of care with behavioral health providers. While provider communication was overall rated highly by consumers, it appears that the MaineCare Stage B health home model has not adequately empowered providers to engage and solicit information from consumers in their care. Consumers report that providers are not asking them for their feedback on or information regarding how they are taking care of their health.

An important aspect of care integration in is the social support network available to those receiving care, and providers' efforts to work with members to access these supports. Members in MaineCare Stage B Behavioral Health Homes see some aspects of social support services as effective while others are perceived as less effective. They believe their providers are effective in providing help in times of crisis and in providing assistance in finding housing. The MaineCare Stage B Behavioral Health Homes overall seem to be a key social support mechanism, as many members indicate they may not receive support from family or friends in times of a crisis. Members rate their providers as less effective with assistance in finding a job or providing access to support or recovery groups.

Consumer expectations related to their care outcomes is also worth noting. While consumers are very satisfied with the care process, they are not as satisfied with the outcomes of their care. This may indicate that patient expectations for what can be accomplished by their care should be reviewed and more actively managed. It is important to address patient expectations around outcomes before and during their care.

Finally, feedback from providers points to the critical nature of this objective as part of the Maine SIM effort to improve care. Important consideration should be given to the impact of insufficient reimbursement rates for care under this model that may limit care integration and provider's capacity to work with consumers as originally envisioned by state leadership. . Providers have offered suggestions for strategies that might allow for greater impact under the model including streamlined administrative requirements and a review of the current reimbursement rate. In addition, stakeholder feedback regarding the implementation of the MaineCare Stage B Behavioral Health Homes is important to consider looking forward to the next year of implementation. Providers suggest that key areas of potential focus include better orientation around best practice identification, especially for care coordination, and more consistent support from state officials.

C. MaineCare Accountable Communities

The MaineCare Accountable Community (AC) objective of Maine SIM launched in August 2014 is comprised of shared savings arrangements with four provider organizations that have

committed to coordinating care for MaineCare members who rely on those organizations as their primary point of access to health care services.

This objective falls under the strategic pillars to strengthen primary care and develop new payment models. In order to describe the anticipated impact of Accountable Communities, MaineCare developed the following hypothesis, which Lewin has utilized as part of the evaluation:

> *"If we implement a payment system where providers may share in savings, with savings payment based also on provider performance on quality measures, we will see a reduction in total cost of care, improvement in quality, and improvement in population health."*

Accountable Communities were defined via the attribution lists provided to Lewin by MEHMC, and Health Homes were defined by data in the Home Health Enrollment System maintained by the Muskie School. Since Accountable Communities did not start until August 2014, the evaluation will wait until Year 3 to analyze claims data for this population.

For this discussion, information from accountability target reporting and consumer interviews was used to evaluate the implementation of Accountable Communities in Maine. Given the early stage of AC implementation related to the interview cycle, it should be noted that per MaineCare's request, providers and key stakeholders were not interviewed regarding their experiences with Accountable Community model implementation in this first interview cycle.

1. Accountability Targets Review

Lewin's assessment of accountability targets reported by MaineCare found that, while the objective was not launched until August 2014, MaineCare has been able to engage provider entities and achieve member enrollment successfully as evidenced by:

- The goal for member attribution was exceeded (Target 25,000/Actual 30,000; 120% of goal) as of FFY2 Q2 ending March 2015. The next reporting time frame is FFY2 Q4 2015, which was not reported until October 2015 and is not included for analysis in this report.
- Goals were also met for AC's contracting entities (4 contracts established), AC's provided with monthly utilization reports (4 AC's provided reports), communities served (5 communities served), and the number of participating primary practices (28 participating practices) in FFY2 Q2 and FFY2 Q3.

2. Consumer Interview Findings

The following section presents data collected from MaineCare members of Accountable Communities. The baseline interview data reflects approximately 10 months of patient experience under the Accountable Community model, from August 2014 through May 2015. While comparisons between the Intervention Group and the Control Group are made, this initial administration of the MaineCare Patient Experience Survey has always been intended to serve as a baseline against which future successes and challenges can be measured in order to assess the effects of the intervention techniques. Additionally, given the wide margin of error for the control group and the absence of statistically significant differences on core measures, these comparisons are unlikely to be a reliable guide to the present success of the intervention. It can be anticipated that the second round of interviews will allow for greater assessment of the Accountable Community model on consumer experience and outcomes.

Composite Measure Findings[42]

Within the Accountable Communities intervention group the highest scoring composite measures point to positive patient experience and provider communications, including:

- 'Helpful, Courteous and Respectful Office Staff' (Intervention: 96%/Control: 93%) and
- 'How Well Providers Communicate With Patients' (Intervention: 89%/Control: 90%).

