Public Law 111-3, the Children’s Health Insurance Program Reauthorization Act of 2009 (CHIPRA), includes provisions for identifying standardized children’s health care quality measures for Medicaid and Child Health Insurance Programs (CHIP). The Law was intended to address concerns that the Center for Medicare and Medicaid Services (CMS) had no “uniform system for assessing quality of care for children across states.”1 Twenty-four “CHIPRA core measures” were identified by a national group of experts as key metrics for states to report on to capture specific aspects of the quality of children’s health care and to help identify quality deficits at various levels (e.g., health care systems, health plans, health centers, and individual providers).2

In 2010, the Office of MaineCare Services (Maine’s Medicaid and CHIP program) at the State of Maine’s Department of Health and Human Services was awarded a five-year CHIPRA Quality Demonstration Grant in partnership with Maine’s Center for Disease Control and Prevention, the Muskie School of Public Service at the University of Southern Maine, the Department of Vermont Health Access (Vermont’s Medicaid program), and the University of Vermont. The CHIPRA Quality Demonstration Grant Program funds States to test promising ideas for improving the quality of children’s health care provided under Medicaid and CHIP programs with a specific aim of identifying “effective, replicable strategies for enhancing quality of care for children.”3 As part of its CHIPRA Quality Demonstration Grant (known as Improving Health Outcomes for Children, or IHOC), Maine agreed to test the feasibility of reporting the 24 CHIPRA core measures and utilizing them to support quality improvement efforts. As part of this work, Maine developed an extensive stakeholder review process to assess CHIPRA core measures as well as other child health quality measures used in the state, and to adopt a list of child health measures for quality improvement. This brief describes Maine’s process for selecting child health quality measures, including identified strengths and limitations of the CHIPRA core measures that led to the inclusion of additional state-specific measures and the factors considered for selection. Subsequent articles will describe how measures have been implemented and used to improve child health quality and how they have been integrated into systems of care (e.g., health information technology systems, policy changes).

Methods

The IHOC evaluation team conducted interviews with seven individuals involved in Maine’s child health quality measure selection and implementation process. Interviews were conducted using a semi-structured interview protocol and lasted approximately 90 minutes. Interviews were audio-recorded, transcribed and reviewed and summarized using thematic analysis. Additional information was obtained through content analysis of the IHOC Measures and Practice Improvement Subcommittee meeting minutes.

Key Findings

Broad Inclusion of Key Child Health Leaders Supported Engagement
Prior to the CHIPRA grant award, there had been increasing interest in identifying a standard set of child health measures in Maine which stemmed from the needs of other measure-driven quality improvement initiatives in the state, such as Maine’s Multi-Payer Patient Centered Medical Home (PCMH) Pilot and the Maine Chapter of the American Academy of Pediatrics’ (MAAP) participation in a national asthma quality improvement initiative. In

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the fall of 2009, the PCMH Pilot leadership requested that the MAAP Chapter Quality Improvement Committee develop a list of child health metrics that the four pediatric PCMH pilot sites could collect from claims and electronic medical records. CMS awarded the CHIPRA Quality Demonstration Grant to Maine in February 2010, known as Improving Health Outcomes for Children (IHOC). At this time, the child health measures work of the MAAP Quality Improvement Committee on Measures was folded into the broader IHOC Measures and Practice Improvement (MPI) Sub-Committee as part of IHOC's organizational structure. The IHOC MPI subcommittee was led by a physician member of the MAAP Quality Improvement Committee and included representatives from:

- MaineCare, Maine’s Medicaid/CHIP program,
- Maine Center for Disease Control and Prevention (CDC),
- Three large health systems in the state and the Maine Primary Care Association (the member association of federally qualified health centers and community health centers),
- The Maine Chapter of the American Academy of Pediatrics (AAP) and the American Academy of Family Practitioners (AAFP),
- Pediatric and family practices,
- Maine Parent Federation,
- Quality Counts, a collaborative concerned with health care quality improvement, and
- The Muskie School of Public Service at the University of Southern Maine.
- Maine Health Management Coalition, the Employer Coalition in Maine

The IHOC MPI Subcommittee was charged with providing input, feedback, and direction on the collection and reporting of child health measures for Maine's CHIPRA Quality Demonstration Grant. The group was also tasked with providing technical guidance for associated quality improvement interventions offered through First STEPS (Strengthening Together Early Preventive Services), a practice-based quality improvement collaborative led by Maine Quality Counts and funded through IHOC. Eventually this group was merged into the Maine Child Health Improvement Partnership (ME CHIP) that was formed in 2011.

