



# T-CHIC FINAL REPORT

A three-state, five year, multi-partner, child health care quality demonstration project;  
vision, fruition, and reflections

**Table of Contents**

T-CHIC Teams..... 2

Introduction..... 4

Category A Vision ..... 10

Category B Vision..... 17

Category C Vision..... 22

Category A Implementation and Results ..... 25

Category B Implementation and Results ..... 57

Category C Implementation and Results ..... 72

Sustaining the Gains ..... 105

Feedback for CMS ..... 115

Spotlight Activities ..... 121

Appendix..... 124

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## T-CHIC Final Report

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## Introduction

The Tri-state Children's Health Improvement Consortium (T-CHIC), an alliance between the Medicaid/CHIP programs of Alaska, Oregon, and West Virginia was formed with the goal of markedly improving children's health care quality. The T-CHIC team is pleased to submit this Final Report as a candid retrospective assessment. The vast amount of work that occurred over the five plus years' Children's Health Insurance Reauthorization Act (CHIPRA) Quality Demonstration grant period cannot be contained in a single document. It's impossible to convey the impacts of, for example, the moving story told by a young mom speaking with a group of physicians about the challenges of coordinating care for her child who was recently diagnosed with autism during an Oregon patient-centered care learning collaborative. Nor can we adequately describe, again for example, the joy and pride expressed by the newly formed care teams in a remote Alaska clinic when they were sharing their team names and mascots, or the depth of the commitment and compassion articulated by the West Virginia physician leader explaining why she chooses to practice in a poor rural community. The impacts of the cross-state learning and relationships that were forged will have enduring impacts that are immeasurable.

We can share what we hoped to accomplish, highlights of what we did accomplish, and *some* of the lessons we learned along the way. We'll assume the reader is familiar with, or has access to, the progress reports we've submitted over the course of the grant period.

The CHIPRA Quality Demonstration Grant had five Categories.

- Category A: Grantees enhanced their capacity to report and use the Child Core Set of quality measures and other supplemental quality measures for children.
- Category B: Grantees developed or enhanced health information technology (IT) to improve quality of care, reduce costs, and increase transparency. Grantees pursued a range of health IT solutions, such as encouraging uptake of electronic health records (EHRs), developing a regional health information exchange, and interfacing electronic health information with eligibility systems or social service organizations.
- Category C: Grantees developed or expanded provider-based care models. These models include (1) the patient-centered medical home (PCMH); (2) care management entities

(CMEs), which aim to improve services for children and youth with serious emotional disorders; and (3) school-based health centers (SBHCs).

- Category D: Grantees implemented and evaluated the impact of a model EHR format for children, which was developed under a separate Agency for Healthcare Research and Quality (AHRQ) contract, in partnership with CMS.
- Category E: Other, including the development of Improvement Partnerships

The Centers for Medicare and Medicaid Services provided 10 grants to 18 states. T-CHIC focused on Categories A, B, and C. Each of the grantees had state leads. Oregon was the lead for the T-CHIC effort through state-to-state coordination, overall guidance and reporting, and providing assistance throughout the project to the other states. Oregon tested the key question ‘can the states undertake a largely self-directed learning collaborative, coordinate themselves, develop priority areas, and produce measurable change?’ The Alaska, Oregon, and West Virginia teams created the initial vision. Each state undertook this project with a deep commitment to meeting or exceeding expectations approved by CMS in our June 2012 operational plan. This report represents a distillation and synthesis of state reports, and is based on the thoughtful reflections of the key leaders. Alaska provided a uniquely detailed final report which is attached as Appendix A.

The challenge the Oregon team also chose to address was ‘how to assess improvements in pediatric quality of care while there were known quality of care redesign efforts, that is simultaneously assessing the measures designed and selected for that purpose themselves?’

In the delivery system redesign category (Category C) we sought to assist a mixture of rural and urban, private and public, small and large, Family Medicine and Pediatric primary care practices become medical homes through facilitated learning collaboratives. We sought to assess the effectiveness of that work while measuring changes at the state and, to the degree feasible, practice level while the changes were occurring. Initially, there weren’t clear standards for medical homes, at least not in relationship to the needs of children and children with special health care needs in particular. Nor were the pediatric quality measures themselves assessed in terms of utility at a clinic level, but rather, many of the measures selected for the Initial Core Set were designed for health plans – closed systems, not for assessing the quality of care provided to

## T-CHIC Final Report

children on Medicaid or CHIP, or for the pediatric population with special health care needs. At the time the grant began, there were very few measures of pediatric medical homes, nationally.

The CHIPRA legislation intentionally sought to increase the quality of care for children served by Medicaid, in particular children with special health care needs, through better access to comprehensive and coordinated services, including developmental screening and specialty services, behavioral health and dental services, as well as primary and other medical care.

Alaska, it was thought, would be in a position to examine quality of health care for children in rural areas of the state and of Native Alaska populations. It was anticipated that conclusions from these examinations would inform Alaska state-level policy as well as practice-level quality improvements for children. The planners envisioned a consensus on the specifications and use of a dynamic and robust set of child health care quality measures by the end of the five year period.

Because of the measurement uncertainty, the Oregon team developed a multi-item, multifaceted assessment approach that included the Medical Home Index, revised short form; National Committee for Quality Assurance's Physician Practice Connections®-Patient Centered Medical Home™ (PPC®-PCMHTM) 2008 standards, and additional assessment elements that became part of the Medical Home Office Reporting Tool (MHORT) for T-CHIC. Additionally, once the Oregon Patient Centered Primary Care Home standards were defined and put into place, the total of 21 practices in Alaska, Oregon, and West Virginia that participated during the grant period were required to periodically submit information as part of the MHORT

In addition, there was a strong focus on addressing the lack of information about medical homes from a patient and family perspective, and about the views of physicians in relationship to the CHIPRA core measures, and in particular the views of rural, Family Medicine and Pediatric physicians.

Oregon has had a relatively robust system for assessing and monitoring quality of care using Medicaid encounter data, and is adept at incorporating innovative efforts into that system. For example, Oregon was the first state to use the Agency for Healthcare Research and Quality's (AHRQ) Prevention Quality Indicators, and was the first to use the Medicaid CAHPS Health Plan survey with the Children with Chronic Conditions module which required using ICD9 and CPT codes to create the sample frame.

Despite this, information allowing the attribution of care quality to individual physicians, practices, health plans, and at state level simultaneously, that is lining up the information vertically, has been lacking. The CAHPS Health Plan Survey does not have a practice-level connection, and the CAHPS Clinician and Groups survey lacks information about trying to gain access but not succeeding, nor does it have the essential information about the experience of care of children and youth with special health care needs. We were determined to develop solutions.

Hence the challenge; murky measures, ill-defined interventions, and missing key partnerships between patients and families and providers.