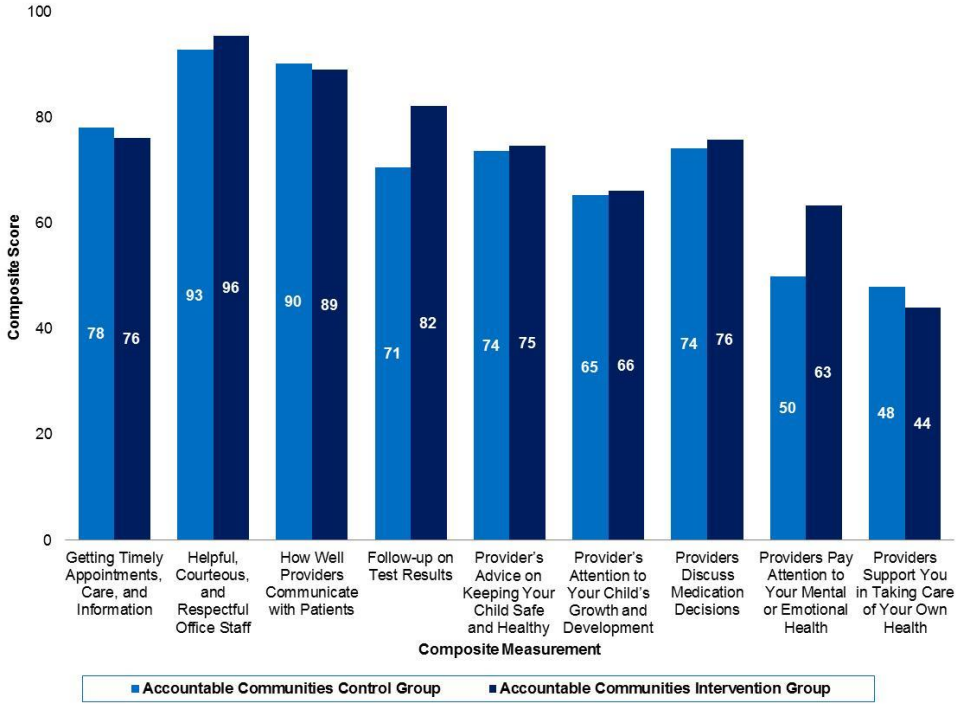
The least positive scores would indicate consumer engagement in the care process and solicitation of their ideas by providers are lower, and are highlighted by lower composite scores for:

- 'Providers Support You in Taking Care of Your Own Health' (Intervention: 44%/Control: 48%),
- 'Provider's Attention to Your Child's Growth and Development' (Intervention: 66%/Control: 65% and
- 'Providers Pay Attention to Your Mental or Emotional Health' (Intervention: 63%/Control: 50%).

It's important to note that none of these differences rise to the level of statistical significance. See **Exhibit 51** below for a comparison of all composite measures for Accountable Communities.

[42] Composites are calculated by assigning a value between zero and 100 to every possible answer category for each question that comprises the composite. Higher values represent more positive responses. Scores are summed and averaged across the number of valid responses provided by the respondent. This average score is the statistic reported.

Exhibit 51. MaineCare Accountable Communities Composite Measures Summary



3. Summary of Findings

The Accountable Communities intervention group performs highly in areas related to provider communications. Providers are effective in providing information to their patients. Providers are particularly skilled in communicating information to parents about managing their child's health. They are also providing information to their patient's parents about the types of counseling or treatment options available for behavioral health care, thus helping to support the integration of physical and behavioral health care.

The following results detail provider communications. These items fall outside of the composite measures and are grouped into areas of broad thematic focus as they relate to each other and to the goals of the Maine SIM Grant Evaluation program. The percentages are all given using the top box score, i.e. the percentages for the most positive response option available. This top box method is the standard approach for reporting utilized for CAHPS® and was used in this evaluation to capture variation in responses between the intervention and control groups.

- Almost all patients feel they were given enough information to follow up about their child's care (Control: 100%/Intervention: 97%).
- Most also agree that they were given as much information as they wanted about what they could do to manage their child's condition (Control: 99%/Intervention: 93%).
- More than three quarters (Control: 78%/Intervention: 82%) feel they were always involved in managing their or their child's care as much as they wanted.

Patients, however, are less apt to indicate that their provider or other staff encourage them to ask questions. Patients also view providers and their staff as being less effective in asking about

obstacles that prevent them from taking care of their health or eliciting input about managing their child's health.

- For example, less than half (Control: 45%/Intervention: 43%) feel they were always asked for their ideas for managing their health in the last six months.
- Similar rates (Control: 44%/Intervention: 44%) also feel they always got the help they needed in coordinating their or their child's care with the people they went to for counseling or treatment.