The broad inclusion of key child health leaders across the state in the measures selection process was identified by many participants and stakeholders as a major facilitating factor for developing consensus and support for the measures. Participants found the process to be transparent, well-facilitated, inclusive, collaborative and ‘turf-less.’ However, participants did note some challenges, including keeping the list to a reasonable number of measures given differing stakeholder priorities.

**Process Identified Limitations of CHIPRA Measures and Need for Additional Metrics**

Early in the process, participants and stakeholders expressed concern that the 24 CHIPRA measures in the Initial Core Set alone would not adequately serve children’s health care quality improvement efforts. Through a series of meetings, the CHIPRA Initial Core Set measures were reviewed and deliberated based on perceived value of the measures in relationship to Maine’s current child health quality improvement activities and potential priority areas for the future. MPI Subcommittee members interviewed identified the following criteria considered during the measure vetting process:

- Actionable at the practice level,
- Clinical importance and need for early intervention/improvement in Maine,
- Alignment with ongoing measure-driven quality improvement activities, and
- Availability of data to calculate measures.

As a result of those deliberations and additional feedback sought from the provider community, the group explored, and eventually included, additional measures in what became the Maine IHOC Master List of Pediatric Measures.4

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**Strong Focus on Preventive Care Measures that were Actionable at the Primary Care Level**

The selection of additional child health quality measures for the Maine IHOC project was motivated, in part, by a strong focus on preventive care and provider interest in ensuring that child health quality measures be “actionable” at the primary care level. Providers involved with the IHOC MPI Subcommittee advocated for measures that could be used at the practice-level for quality improvement (QI) initiatives. Some CHIPRA core measures were perceived as too broad or outside the scope of primary care to target practice-level QI efforts effectively. As a result, the MPI “unbundled” specific measures into smaller units to make them more actionable at the practice level, and then grouped four to six related measures together for targeted practice improvement work. For example, the CHIPRA Initial Core Set contained two immunization measures: Childhood Immunization Status (the percentage of children up to date on recommended vaccines by their 2nd birthday) and Adolescent Immunization Status (the percentage of adolescents up to date on recommended immunizations by their 13th birthday). The group decided to add additional age groupings as well as recommended vaccines that were not included in the two CHIPRA measures. Specifically, Maine added a vaccine measure for 6 year olds and an HPV vaccine measure for girls and boys as part of the metrics that practices tracked and reported for the First STEPS QI collaborative focused on immunizations. It should be noted here that the HPV for girls measure became a CHIPRA measure in 2013.

Interview participants identified another CHIPRA core measure, “annual percentage of asthma patients with one or more asthma-related emergency room visit,” as having limited use to primary care providers because even though the claims measure was available at the practice level, the delay in receiving the information was not useful for rapid cycle QI projects. However, the IHOC MPI Subcommittee recognized that inclusion of an asthma management measure was a priority given the high ED costs associated with children with asthma. Therefore, the IHOC MPI subcommittee recommended adapting a measure developed by the American Medical Association’s Physician Consortium for Performance Improvement and utilized in the Bridges to Excellence initiative: “The number of children with asthma between the ages of 5 and 19 with a diagnosis of asthma who were evaluated within 12 months for the frequency of daytime and nocturnal asthma symptoms.” MPI members adapted this metric to include children ages 2 through 19 since children in the 2 to 4 year old age group in Maine are high utilizers of the emergency room (ER) and inpatient services. MPI members preferred this measure because practices could collect this data through EMR/registry and chart review data, and there was more opportunity for primary care practices to affect change through practice-level QI effort which could also potentially reduce asthma-related ER visits.

**Clinical Importance and Need for Early Intervention**

Providers interviewed indicated that the clinical relevance of measures along with the benefit of early detection and intervention played a key role during the deliberation process. Several of those interviewed also indicated that the existence of clinical guidelines by provider organizations such as the American Academy of Pediatrics (AAP) played a role in their decisions. For example, the CHIPRA Initial Core Set included a general developmental screening measure by ages 1, 2 and 3, but no autism-specific screening measure. However, the AAP also recommends autism screening at 18 months of age and 24 months of age. Autism screening had been the subject of a quality improvement initiative led by the Maine CDC due to high prevalence rates in Maine and late detection. As a result, an autism screening measure was added to Maine's list of measures to support early identification and intervention of this clinically relevant topic for Maine's children.