The Oregon team was the lead for the three state effort. Leading required resources, project management skills, staff, and attention, by Nicole Merrithew, MS, Oliver Droppers, PhD (two Project Directors during the grant period), Charles Gallia, PhD (Principal Investigator) and the constant leadership of Colleen Reuland, MS, the OPIP Director who adeptly served in this pivotal role.

An overall goal was also to demonstrate that a group of states could self-manage and undertake this type of work, serve on the cutting edge of thinking, and produce results that would be useful for other states and our federal partners. Within the existing budget constraints, the Oregon Team chose to emphasize practice-level support, Category C, and measurement production at the state level, Category A, over Category B, health information technology or health information exchanges. This choice was based on the judgment that EMR/EHR adoption and implementation would not leave practices with the organizational capacity needed to address becoming a medical home, as well as the complication it would add to any analysis. Furthermore, all eight practices in Oregon were already using and/or upgrading EHR systems during the grant period. Lastly, Oregon had received a Medicaid Transformation Grant that sought to produce an open-source patient portal for Medicaid recipients.

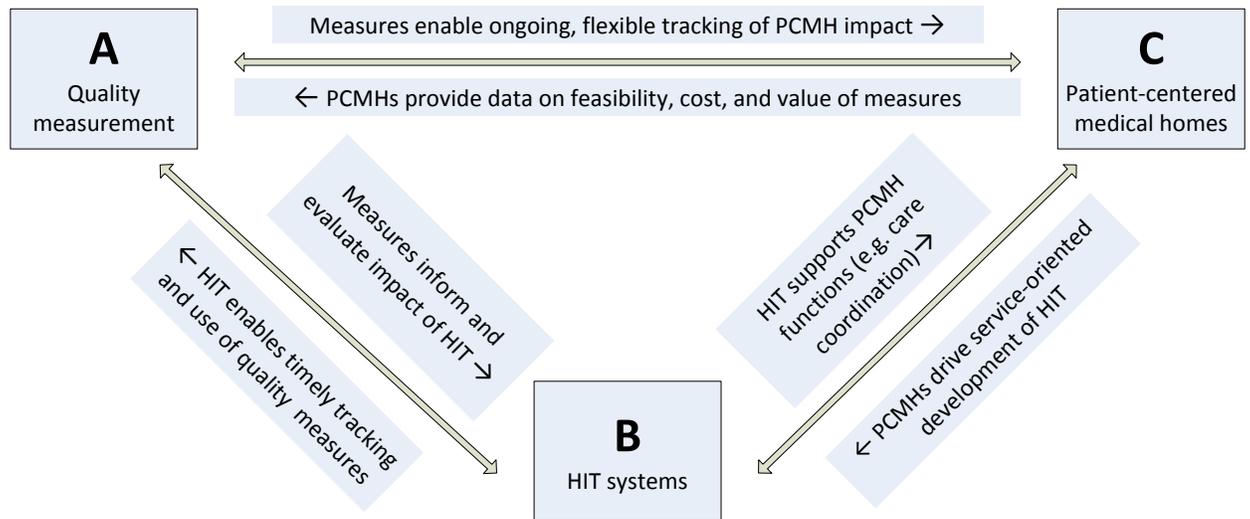
The other important part of the Oregon team's vision was to be mindful of keeping the categories integrated, in our planning and presentations, as we worked toward achieving our objectives.

Central to the project design was the integration of Categories A, B, and C. The quality measurement activities of Category A were seen as foundational to the activities in the other two areas, health information technology (HIT) development (Category B) and implementation of patient centered medical home (PCMH) models (Category C). It was anticipated that the

experimentation with measures and measurement strategies under Category A would not only improve capacity for meaningful tracking of quality improvement efforts, but would also cross categories to influence the design and evaluation of HIT systems and patient-centered models of care.

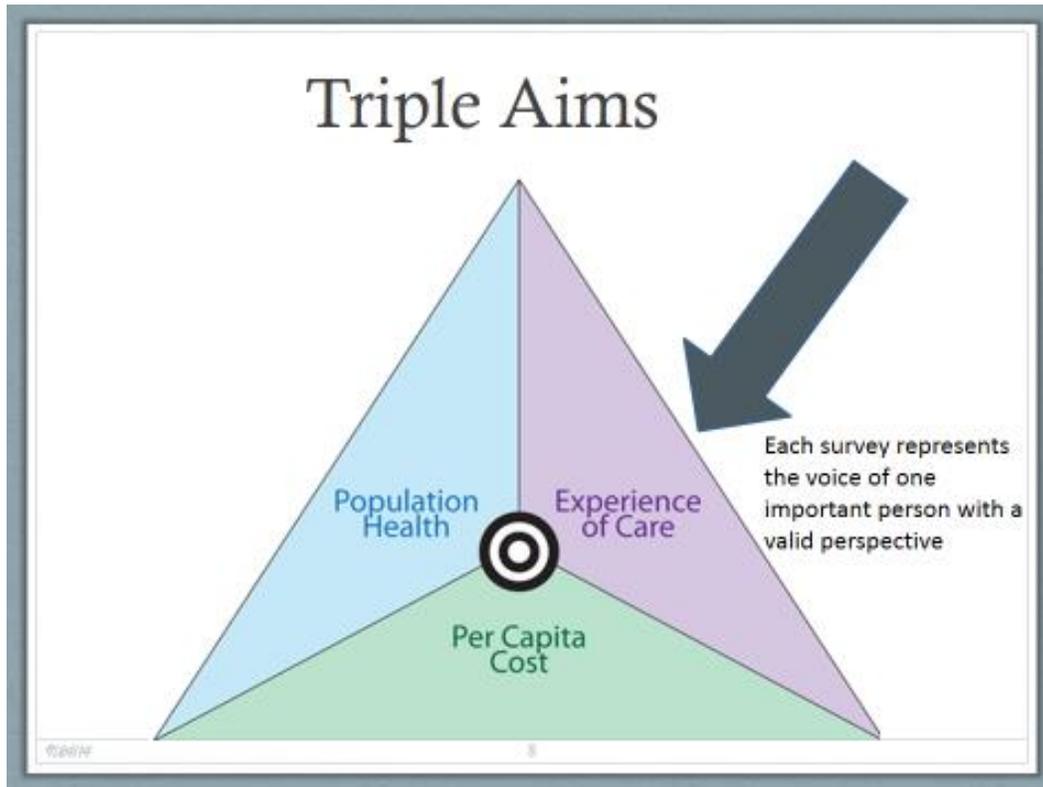
We developed and used the diagram below as a guide and reminder of the T-CHIC vision:

Figure 1 Integration of Categories A, B, and C



The diagram above is meant as a segue to the one below. The other visual we used in our meetings and presentations to keep in focus was another triangle, except the conceptualization was applicable to a broader context of change and improvements that came to guide our work: and is referred to as *The Triple Aims*. An element that had been largely missing in the CHIP Core measures and in the existent delivery systems was the patient’s perspective. All three states, and Oregon in particular, built on its experience using CAHPS survey work and addressed one of the most persistent issues in this area.