The results also suggest that one area of focus for strengthening primary care is improving communications *between* providers. This supports the second pillar of integrating physical and behavioral health care. Patients indicate that providers are less effective at coordinating their care between their primary care physicians and other providers or at least have less familiarity with patient information from other providers. Patients indicate that at times, their primary care physician does not seem to have all the information about the care they or their child received from specialists or from their mental health provider. This seems to be particularly true in regards to information about mental health care or counseling.

In order to achieve a clearer picture of the Accountable Communities on patient experience, another survey will be conducted in 2016. The consumer interview responses are detailed more fully in the Market Decisions Final Report included in the Appendix to this report.

D. Maine SIM Infrastructure Components

In the following section, Lewin presents findings from our analysis on the other SIM objectives that provide infrastructure and provider supports to the key objectives highlighted previously. These include efforts to improve upon data utilization and availability among providers, workforce development, ongoing payment reform activities, and the overarching SIM governance structure. Where applicable, we highlight key findings from provider and key stakeholder interviews that have informed these findings.

1. Data Infrastructure & Sharing Information

The activities under SIM that seek to improve the data infrastructure in Maine are important to the successful implementation and support of overarching payment and delivery objectives. These efforts include objectives implemented by HIN and MHMC to streamline access to data that can be used by providers, patients, and other stakeholders, including Emergency Department (ED) notifications for MaineCare, provider reports, different data portals, and programs to support Electronic Health Records (EHR) adoption and connectivity to the Health Information Exchange (HIE) among behavioral health providers.

HIN's implementation of ED notifications as well as support of behavioral health providers as they adopt new EHR technologies and seek to connect to the HIE is beginning to offer connectivity between different types of providers. Of the 54 providers responding to questions about HIN or the HIE, 28 indicated use of the HIE has resulted in positive changes to the way they care for their patients. Representative provider comments include:

- "We are very lucky to have this as a state. HealthInfoNet is the thing that's making the biggest most positive change."

- "Biggest issue is that it doesn't have behavioral health and substance abuse [data]. Minimally…to be able to have the psych hospitalizations would be helpful."

Consumer feedback indicates that there is still room for improvement in communication between their providers. While there have been some barriers to implementation, including issues with developing bidirectional connections among some behavioral health providers with the HIE, much of these efforts have moved forward successfully.

Providers in Maine currently utilize multiple data "portals" to report and collect or analyze information about their practices and patients. The use of portals has become a common component to many initiatives both within and outside of SIM. While the information provided to practices (e.g. through data portals) is generally seen as valuable, 27 of 69 or 40%of providers interviewed stated that the numerous portals, and other related tasks (attestation related to health home members) are burdensome and creates confusion about the purpose, capabilities, and operations of each data source. Providers also indicate that there are disconnects in the data (e.g. content of the practice reports) they perceive to be valuable for their decision making, including the lack of current data provided and potentially flawed methodology. (For example, a provider offered an example of different patient medication requirements during different seasons that may result in prescription non-use and a penalty on the provider's part.) Further refinements to data portal input and output design in collaboration with provider input may reduce administrative complexity and enhance provider use of data to inform and target their care coordination activities.

Respondents to Crescendo's interviews from 33 of 40 HHs (83%) stated that they received the MHMC Practice Reports. Nine of 40 (23%) HH participants stated that they have made patient care changes based on the MHMC Practice Reports. Five of them mentioned specific positive changes, primarily related to the ability to drill down to the patient level for data, review utilization data, and see how well the practice compares on various measures. The four others did not provide specific comments. Representative comments include:

- "It's one extra way of letting us know if there are gaps in care. Helps us coordinate care."
- "Some of it told us stuff we already know, but good to see our imaging costs and things like that. It keeps moving it forward."
- "Lot of information there. Easier to focus on a couple of different sections of it. It's all good information – it's just a lot."

This feedback indicates that while the reports offer providers a great deal of information, it may need to be presented more effectively to be actionable.

Further feedback from providers pinpoints more specific areas that prevent the practice reports from helping providers make real time practice improvements. Twenty-five (25) HHs respondents provided specific comments about the strengths and weaknesses of the practice reports, with 16 (64%) stating that the utility of the reports is very limited because the data is not current. Representative quotes include:

- "The closer they get to getting real-time data the more effective it will be."

- "They are interesting, but data is two years old so it's really hard to show them to providers and encourage change. What can I do about this now?"

The opportunity for greater continuity of information extends beyond SIM to the goals Maine has identified for more systemic change moving forward. The Data Infrastructure Subcommittee has not met for some time, as evidenced by Lewin's review of governance meeting minutes. Given the important nature of data infrastructure as part of SIM, the Steering Committee has discussed how to re-engage in the subcommittee in the most effective manner. However, meetings have yet to be reestablished.