Interview participants also mentioned the need for improvement in Maine as a factor driving the selection of some additional measures for the IHOC project and cited the selection of lead screening/testing and developmental screening measures as examples of measures selected for this reason. In Maine, leadership at the state Medicaid and CHIP program, MaineCare, expressed strong interest in decreasing lead exposure among children. Children insured by MaineCare have elevated risk of lead exposure and the law requires them to be tested at age 1 and 2, yet only about half of 1 year olds and a quarter of 2 year olds are tested. Similarly, stakeholders noted that unbundling age

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groups within the original CHIPRA developmental screening measure and depicting it as three separate measures in the list was driven by a desire to improve Maine’s developmental screening rates, which were lower than the national average. Splitting the CHIPRA developmental screening measure into three separate measures (1, 2, and 3 year olds) allowed planning of rapid cycle QI efforts to be more targeted within the practice setting.

IHOC Alignment with Existing Measure-Driven QI Built Support for IHOC Project Initiatives

Those interviewed also indicated that alignment with existing quality improvement measures or guidelines had been an important consideration during the IHOC measure selection deliberations. While Maine had no agreed-upon statewide set of child health quality measures prior to IHOC, there were a number of measure-driven payer, provider-specific or regional health care quality reporting efforts for which metrics were already being reported. MPI Subcommittee members recognized the need to reduce reporting burden for providers, health systems and payers by developing a common set of measures that aligned across existing efforts in the state. Stakeholders noted that certain CHIPRA core measures were not aligned with other quality measures in Maine or were not sufficiently defined to be useful. For example, the CHIPRA weight measure - body mass index (BMI) assessment - by itself was not perceived as a useful measure. However, when paired (or aligned) with the Meaningful Use BMI measure, weight assessment with counseling on nutrition and physical activity for children and adolescents and classification of BMI percentile, it was perceived as more clinically valuable, actionable, and also aligned with other state initiatives.

Availability of Data Considered During Deliberations

Data availability was another consideration during deliberations over CHIPRA measures and Maine’s IHOC measure selection process. Several interview participants reported that when selecting quality measures for IHOC, they strongly preferred to use measures that had data sources that could be used to calculate a population-based measure. For example, 6 year-old immunization rate was added due to the expectation that this measure could be captured from data reported in the state immunization registry. Similarly, practice electronic medical records and the state’s health information exchange were thought to contain data that could be used for IHOC quality measurement calculations. In order to minimize the administrative burden on medical practices, provider stakeholders stressed the importance of getting data from existing systems, rather than requiring practice personnel to enter data into additional data systems beyond the practice’s EMR or collecting it through manual chart review processes. Although the resources needed to extract the necessary data to calculate measures was not considered during the measure selection process, the availability and reliability of data was a key factor for choosing measures. For example, the MPI had recommended that IHOC not prioritize reporting for the otitis media measure (which was subsequently retired by CMS from the CHIPRA core set) because providers were concerned about the reliability of the data.

Measure Selection Process Facilitated IHOC Project Activities

The IHOC measure development process was viewed by many interviewed as fundamental to the establishment of a constructive foundation for later IHOC activities. The broad engagement of stakeholders and consensus-building around the Maine IHOC measures were cited as key to establishing credibility for the project overall and for subsequent measure-driven practice improvement initiatives focused on CHIPRA and IHOC quality measures.

Conclusion

In summary, Maine’s measure selection process was inclusive and engaged a broad array of child health leaders and stakeholders in the state. The primary criteria for Maine’s measure selection process was that they be actionable at the primary care practice-level, that they reflect the latest clinical evidence-based guidelines with a particular focus on preventive services, that they target areas of greatest need for Maine’s children including those where earlier identification could benefit children’s long-term health, and that they align with existing measurement and data collection priorities of the state. While CHIPRA core measures served as the initial starting point for this selection process of child health measures, Maine stakeholders found that they needed to be supplemented to make them actionable and meaningful for primary care improvement.