Figure 2 The Triple AIMS and role of the CAHPS survey



While we describe the issues, innovations and solutions in more detail later, the enhancements made to the CAHPS Clinician and Groups Survey with PCMH items along with a modification to the sampling approach are clearly one of the greater contributions the T-CHIC grant produced. Being able to see changes in the survey results following process and systems changes was truly helpful for practices. That solution was derived from a known gap and need, and the states and practices demonstrated that they were nimble enough to identify a potential solution and implement it twice in very timely manner.

## Category A Vision

### Category A Vision: Overall

T-CHIC sought to evaluate the CHIPRA core measures as well as develop ones focused on pediatric medical home models, identify areas of synergy and gaps in measurement needs, and experiment with measurement strategies yielding meaningful, relevant results.

The project was anchored to meeting the objectives listed in the PL 111-3, CHIPRA 2009 section on measures which called for:

*The types of measures that, taken together, can be used to estimate the overall national quality of health care for children, including children with special needs, and to perform comparative analyses of pediatric health care quality and racial, ethnic, and socioeconomic disparities in child health and health care for children.*

In the definition of the core set, Congress again stated that a core set was meant to *address the needs of children throughout the developmental age span; and allow purchasers, families, and health care providers to understand the quality of care in relation to the preventive needs of children, treatments aimed at managing and resolving acute conditions, and diagnostic and treatment services whose purpose is to correct or ameliorate physical, mental, or developmental conditions that could, if untreated or poorly treated, become chronic.*

The Tri-State consortium, by combining the efforts of three states, was expected to help address particular gaps in understanding children's health care quality. The goal was to assist in evaluating the CMS core and supplemental measures in three states and their diverse provider settings, which would result in an assessment of the validity and reliability of the measures, and, most importantly, their utility in informing quality improvement and if that set achieves the legislative directive.

It was anticipated that conclusions would inform state-level policy as well as practice-level quality improvements for children, and the planners envisioned a consensus on the specifications and use of a dynamic and robust set of child health care quality measures by the end of the five year period. In addition, that working with the National Evaluators to provide baseline and ongoing data on pediatric medical home models, results would contribute to the desired outcome of CMS and AHRQ to create a national child health care quality improvement system.

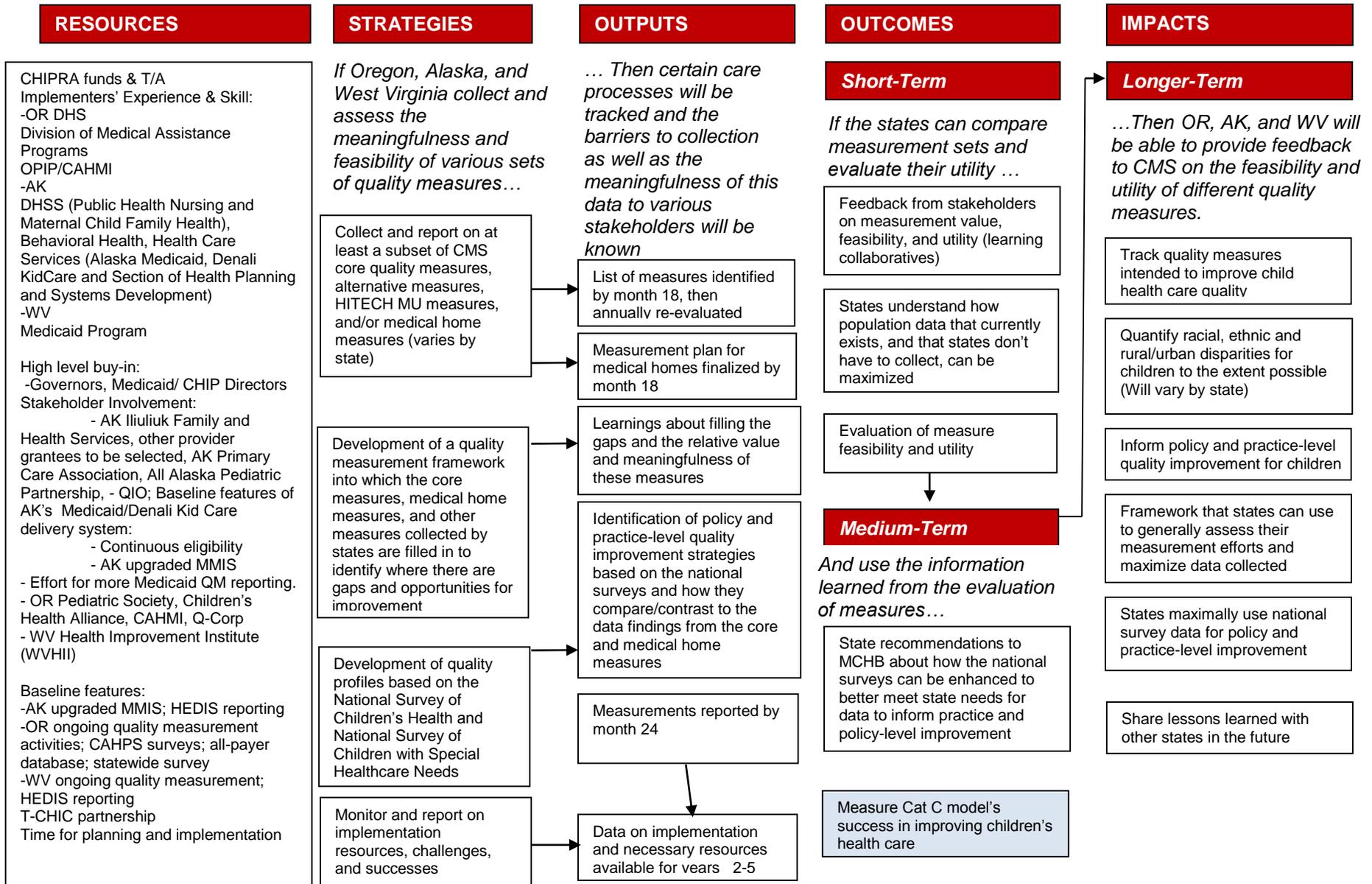
## T-CHIC Final Report

The vision for Category A identified the following objectives:

- Agree upon the set of quality measures to be collected/reported.
- Assess current medical home or patient-centered care measurement infrastructure across the partner states and identify common and state- or site-specific measures of implementation and impact for collection and reporting.
- Implement applicable core measures and measures focused on pediatric medical home models in each state. Prior to implementation, clarify measurement strategies and detailed specifications for use across the collaborative.
- Monitor implementation of the quality and medical home measures and confer with partners and stakeholders in the learning collaboratives about costs, benefits, utility, challenges or barriers.
- Complete an evaluation of the validity, reliability and utility of tested measures for driving quality improvement and prepare a detailed final report

The conceptual framework for Category A is presented in the Figure below.