The SIM objectives related to data infrastructure in Maine will continue to be important as SIM enters its third year. Data accessibility drives provider capacity to understand the impacts of change in their practices, their ability to communicate with and care for their patients in a more coordinated manner, and develop more effective relationships with their provider teams.

2. Workforce Development

A key component of SIM was the formation of workforce development initiatives that serve to support and enhance the capabilities of the Maine health care workforce to implement system changes. These SIM objectives include the Maine Quality Counts Learning Collaboratives for MaineCare Stage A and B Health Homes and other MaineCare-led provider education efforts. Here, findings related to these efforts are reviewed as they relate to these workforce development objectives.

Learning Collaboratives

During provider interviews, Crescendo collected feedback on Quality Counts Learning Collaborative sessions from 42 MaineCare Health Homes, 15 MaineCare Behavioral Health Homes, and 3 CCTs respondents. Fifty-four (37 Health Homes, 14, Behavioral Health Homes, and 3 CCTs) indicated that they had attended all or most of the required Learning Collaborative sessions. Respondents generally had positive things to say about the Learning Collaborative, with 38 Health Homes, six Behavioral Health Homes, and three CCTs providing supportive comments about the program. Representative quotes from Health Homes include:

- "Networking opportunities are helpful. I love the fishbowls!"
- "We were struggling with developing a patient advisory committee and this most recent one had a great workshop on it. Gave us ideas we had just never thought about."
- "The Learning Collaborative sessions are rejuvenating!"

Representative quotes from Behavioral Health Homes on this topic include:

- "I get a lot out of it. Ideas are helpful and its good practical information. Helped me to connect with colleagues in other agencies. Great model."
- "The best ones were enhancing quality of care processes and learning from national and local experts – beyond extraordinary!"

Many respondents (45 Health Homes, 8 Behavioral Health Homes, and 5 CCTs) provided suggestions to improve the helpfulness of the Learning Collaboratives. Approximately one-third of the total (18 – 13 Health Homes, 3 Behavioral Health Homes, and 2 CCTs) stated that

they would benefit from more advanced topics and 22 (16 Health Homes, 3 Behavioral Health Homes, and 3 CCTs) indicated they would derive additional value from the sessions with a stronger focus on learning from peers. Four comments were made that suggested a greater need for on-demand learning modules. Representative quotes from Health Homes are included below:

- "Content is fine, but pulling together people is most helpful."
- "We're in a place where they have new practices and some of us have been in five or six years. I think they're trying to meet the needs of all those tiers. Would be better to have other people learn from those who have been there longer."
- "I think sometimes it's really tough because they bring in so many different practices at so many different levels that everything gets homogenized. For entry level it's great."
- "Everyone is in a little different place. Some of the stuff we hear is repetitive. We want more cutting-edge."
- "Such a large group. Would be helpful to break that down."
- "I would suggest they start recognizing the growth. People are all over the spectrum and they need to stay mindful of that. There's enough support in the room for the people who have just entered, so it's better for the newer people to see where we're trying to go than to force everyone [into the basics.]"
- "I think it would be good to have different levels of learning sessions. The [practices] at a certain point could be offered something more than basic."
- "If there were a CCT track or care management track around high utilizers that would be helpful."

Representative quotes from Behavioral Health Homes (and one CCT) respondents are included below:

- "Make all LC sessions and other QC information available online; many staff members who could benefits from the information do not have time to physically go to sessions."
- "Develop more opportunities for Behavioral Health Homes peer networking."
- "If there were a CCT track or care management track around high utilizers that would be helpful."

These provider insights offer key information that could inform process improvements and sustain the success of this objective as part of the Maine SIM infrastructure.

Workforce training and development activities have offered valuable implementation support across SIM. The Learning Collaboratives have delivered significant opportunities for development of best practices and peer learning among MaineCare Stage A and B Health Home participants. Provider feedback offers clear examples of how this has been directly incorporated into the implementation process.

Based on the feedback listed above, however, the Learning Collaboratives also needs to evolve with the providers as they continue to innovate and become more advanced in these new models of care. It appears that while the Learning Collaborative sessions have offered valuable

content and support to providers, providers suggest they have not evolved quickly enough. Participating providers suggested the exploration of more advanced topics and peer learning opportunities to address this. In addition to the Learning Collaboratives, the implementation of the Community Health Worker (CHW) pilot has been seen very favorably to date, despite being implemented on a small scale. Specifically, 4 of 5 providers who were using CHW services at the time of their interview shared positive perceptions of the pilot. The CHWs are being used by providers to establish greater cultural sensitivity and continuity with community-based resources in their practices.

