



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

Maine State Innovation Model Self Evaluation

First Annual Report - Executive Summary

Prepared for: Maine Department of Health and Human Services

Submitted by: The Lewin Group, Inc.

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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 SIM¹. 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 Metrics².
 - 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 scores³ 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 components⁴:

- **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 significantly⁵ 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 results⁶ 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%202012/Presentations%20and%20Handouts/Milliman%20-%20CCNC%20Evaluation/Milliman%20Analysis%20of%20CCNC%20Cost%20Savings%2012-15-2011%20\(2\).pdf](http://www.ncleg.net/documentsites/Committees/HouseAppropriationsHHS/Interim%20Meetings/2012/1)_Jan%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 difference¹⁴ 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 scores¹⁵ 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 **Exhibit 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 (EHR) 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.