Figure 3 T-CHIC Category A Logic Model



One of the objectives was to understand gaps in health care provision as well as strengths in quality of care through the lens of a patient's experience. The CAHPS surveys were used to fulfill this objective. Since neither the Health Plan version, nor the Clinician and Groups version of CAHPS surveys were designed to measure access and experience of care at both a provider and state level, a hybrid approach to the methodology was designed and implemented with approval from NCQA. Provided below is Table 1 that describes key differences in various CAHPS surveys used nationally and for the T-CHIC version.

# T-CHIC Final Report

Table 1: NQCA CAHPS Survey Comparison

	CAHPS Health Plan 5.0	Clinician and Group (C&G)	C&G PCMH	T-CHIC Revised C&G- PCMH
Who is included?	Medicaid patients with continuous enrollment in a Health Plan > 6 mo.	Patients who had a visit in the last 12 months, no Insurance coverage information	Same as C&G	Those enrolled in Medicaid or CHIP those with access to primary care, plus, the practice level, all insurance coverage types
How are they surveyed?	Both mailed and telephone	Mailing emphasis	Several choices, minor follow-up RR = <25%	Pre-notices, pre-work, Telephone emphasis in AK
Performance Benchmarks	National CAHPS Benchmarking Data Base & NCQA	National CAHPS Benchmarking Data Base & NCQA	None	T-CHIC plus new practices (n = 50)
Access	Access to: Emergency Care, Specialist Care, Special Equipment, Routine Care	Access: after hours, getting timely appointments, and to information	Same as C&G	Same as C&G however sample frame is based on a measure of overall access, specialty care and ED use.
Special populations	Children with Chronic Conditions module and adults...race and ethnicity	None	None	<i>Includes both Children and Adults with Chronic Conditions, and specifically children with special health care needs</i>
Care Coordination	For Children working with schools, and provider awareness, for adults, provider awareness		Survey Question: Provider seemed informed and up-to-date about the care received from other providers	<i>Expanded to include needing extra help coordinating care</i>
Shared Decision-making	Questions included for both adults and children	Related to Rx only	Related to Rx only and for adults only	<i>Included for both children and adults</i>

### Category A Vision: Alaska

In Alaska, plans were to assess which measures could be captured through the Medicaid Management Information System for all Medicaid/CHIP patients and to work with the new statewide Health Information Exchange (HIE) and providers to develop sustainable mechanisms for routine reporting. Additionally, Alaska Medicaid programs would be actively involved in assessing the use of measures for evaluating reimbursement policies for care management/medical home models and for potential plan modifications. Linking payment reform policy to quality improvement outcomes demonstrated through the project was envisioned as a core strategy for sustaining the quality measurement program and continuous improvements in children's health care.

### Category A Vision: Oregon

Because of the information systems that were put in place to meet the expectations of Oregon's §1115 Demonstration Waiver, the Oregon T-CHIC team volunteered to lead the effort overall, with a special emphasis on Category A and C. Oregon committed to producing all of the CHIPRA Core measures to permit comparative information for any measures that the other states produced. Oregon developed processes for assessing the validity of the results at a high level. In addition, Oregon agreed to make assessments of the measures and detail the challenges in their production. The other states were asked to produce what they would find most useful and had the capability of doing so under ordinary circumstances.

### Category A Vision: West Virginia

In 2009, when the grant proposal was written, WV Medicaid was collecting a number of Healthcare Effectiveness Data and Information Set (HEDIS) measures through its managed care contracts. However, these measures related primarily to the adult population and at that time about half of children in the state were still under a fee for service model. The CHIPRA opportunity gave West Virginia a chance to both focus on measures of quality of care for children and to consider alternative approaches to collecting data on the entire population of

## T-CHIC Final Report

children covered by Medicaid and WVCHIP, including both managed care and fee for service patients.

## **Category B Vision**

### Category B Vision: Overall

T-CHIC recruited clinical practices using electronic health records (EHRs) in an effort to support implementation activities that spanned Categories B and C. The intent was to develop an understanding of the role that effective use of EHRs, Patient Health Records (PHRs), and Health Information Exchange (HIE) could play in improving children's healthcare outcomes. The vision was to improve child health outcomes through increased provider use of EHRs, PHRs, and HIE to improve access to each child's medical record, to generate reports on practice patterns and quality, and exchange information with other providers. Nationally, the use of health information technology (HIT) is expected to improve feedback to primary care providers, coordination of care among providers, communication with patients and their families and to improve the timeliness and relevancy of data for program managers and policy makers. The use of electronic report generation and information exchange is perceived to potentially result in accurate, timely reporting on patient outcomes using the CMS and T-CHIC quality health measures, and provide feedback to providers allowing them to evaluate progress, reset practices, and refine strategies for continued improvement of children's health care. Verifiable, improved outcomes would in turn offer powerful success stories to further encourage providers to purchase and implement EHRs or PHRs and make use of HIE to the extent available within each respective state.

### Category B Vision: Alaska

In Alaska, the grant team anticipated that benefits of the Category B work would be better transmittal of clinical information, the use of common measure sets across providers to assess children's health care quality, and increased insight on how technologies and care delivery

models can be combined to yield the greatest impact on children's health care quality. To inform HIT infrastructure development under Category B, it was anticipated that PCMH providers would educate T-CHIC partners on their existing HIT capacity and unmet needs as well as provide critical feedback on how the HIT improvements implemented through the project either support or hinder providers' ability to improve the quality of care for children.

The Alaska EHR Alliance commitment was to facilitate HIT/HIE implementation and all potential partners were invested in improving/modifying EHRs and HIT systems to enable the testing and reporting to proceed. These efforts would support state Medicaid reporting on quality measures for required reporting and for undertaking program improvement. Alaska aimed to develop an HIE network for provider clinics to exchange data with each other, with patients, and authorized entities.

Health Information Exchanges were expected to facilitate the timely tracking of patients in medical home settings while also supporting the development of automated reporting. In Alaska, the HIE network was to provide quality measures reporting, but it was known at the beginning of the project that until all providers could report through the HIE, this would be limited. Until that time, the public health reporting system had to be relied upon for statewide data on all children. MMIS claims data could be used for Medicaid and CHIP children and provider EHRs would be used for their patient population.

One objective was for T-CHIC to recruit and establish agreements with operational HIE entities to provide reports on selected quality measures, with data compiled from EHR systems, thus progressing toward a functional HIT-enabled child health quality reporting system. This was to be measured by the number of formal agreements established with participating providers and HIE entities in Alaska.

In summary, the primary vision in Alaska for Category B was to ensure that quality measures were available to inform patients, providers, managers and policy makers, as appropriate, to support quality improvement. This included monitoring the contribution of HIT to quality measurement development and testing, as well as the value and challenges of using independent versus integrated exchange systems.