Other SIM workforce development objectives

Other SIM objectives that involve workforce development include the Mental Health Rehabilitation Technician / Community (MHRT/C) and Intellectual / Developmental Disabilities (I/DD) training programs, as well as the Leadership Development program. The MHRT/C and I/DD training programs created under SIM have yet to reach providers. Curriculum development is still ongoing for these objectives, which ultimately delays their implementation to support providers as they deliver care to individuals with behavioral health and I/DD diagnoses. The Leadership Development Program that was identified by the SIM governance later in SIM implementation as a key priority is an acknowledgement of gaps in Maine health care leadership's ability to lead and support innovation. While this initiative has not been assessed by Lewin for this report, the establishment of the program highlights a dynamic response of SIM governance in considering the support needed for innovation in Maine to be successful.

Change Fatigue

Providers in Maine are simultaneously implementing a number of payment and delivery system innovations across their practices. This overlap may lead to change fatigue, an issue that has been discussed among different parts of SIM governance. This "fatigue" may also be influenced by provider's perception that the reimbursement rates are insufficient. Greater provider engagement in understanding payment reform efforts in Maine, in addition to garnering their buy in, is important to the success and sustainability of program implementation. This has been an issue of concern within SIM governance and has been explored by the Steering Committee.

The workforce development efforts will continue to help providers as they implement new payment and delivery reform models under SIM. The Learning Collaboratives have offered substantial resources to participating providers, and continue to evolve with their participants as they become more advanced in delivering more coordinated care. These and other efforts recognize a critical need in Maine to foster greater growth in the health care workforce that is ready to take on change under SIM and beyond.

3. New Payment Models and Value-Based Insurance Design

Stakeholders were asked general questions about their familiarity with the MHMC's Value Based Insurance Design (VBID) initiative, eight of whom felt they had enough familiarity to provide feedback. These high level insights offer preliminary feedback on the efforts to move VBID forward in Maine and highlight some preliminary concerns about its focus. Representative comments include:

- "It has tremendous potential, as much as providers and hospitals are challenged by the idea now, they could have doctor specific incentives."
- "My most cynical side, asks who are you doing this for – employers or insurers? I get it, but I'm less than convinced we have identified the indicators that are most important to patients."
- "As a VBID proponent, I'm convinced it has a lot of power. Shining a light and educating purchasers is well worth it, but trying to shove everyone in the same channel is unrealistic."
- "The project seems to be focused on driving a one size fits all view of VBID. It needs to be reflective of the dynamics of the market, allowing for varied approaches to demonstrate value."

Two stakeholders made multiple comments regarding the impacts of building risk into payment reform models.

- "There's a lot of resistance to payment reform in Maine. The major [effort] is moving to some level of risk. In other parts of our business they have moved to complete capitation, which will reduce costs, make sure patients show up, and manage complicated patients."
- "The more contracts we have that put us at risk is a good thing – we're living with less in this environment already – so it's a good thing to be able to work toward shared savings. Providers are okay with owning the risk. Unfortunately the SIM feels like it's the providers against the rest of the world."

Other stakeholder comments on payment reform related to the following: two mentioned a need for more national influence, either from CMS or payers at a national level, two mentioned the need for patient engagement, two indicated administrative burdens and/or need for synchronicity across efforts, and one mentioned a need for good data to inform decisions.

While the VBID Workgroup was not able to develop recommendations supported by payers and providers for administrative simplification as of July 2015, the group has identified strategies that may make reaching this goal possible. High level feedback from stakeholders indicates that this is an important objective for Maine, but the focus needs to be reviewed to consider implementation through varied means and how this might prove more successful.

4. Consumer Engagement

One strategic pillar of Maine SIM is the engagement of people and communities, not only in their care, but in the health reform efforts underway in the state. Objectives under SIM specifically target opportunities to change the patient-provider relationship and engage consumers in new ways that allow them to participate more actively in this process. These efforts include the National Diabetes Prevention Program (NDPP), the Community Health Workers pilot (CHW), the Blue Button pilot and the Patient-Provider Partnership pilot. This section briefly reviews insights Lewin has been able to collect on these SIM activities.

Components of Maine SIM that target consumer engagement have started to change the patient-provider relationship. Pilots for P3 and Blue Button have already achieved their goals to begin

this process. The Blue Button pilot was a twelve month project completed in July 2015 that tested access to the HIE for 500 patients in the Eastern Maine Health System. Given the very limited scope of this pilot, provider and consumer interviews for this SIM evaluation did not address this project. HIN exceeded their accountability targets for patient engagement in this project (as of June 2015, 455 continuity of care document downloads had occurred, exceeding the goal by 299%).