At the State/Tribal Medicaid Task Force, led by Paul Cartland, Alaska State HIT Coordinator, EHR efforts in the state were assessed regularly. Tribal Health Corporations have been an integral part of telemedicine development in Alaska and are key partners in the HIE.

## T-CHIC Final Report

Public Health Nursing has worked with the Alaska Native Tribal Health Consortium and its member health corporations for more than a decade on data sharing using Resource and Patient Management System (RMPS). Alaska also expected to identify RPMS users during the project and leverage their knowledge of RPMS within participating sites.

Reports generated from EHR systems (and potentially, ultimately, health information exchanges) were intended to give provider teams and individuals accurate, timely reporting on patient outcomes.

Anticipated benefits of the CHIPRA demonstration includes better transmittal of clinical information; the use of common measure sets across providers to assess children's health care quality; and increased insight on how technologies and care delivery models can be combined to yield the greatest impact on children's health care quality. To inform HIT infrastructure development under Category B, it was anticipated that PCMH providers would educate T-CHIC partners on their existing HIT capacity and unmet needs as well as provide critical feedback on how the HIT improvements implemented through the project either support or hinder providers' ability to improve the quality of care for children.

The Alaska EHR Alliance commitment was to facilitate HIT/HIE and all potential partners were interested in improving/modifying EHRs and HIT systems to enable the testing and reporting to proceed.

The broader vision was that T-CHIC would recruit providers already using EHRs in their clinical practices to assess the effectiveness of the use of EHRs and HIE. The use of HIT and HIE was expected to improve exchange of information and feedback to primary care providers, coordination of care, access to medical records, access to care, accurate communication with patients and their families, as well as enhancing the timeliness, accuracy and relevancy of data for clinics, program managers and policy makers. The use of electronic report generation and information exchange was expected to result in accurate, timely reporting on patient outcomes using the CMS and T-CHIC quality health measures, and would provide feedback to providers to enable them to progress, reset practices, and refine strategies for continued improvement of children's health care.

These efforts would support state Medicaid reporting on quality measures for required reporting and for undertaking program improvement. Alaska aimed to develop an HIE network for provider clinics to exchange data with each other, with patients, and authorized entities.

## T-CHIC Final Report

To achieve its vision, the T-CHIC aimed to demonstrate practice changes and improved healthcare outcomes for children through the use of EHRs and HIE. This technology was to provide a timely exchange of information between participant partners using the measures collected as part of Category A. Experimentation with measures and measurement strategies under Category A was to yield valuable information about what types of HIT systems and features are most acceptable to users and consumers and which show the greatest potential for driving practice improvements.

EHRs were expected to facilitate the timely tracking of patients in medical home settings while also supporting the development of automated reporting. In Alaska, the HIE network was intended to provide quality measures reporting, but it was known at the beginning of the project that until all providers could report through the HIE, this would be limited. Until that time, the public health reporting system had to be relied upon for statewide data on all children. MMIS claims data could be used for Medicaid and CHIP children and provider EHRs would have to be used for their patient population.

One objective was for T-CHIC to recruit and establish agreements with operational HIE entities to provide reports on selected quality measures, with data compiled from EHR systems, moving towards a functional HIT-enabled child health quality reporting system. This was to be measured by the number of formal agreements established with participating providers and HIE entities in Alaska.

In summary, a main objective was to ensure that quality measures were available to inform patients, providers, managers and policy makers as appropriate to support quality improvement. This included monitoring the contribution of HIT to quality measure development and testing, as well as the value and challenges of using independent versus integrated exchange systems.

As a care integration tool, HIT and HIE used under Category B were to increase the efficiency and quality of care while also enabling some of the core functions of patient-centered care models, and providing the infrastructure for timely use of quality measures. These alternative care models would provide insights into which characteristics of medical homes have the greatest impacts on patients' experience of care and health outcomes, the usefulness and relevance of the measures of care quality, and reduction in unnecessary care.

## T-CHIC Final Report

### Category B Vision: Oregon

Oregon's vision for Category B was limited. In T-CHIC's initial grant application to CMS in 2009, specific objectives for Category B were not listed for Oregon. That said, Oregon anticipated that implementation activities described in the 2012 operational plan would help to inform the following objectives related to Category B: (1) the role and potential use of certified EHRs in monitoring and reporting on child health quality metrics, (2) the impact of EHRs on the operation of medical home models, and (3) demonstration and use of EHRs as a communication tool between patients, providers and care coordinators. In Oregon, there were eight practice sites included; three family practice sites and five pediatric sites.

### Category B Vision: West Virginia

The T-CHIC grant application pre-dated the introduction of the CMS EHR Incentive Program and the establishment of Regional Extension Centers and Health Information Exchanges supported by the Office of the National Coordinator for Health IT; the environment at the time regarding the use of HIT was very different than it is today. In West Virginia, pilot projects conducted under Medicaid Transformation Grant (MTG) activity identified several barriers to data collection at the practice level as well as to the desired migration to a medical home model of care delivery. Through the Transformation Grants, the state had begun work on developing a personal health record (PHR) by modifying the open source software used by the Veteran's Administration and the My Health-e Vet application. The PHR was seen as a potential way to collect source data needed to calculate some of the CHIPRA quality measures. The use of a PHR as a communication tool between members of the care team and patients/families was also viewed as a way to facilitate care coordination. During the state's medical home pilot projects, care coordination was one of the most difficult aspects of a patient-centered medical home for practices to implement.

## **Category C Vision**

### Category C Vision: Overall

Through exploration, development, implementation, and evaluation of medical home characteristics, the multi-state consortium hoped to identify attributes of PCMH models that are viable and replicable in multiple environments. The models would be data driven and efficient, would support exemplary care for all children, and will promote improved children's health outcomes. Recommendations resulting from testing the models will be rooted in patient needs, family preferences, and objective external evaluation. By the project's conclusion, PCMH model testing was to provide vital information for efforts to drive systemic change in child healthcare outcomes and to develop a national quality care framework for children.

We were interested in understanding the magnitude of effort needed to become effective medical homes, and chronicling the challenges and lessons learned along the way.

### Category C Vision: Alaska

Alaska's T-CHIC mission as related to Category C was to experiment with new and expanded patient-centered medical home (PCMH) model(s) of care as well as care coordination activities for children in Alaska.

Under Category C, Alaska planned to implement a medical home model based on the following seven core competencies:

Competency #1: Patient Access

Competency #2: Accountability and Quality Improvement Utilizing Population

Approaches to Care

Competency #3: Patient/Family Centeredness

Competency #4: Continuous Culturally Effective Care

Competency #5: Coordinated and Clinically Managed Care

Competency #6: Team-based, Comprehensive Care

Competency #7: Cost Control and Alternative Payment Options

These competencies were listed in the Request for Proposals for Alaska clinical grantees. The plan was for implementation of alternative care models that use team based care, onsite care

coordinators, greater use of telephone and e-visits, enhanced screening and identification, enhanced EHR models using population-based measurement and other innovative practice team models developed through the medical homes efforts under Category C.

### Category C Vision: Oregon

Oregon built upon already established, firm relationships between the state's Medicaid program, Oregon's Pediatric Improvement Partnership (OPIP), and the Oregon Rural Practice based Research Network (ORPRN) to facilitate and assess medical home implementation. Just as the CHIPRA legislation passed at the national level, the Oregon Legislature directed the Oregon Health Authority (OHA) to adopt standards for Patient Centered Medical Homes. Consequently, even before the CHIPRA Grant was awarded, the challenge of defining a patient-centered medical home emerged. Before the Enhancing Child Health in Oregon (ECHO) Learning collaborative project began, OPIP convened a group of public and private stakeholders from across the state to provide input about which CHIPRA-funded efforts would be most meaningful and influential to informing improvements in medical homes for children and Children and Youth with Special Health Care Needs, (CYSHCN). The design parameters developed by this group of engaged stakeholders became the framework for the proposal for the structure of the ECHO learning collaborative and topic focus of the learning collaborative efforts.

Even as the vision was undergoing refinement and clarification in the CHIPRA grant final operational plan, the role of the practices in Oregon shifted from informing our project and our federal partners to informing the state as well. Oregon had developed Patient Centered Medical Home standards that were to be used as a basis for accreditation and differential reimbursement by both public and private payers. The standards and their associated measures were to be assessed for their applicability to pediatric populations and care settings, and modified as necessary during T-CHIC's planning phase. Mature medical homes were already operational in a number of clinics, so these sites were well positioned to consider adjustments necessary for demonstration of a pediatric medical home model. Similarly, the state's Assuring Better Child-health and Development (ABCD) partnership already established mechanisms of care coordination between health care providers, educators, and early intervention specialists and is currently exploring related reimbursement structures; their work, too, was intended to inform development of the pilot pediatric medical home model to be evaluated under this category.

## T-CHIC Final Report

The initial vision was to assess, if possible, which domains of becoming medical homes contributed the most to improved health outcomes.

### Category C Vision: West Virginia

West Virginia had conducted several small medical home pilot projects and these identified a lack of resources to provide care coordination and care management services as a significant barrier to medical home implementation. However, the state was not ready to consider any system of payment reform to fund the resources that practices said they needed to support these functions. Additional evidence was needed to convince the payers that the medical home model would result in better outcomes, better experience, and lower cost. It was felt that by providing care coordination resources through the T-CHIC grant, practices would be willing and able to move to a medical home model and in so doing, would provide quantitative and qualitative evidence that this model would make a difference.

## **Category A Implementation and Results**

### **Category A Implementation: Overall**

As previously stated, Oregon produced and submitted all of the initial core set of measures and provided a detailed assessment of the production. Oregon also worked with OCHIN and ORPRN to assess facets of the core measures resulting in articles published in peer reviewed literature. Please see Appendix B for two of the articles that were published as a result of this work. T-CHIC did a mindful assessment of challenges of producing the measures, going beyond the theme of needing greater technical specification clarity. The best way to convey what was accomplished in Category A overall is the summary Table 2 below showing state measure submission and rates by year.

# T-CHIC Final Report

Table 2 State Measure Rates 2012 and 2014

Initial Core Measure	Alaska		Oregon		West Virginia	
	2012	2014	2012	2014	2012	2014
Timeliness of Prenatal Care			63.2%	82.9%	89.0%	82.3%
Frequency of Ongoing Prenatal Care (≥81%)			11.4%		78.3%	79.1%
Percentage of Live Births <2500 grams	7.4%	6.8%	6.5%	5.6%		
Cesarean rate for nulliparous singleton vertex	15.2%		24.2%		36.9%	34.6%
Childhood Immunization (Combination 2)			85.8%	67.8%	64.9%	69.1%
Immunizations for Adolescent (Combination)			48.7%	55.1%	71.5%	74.0%
Weight Assessment and Counseling			0.8%*	0.4%	31.8%	34.2%
Developmental Screening by 12 months	9.2%	6.6%	18.5%	42.6%	40.1%	43.5%
Chlamydia Screening for Women	37.0%	44.7%	47.8%	43.2%	37.5%	
Well-Child Visits First 15 Months of Life (6+ visits)	43.4%	67.0%	55.4%	50.2%	69.2%	77.2%
Well-Child Visits in the 3 <sup>rd</sup> , 4 <sup>th</sup> , 5 <sup>th</sup> , and 6 <sup>th</sup> Years	46.7%	48.1%	54.8%	76.1%	67.3%	72.6%
Adolescent Well-Care Visits	25.9%	30.6%	25.9%	38.2%	46.1%	47.0%
Received Preventive Dental	43.4%	45.6%		43.2%	41.6%	35.5%
Access to PCPs	85.1%	84.4%	86.7%	89.8%	88.8%	88.0%
Pharyngitis: Appropriate Testing	66.0%		71.5%			
Otitis Media with Effusion						
Received Dental Treatment	27.4%			37.4%		
ED Visits per 1000 member months	47.2%	41.6%	38.2%	44.1%	7.0%	
Pediatric Catheter-Associated Blood Stream Infection						
Asthma: ED Visits	12.9%		8.5%	14.8%		
ADHD Follow-up (Initiation phase)	55.7%	59.3%	52.3%	57.7%	100.0%	99.1%
Hemoglobin A1C Testing			74.5%	86.7%		
Follow-up after mental illness related hospitalization (7-day follow-up rate)	30.3%	13.9%	53.5%	26.3%	57.2%	65.6%
CAHPS [T-CHIC Modified Version] (submission yes or no)	Y	Y	Y	Y	Y	N

\*No longer calculated using administrative data

### Category A Implementation and Results: Alaska

Alaska reported in the Children's Annual Report Template System (CARTS) 13 of the 24 core set of children's quality measures using administrative claims data and vital records at the state level for FFY 2011. Alaska was the only state able to prepare results for the reporting year two groups originally identified. Alaska reported separate data for Medicaid FFS, CHIP FFS, and the combined group (i.e. individuals who were in either Medicaid FFS or CHIP FFS during the continuous enrollment period) for the following measures:

- #3 Percentage of live births weighing less than 2,500 grams
- #9 Chlamydia screening
- #10 Well-child visits in the first 15 month of life
- #11 Well-child visits in the third, fourth, fifth and sixth years of life
- #12 Adolescent well-care visits
- #13 Percentage of eligibles receiving preventive dental services
- #14 Children and adolescent access to primary care practitioners
- #15 Appropriate testing for children with pharyngitis
- #17 Total eligibles who received dental treatment services
- #18 Ambulatory care: emergency department visits
- #20 Annual percentage of asthma patients with one or more asthma-related emergency room visits
- #21 Follow-up care for children prescribed attention-deficit/hyperactivity disorder (ADHD) medication
- #23 Follow-up after hospitalizations for mental illness

Alaska was recognized at the CMS National Quality Conference in June 2012 in Baltimore as one of seven states who reported on more than half of the children's core set of quality measures.