Implementation of NDPP and CHW pilots has not been extensively assessed in this report because there is a concurrent evaluation being conducted by John Snow International (JSI), Inc. of these objectives. Therefore, the contribution of these objectives to the successful implementation of greater consumer engagement cannot be highlighted here. Data from this separate evaluation will be considered as it becomes available as part of the Lewin-led final evaluation.

However, as was stressed earlier in this report, this increase in consumer engagement is not systemic. Consumers report that they are not being asked to engage in conversations about their care by providers, despite being offered a great deal of information from them. This finding indicates that there is work to be done in terms of engaging consumers in the care process. Lewin's assessment of SIM governance indicates that a lower engagement of community members such as advocates and consumers may contribute to less substantial consideration of these patient-provider communication issues. The Steering Committee did identify a need for greater public engagement as part of the annual meeting structure in a way that will foster their meaningful engagement, awareness of and contributions to the innovation process under SIM. This has led to greater public communications planning for SIM as well.

5. SIM Governance Environmental Scan

As CMMI expects the solicitation of feedback from stakeholders and their inclusion in SIM design, implementation, and evaluation processes, Lewin conducted an environmental scan of Maine SIM committee meeting materials as part of the self-evaluation to assess stakeholder engagement. The environmental scan was also designed to consider the effectiveness of the SIM governance and committee structure in meeting designated goals across and within the Steering Committee and subcommittees. The scan included a review of meeting materials from five Maine SIM committees: SIM Steering Committee, Delivery System Reform Subcommittee, Payment Reform Subcommittee, Data Infrastructure Subcommittee, and Evaluation Subcommittee.

The discussion that follows describes briefly each committee's key contributions to SIM activities to date. In the Environmental Scan Methodology and Findings section of the Appendix to this report, the environmental scan of SIM governance activities is presented in further detail, including overarching activities for each committee and a review of stakeholder representation.

a. Steering Committee Assessment

The Steering Committee is charged with three key goals:

- Providing guidance on SIM effort and responsibly removing barriers impeding progress.

- Ensuring work groups' efforts align with overall SIM objectives.
- Resolving escalated issues crucial to the initiative.

Lewin's review included the analysis of minutes from 27 meetings held between June 2013 and August 2015. The Steering Committee's key contributions and deliverables to date are highlighted in the exhibit below.

Exhibit 52. Steering Committee Key Recommendations and Contributions

Description of Key Recommendations & Contributions
Leadership Development: Helped determine if there was need for the program and offered suggestions for the RFP process to find a vendor for the program
Implementation of Learning Collaboratives: Provided guidance on the development of learning collaboratives to assist providers with health care system changes
Total Cost of Care Measurement: Endorsed the Total Cost of Care Measurement developed by MHMC to help improve cost transparency and track any improvements in reducing cost of care
Accountable Communities: Provided guidance on the implementation of the Accountable Communities Initiative and project timeline.
Multi-Payer Advanced Primary Care Practice Pilot (MAPCP): Lobbied CMS to continue MAPCP which provides Health Homes a care management fee. While MAPCP is not part of SIM, the members were concerned discontinuation of the care management fee would negatively affect Health Homes and efforts under SIM to transform the state's health care system.
Plan to Engage Public: Created a plan to engage the public. This plan included developing an informational piece that makes pathways to meaningful involvement easy to follow and potentially providing a forum at the SIM annual meeting focusing solely on consumer involvement.

Payment Reform Subcommittee Assessment

The Payment Reform (PR) Subcommittee is charged with three key goals:

- Provide guidance and oversight to aspects of Maine's SIM project related to supporting the development and alignment of new payment models.
- Develop consensus on core measure sets for ACO performance and assist in determining the claims based analytics and performance measures for public and provider reporting.
- Educate and engage the public around payment reform issues in the state.

In addition to these charges, the PR Subcommittee is tasked with generally coordinating the range of SIM sponsored efforts that impact payment reform. The review included the analysis of minutes from 18 meetings held between October 2013 and June 2015. The PR subcommittee's key contributions and deliverables to date are highlighted in the exhibit below.

Exhibit 53. PR Subcommittee Key Recommendations and Contributions

Description of Key Recommendations & Contributions
Total Cost of Care Measurement: The PR Subcommittee oversaw development of a measurement for the total cost of care measurement. The subcommittee unanimously approved a final total cost of care measurement presented to the members by MHMC.
Voluntary Growth Cap: Over the course of their meetings, the subcommittee provided guidance on a

Description of Key Recommendations & Contributions
health care cost growth cap for risk based contracts with providers.
Research on Innovative Payments for Advanced Primary Care: The subcommittee guided research on a variety of potential innovative payment methods for Advanced Primary Care. In the last meeting in the minutes provided, a report by Discern Health was presented to the subcommittee with potential innovative payments for primary care practices and the members tasked MHMC with outreaching to providers to gain input.
Measures to Assess Providers: The subcommittee played an advisory role in the development of measures to asses ACOs and other providers. The members unanimously voted to endorse a set of measures present by the Measure Alignment Work Group.