Alaska continued to work closely with the Oregon Medicaid Senior Policy Advisor and OPIP staff on further enhancement of reporting at the state level. In the FFY 2012 Children's Annual Report to CMS, Alaska Medicaid/CHIP reported on 15 of the 24 core children's quality measures utilizing CY 2011 data, unless otherwise specified, which were two more than were reported the previous year (previous list plus addition of #4, Cesarean rates for nulliparous

## T-CHIC Final Report

singleton vertex presentation births and #8 Developmental screening in the first three years of life).

In late FFY 2012, the CHIP Manager began work on identifying priority areas with the Women's, Children's and Family Health Epidemiology staff to begin to develop Department strategies for improvement related to children's quality of care provided through Medicaid and CHIP, Denali KidCare. Work focused on setting the Medicaid/CHIP goals and developing and implementing strategies to enable moving from the initial reporting phase to the quality improvement phase in FFY 2013.

Alaska provisionally reported a subset of 15 of 25 of the children's core set in the FFY 2013 CHIP Annual Reporting Template System and opted not to develop alternate set. The state-level measures incorporated the May 2013 updated CMS specifications utilizing CY 2012 administrative claims data. The children's measures were reported provisionally given data validity concerns. The Alaska T-CHIC staff and partner staff within the Medicaid/CHIP program developed and used a template for the reporting of statewide quality measures (from the 24 Core Quality Measures) that have been determined to be feasible to report into the CARTS program. The caveats, definitions, and limitations of some of the measures are documented on the template.

The Children's Health Insurance (CHIP) Manager, in the Medicaid and Health Care Policy Unit, worked with the Alaska Department of Health and Social Services, Division of Public Health to develop the children's CAHPS 5.0H sample design, including Children with Chronic Conditions (CCC) Supplement. A contract to the NCQA-certified vendor, DataStat, was awarded in the autumn of 2013 and the kickoff meeting between DataStat and the Department was held in December 2013.

The Department worked with Oregon and West Virginia and DataStat through the T-CHIC project during the first half of 2014 to plan for the T-CHIC CAHPS PCMH C&G survey which was administered in the fall of 2014. Significant consultation was provided by OR to AK, at the state level, to integrate a workable pseudo sample frame from Medicaid administrative claims data for both adults and children to create a pseudo practice so that CHIPRA state level federal CAHPS reporting requirements under CHIPRA would be met.

All three Alaska grantee practices, as well as three other practices in the state, agreed to participate in the 2014 PCMH CAHPS-CG patient experience of care survey. This is a

significant improvement, as only one practice agreed to full participation during the first survey in 2012. Also, participation in the CAHPS project was an excellent opportunity to collaborate with other clinics in Alaska, including private pediatric practices.

Alaska continued work on implementation of Medicaid Early Periodic Screening Diagnosis and Treatment (EPSDT) developmental screening policy to include use of the modifier 33 with the 96110 CPT code to identify when one of the NQF-endorsed standardized screening tools has been used, thus facilitating meaningful child quality measurement on the developmental screening measure.

*Category A Implementation and Results: Alaska Practice-level quality measurement and reporting*

Alaska's effort to specify PCMH measures in the first year of the grant (related to developing reporting tools and a reporting plan) has included the following:

- Refining the description of PCMH "core competencies" and elements thereof for presentation at the Alaska Health Summit in January 2011, and for inclusion in the RFPs for grantees;
- Engaging in tri-state calls to further focus on areas of difference and commonality, and
- Conducting literature/document review and participating in national calls on PCMH conceptual development, implementation, and measurement including becoming familiar with the most accepted and/or proposed tools for measurement (AAP, NCQA, and MHI).

In 2011, Oregon's Medicaid Senior Policy Advisor, Charles Gallia, PhD, worked closely with Alaska's T-CHIC project manager and Denali KidCare Coordinator (also Category A manager for this project) in meeting with over 20 Alaskan stakeholders to solicit attitudes, increase awareness, and provide technical guidance on how to integrate the quality measures, EHRs and PCMHs in order to effect accurate and measurable quality improvement for children's health care in Alaska. A summary of those findings and recommendations are attached as Appendix C.

## T-CHIC Final Report

Activities planned around the objectives outlined above were largely accomplished, with a few mid-course adjustments as the project evolved and more was discovered about limitations of EHRs.

Alaska's RFP specified that grantees would be expected to comment on the full set of proposed core measures, and to propose alternative measures if they believed they could identify specifiable, useful measures. The Alaska T-CHIC team initially planned to work with grantees to get baseline comments on the 24 core measures by Oct 1, 2011; however, this work was delayed due to the challenges encountered with awarding the three grantee practices. Comments were collected in early 2012, and the first report on the subset of eight measures was due on July 31, 2012. Although the initial goal was to be able to compare core quality measures between practices across the project, as the practices reports came in, it became clear that due to variations between EHRs and interpretations of the specifications, comparison across practices, within or between states, would not be meaningful.

With support from OPIP, Alaska conducted quarterly meetings to go over the specifications and concerns about the feasibility and meaningfulness of the Core Measures with the grantees. The OPIP provided tools to assist with these activities to assure consistency across all three states. Alaska and West Virginia T-CHIC staff and grantees worked to identify quality measures that could be used across the project to compare performance, and to identify improvements that could be made within the practices.

The reporting template form for the CHIPRA core quality measures was changed to ask practices to indicate whether a particular measure was related to a Plan Do Study Act (PDSA) cycle or other quality improvement focus. Improvements were seen in the domains for which T-CHIC had prioritized quality improvement work: well-child visits, developmental screening, and BMI assessment.

In addition to the revisions made to the reporting template by Alaska staff, feedback was solicited through a technical assistance contract with OPIP. OPIP provided a memo outlining several areas for improvement on the form. These suggestions were implemented the next time grantees reported on quality measures. This process yielded a number of recommendations on the template format, many of which were incorporated.

T-CHIC staff also included relevant data from the MHORT beneath each section of the template so practices could readily see their status. Improvements were seen in the domains for

## T-CHIC Final Report

which T-CHIC had prioritized quality improvement work: well-child visits, developmental screening, and BMI assessment.

Practice-level quality measures reporting had been scheduled to take place in November 2013 as part of a semi-annual quality measures reporting plan. However, after discussions with both practice staff and T-CHIC leadership, the decision was made to forgo the 6-month report in favor of reporting in 12 months (February 2014) for calendar year 2013. The consensus was that the 12-month span of time would be more meaningful in terms of examining changes in the metrics being reported, as February 2013 was at the start of a more focused period of improvement, and February 2014 reports would provide a sufficient time period to demonstrate meaningful change in quality measures.