Delivery System Reform Subcommittee Assessment

The Delivery System Reform (DSR) Subcommittee is charged with three key goals:

- Advising on SIM activities related to delivery system improvements;
- Ensuring that the SIM governance structure is informed by best practices and approaches for accomplishing the SIM mission and vision; and
- Identifying key dependencies from other SIM subcommittees.

The DSR is also tasked with ensuring the coordination and comprehensiveness of key system reform deliverables including learning collaboratives and workforce development initiatives. The review included the analysis of minutes from 18 meetings held between October 2013 and June 2015. The DSR subcommittee's key contributions and deliverables to date are highlighted in the exhibit below.

Exhibit 54. DSR Subcommittee Key Recommendations and Contributions

Description of Key Recommendations & Contributions
P3 Pilot Focus: Provided recommendations for the focus of P3 Pilots that encompassed Choosing Wisely, shared decision making aids, and behavioral health.
Care Coordination Risk: Endorsed consideration of a care coordination risk to be shared with the Steering Committee and aligned across all subcommittees. Key considerations offered were utilization of use and better understanding of existing HIE tools and potential exploration of external funding for community implementation of a "shared care plan".
Leadership Development: Recommended moving forward with the Leadership Development Initiative, which led to the release of an RFP and partnership with the Daniel Hanley Center for Health Leadership.
Care Coordination Pilot: After supporting pilot design, the subcommittee recommended the pilot charter be presented to the Steering Committee for approval.
Total Cost of Care Measurement: Endorsed the total cost of care measurement for consideration by the Steering Committee as part of broad public reporting.
Learning Collaborative Support: Offered suggestions for learning session content and overall design, including how providers can be supported in the implementation of consent protocols for patient information sharing.

Data Infrastructure Subcommittee Assessment

The Data Infrastructure (DI) Subcommittee, a multi-stakeholder group of health information technology leadership and professionals from the public and private sectors in Maine led by HealthInfoNet, is charged with two key goals:

- Advising on all SIM-related needs as identified by the Delivery System Reform and Payment Reform subcommittees and other stakeholders for improving data infrastructure and technology to support innovation;
- Providing guidance to SIM Partners and the Steering Committee on aligning SIM data and analytics infrastructure work with public and private projects in the state.

The review of the subcommittee included the analysis of minutes from 8 meetings held between October 2013 and September 2014. The DI subcommittee's key contributions and deliverables to date are highlighted in the exhibit below.

Exhibit 55. DI Subcommittee Key Recommendations and Contributions

Description of Key Recommendations & Contributions
Provided Guidance for Issuing of Behavioral Health HIT Reimbursement Grant: Offered recommendations for requirements of awardees and ensured milestones were realistic. Grants were successfully awarded to 20 organizations
Oversaw Awarding of Patient Portal Pilot: Provided guidance and recommendations to HIN on the pilot and on the issuing of the contract to a health care organization. HIN ultimately ended up partnering with Eastern Maine Health System for the 12-month pilot.

Evaluation Subcommittee Assessment

The Evaluation Subcommittee is charged with two key goals:

- Provide strategic oversight and guidance to the design and implementation of project evaluation, performance reporting, and evaluation dissemination activities
- Support the design of a local evaluation structure as part a sustainable research collaborative

The review included the analysis of minutes from 9 meetings held between December 2014 and August 2015. The Evaluation Subcommittee's key contributions and deliverables conveyed to date are highlighted in the exhibit below.

Exhibit 56. Evaluation Subcommittee Key Recommendations and Contributions

Description of Key Recommendations & Contributions
Stakeholder Interviews: Provided recommendations and oversight for stakeholder interviews and consumer surveys for the evaluation. The committee, for example, suggested targeting questions to practice managers, practice leads, and other administrators.
Consumer Surveys: Oversaw the development of consumer surveys to gauge their experiences with SIM.
Target Metrics: Provided direction for the development of target metrics for SIM and offered recommendations for MaineCare targets to be reviewed by the Steering Committee.

More in depth analysis of SIM governance activities is included in the Environmental Scan Methodology and Findings section of the Appendix to this report. To date, the Steering Committee and subcommittees have considered various issues across the implementation of SIM and have begun to consider its sustainability beyond the grant period. They have focused their efforts on developing measures for costs of care and quality, engaging the public, and providing guidance and oversight over the key project initiatives.

V. SUMMARY AND NEXT STEPS

The findings presented by Lewin in this report offer the first in-depth look at how Maine SIM activities are impacting the health care landscape in the state. Overall, the data suggests that MaineCare Stage A and B Health Home models are making strides to improve health outcomes and cost of care among targeted high utilizing consumers. MaineCare Accountable Communities will be more comprehensively evaluated for the final annual report. Early findings related to consumer engagement suggest that more opportunities exist to engage patients in their health care decision making and the overall health care reform activities occurring in the state. The available evaluation data for other SIM objectives related to the impact of centralizing data, workforce development, and development of new payment models is inconclusive, and more targeted evaluation activities may be aimed towards these objectives for the final report as directed by OCQI and the Maine Leadership Team.

The brief discussion below describes challenges faced during the first evaluation and more importantly, recommendations for the final evaluation.

A. Challenges & Mitigation Strategies

Following the first year of the evaluation's implementation, challenges and lessons learned have been identified that will be incorporated into our strategies for the final year of the evaluation. Timing and access to claims related data affected what findings could be made available for this first annual report. Lewin did not receive access to commercial data until mid-summer 2015, which subsequently impacted data vetting and analysis for commercial findings, thus commercial data analysis is omitted in this report. Preliminary commercial data has been shared with stakeholders from the health plans during October. Medicare data from 2014 is expected to be received by Lewin in January 2016 and we will begin more comprehensive analysis of Medicare data once it is received. Both commercial and Medicare data analysis will be included in the final evaluation report. Similarly, the lack of access to clinical data for some core measures (e.g. for assessment of weight as relates to obesity screening) is a challenge state-wide and an action plan is being developed in partnership with MaineCare and the Evaluation Subcommittee.

Lewin also faced challenges with initial interpretation of available quarterly Accountability Target data due to change in definitions/reporting requirements over time. This has since been resolved and future analyses of these targets will be vetted by the SIM Project Manager prior to public reporting. Additionally, we will incorporate data validation and review of relevant findings by key SIM partners into future reporting processes.

B. Additional Measures & Future Evaluation Opportunities

For the final year evaluation, Lewin will work with OCQI and the Evaluation Committee to review, revise, and update the Evaluation Plan and related tools to ensure we further target and capture key insights about the implementation and impact of SIM. The following section describes anticipated refinements we will be making to our tools and working assumptions for the second year of the evaluation.

1. Interview Tool Reviews

In the second round of provider interviews, Lewin anticipates incorporating more targeted questions to assess perceptions and use of various data portals, the practice reports and ED/Inpatient utilization notifications and specific care coordination and communication questions related to HIE use. Another potential focus area will be the assessment of process and implementation experiences that impact perceived outcomes, training needs, and barriers to consumer engagement from the provider perspective. Accountable communities will also be added as a key component for the round 2 interviews.

For stakeholder interviews, the second round should target greater review of the SIM governance structure, including how various groups have engaged and supported SIM effectively. There will also be an enhanced focus on the activities related to VBID and to discern stakeholder suggestions for how to move payment reform efforts more quickly.

The consumer interviews may also be updated to focus on engagement of consumers in the care process.

2. Process, Implementation and Infrastructure Considerations

Lewin anticipates reviewing the evaluation framework to ensure the research questions and methodology accurately seek to assess the implementation, effectiveness and impacts of SIM. In this first evaluation report, Lewin's capacity to address all research questions was limited by the nature of the data collection approach. For example, it is difficult to assess how models have been implemented consistently and fidelity given the current scope of data collection. The evaluation plan will also be updated for any research questions that have proven difficult to address in this round given the current data collection methodology.

In the second year of the evaluation, Lewin suggests additional focus be given to care coordination activities in Maine, their costs, benefits, and impacts. There is a significant amount of care coordination programs being implemented across the Maine landscape, including under MaineCare Stage A and B Health Homes, as well as CCTs, CHWs, and NDPP, and other health coaches and care managers involved in serving different populations. The issue of overlapping care coordination has been identified previously by SIM governance. Questions remain for how best to communicate and coordinate these efforts, while also seeking ways to fill underserved areas with these services.

Further analysis of the impacts of these programs in relation to the Triple Aim will be delivered in the second annual report in fall 2016. This will include data from a second round of consumer, provider, and stakeholder interviews. Interview tools will be reviewed and updated by Lewin and its team in collaboration with OCQI and the Evaluation Subcommittee. Findings presented in the next report will also further assess the impacts of the Health Homes in Maine, and consider the cost effectiveness and impacts of the Accountable Communities.