In 2012, Alaska began working with its three grantee practices to select quality measures for reporting. Practices reviewed the full set of CMS core measures and documented comments on the feasibility, usefulness, and relevance of each one. After this analysis, it was decided that the practice sites would report on the following subset of measures by July 31, 2012, concurrent with their annual grant reports:

- #5 Childhood immunization status
- #6 Immunizations for adolescents
- #7 Weight assessments and counseling for nutrition (BMI)
- #8 Developmental screening in the first 3 years of life
- #10 Well-child visits in first 15 months of life
- #11 Well-child visits in the third, fourth, fifth and sixth years of life
- #12 Adolescent well-care visits
- #22 Annual hemoglobin (HbA1c) testing

T-CHIC staff developed templates and instructions for reporting these measures after cross-walking CMS definitions and specifications with Uniform Data System (UDS) and Meaningful Use (MU) specifications. Alaska's grantee practices identified modifications needed to better align with reporting already done through UDS or Meaningful Use. This activity helped Alaska confirm the definitions to be applied and make measures applicable to the practice level.

The template was a form that included instructions, definitions, and references (links) to the complete specifications for each measure. It was arranged worksheet-style, with boxes for

## T-CHIC Final Report

entering the numerator, denominator, and calculated rates. The form asked for the measurement period being reported (calendar year, fiscal year, or other, with state fiscal year preferred), data source (EHR, billing data, or pharmacy or lab data as applicable), and the payment source being reported (separate reports for Medicaid/KidCare only and All Payers were required), and also provided space for comments and clarifications for the sites who wished to share more about their processes.

These forms were distributed to grantee sites electronically as a Word document form, to be returned either electronically or via fax, by July 31, 2012. All three sites reported on all eight chosen measures, and each measure was reported both for all payment sources and stratified for Medicaid/KidCare only. The Alaska T-CHIC team reviewed the information and calculations for completeness and accuracy, and sought additional information from practices when necessary. The team was able to compare rates between practices and also within practices by payment type. Ultimately, the Alaska T-CHIC team found that this template facilitated the standardization of reports and planned to utilize it again, with minor modifications, for the next reporting period.

After the initial exercise of gathering data and reporting on the quality measures, grantees continued to accomplish tasks related to reporting on quality measures. Southcentral Foundation (SCF) purchased a certified EHR module to report on clinical quality metrics. Iliuliuk upgraded its EHR in October 2012, and received training from the vendor on using the report-writing tool more effectively for reporting on both UDS and T-CHIC quality measures. Peninsula initially experienced challenges gathering data from its EHR for the report, but took steps to improve staff capacity in this area. Having undertaken the reporting process once, the practices sought to be more prepared going into the next round of reporting quality measures.

The revised reporting form was circulated to clinics via e-mail mid-February 2013 and completed forms were returned via e-mail by each of the three grantee sites by March 15, 2013. Again, the Alaska T-CHIC team reviewed the information and calculations for completeness and accuracy, and sought additional information from practices if necessary. The results were compiled onto a single spreadsheet organized by site, time period, and payer type. Another version of this spreadsheet included state Medicaid rates for comparison where available. A number of observations were noted comparing data across grantee sites, within grantee sites over time and payer type, and between grantee clinics and state.

## T-CHIC Final Report

Each Alaska practice chose two or three of the subset of eight quality measures to focus on for improvement in 2014; certain measures have increased meaningfulness for practices. Two grantees chose to focus on improving rates of developmental screening, and the third grantee chose improving BMI measurement and well-child visits. Grantee phone meetings and in-person visits over this reporting period were able to focus on strategies for linking data and quality improvement, and quality improvement strategies particular to the areas being prioritized for improvement activities: BMI/weight assessment, well-child checks, and developmental screenings. In the case of Alaska grantees, the baseline data took longer to collect, but now that practices are more comfortable with the reporting process and are generating more accurate reports, data will be able to show a clearer before-and-after measurement to demonstrate the results of quality improvement processes.

The Alaska T-CHIC team reviewed the MHORT and CAHPS-CG results during selected biweekly meetings in which grantee progress and barriers were discussed, topics selected for grantee teleconferences/webinars, and proposed meeting agendas reviewed. Prior to each learning collaborative call, a handout was compiled with all the related data from MHORT, CAHPS-CG, and core quality measures reporting. These attachments were sent to participants on the call and helped connect the call topics. Between mid-2013 and 2014, meetings were held on the following topics:

- Referral Tracking and Management
- Self-Management Strategies and Stages of Change
- Core measures and Quality Improvement
- Quality Improvement Area-Developmental Screening

T-CHIC Alaska also coordinated with T-CHIC in West Virginia so that the Alaska grantees could join their webinars on Improving BMI Documentation and Follow-up.

The T-CHIC team also utilized outcomes from the MHORT, CAHPS and CHIPRA quality measures reports to inform a contract with practice facilitators from the Alaska Primary Care Association (APCA).

Grantee practices reported for a third and final time in February 2014, on calendar year 2013 data. Between the initial reporting of core measures in 2012 and the reports collected in February 2014, specific improvements and progress in reporting abilities were noted in a number of areas. One grantee site had previously not been able to report separately on Medicaid/CHIP

## T-CHIC Final Report

rates and the combined rates, but in this latest report was able to produce a report that was stratified by payment source as requested. This same clinic was able to report more completely on vaccinations than previously due to a further familiarity with the clinic EHR. Grantees reported a better understanding of whom to include in the denominator and more familiarity with the reporting process.

All the demonstration sites reported that they had quality improvement projects tied to the CHIPRA measures, with the T-CHIC contacts at the rural sites being more directly involved with implementing the tests of change such as contacting parents to bring in their kids. They developed T-CHIC teams and reviewed the quality measures reports and coordinated activities to improve them. Successes shown in the PDSA's at Iliuliuk include floor staff now measuring height and weight on all patients being seen for the first time during the calendar year, and putting the education forms in the EHR charts with the sports physical forms that were completed in May. They report that slowly parents and staff have been changing their attitudes about the need for annual WCC's.

Having a wealth of information from the results of the MHORT, the CAHPS-CG survey, and core quality measures was beneficial for the T-CHIC team and grantee sites. These data were used to inform the choice of topics for grantee learning collaborative calls and also to inform tests of change at the practice level. However, at least one site reported difficulty with trying to implement too many different changes at the same time. The T-CHIC team used these results to identify topics where grantees could benefit from learning, and invited both guest experts and well-performing grantees to report during calls on strategies for certain topics, for example, self-management, referral, and developmental screening.

The exercise of reporting on quality measures provided a great deal of insight into the reporting process and an opportunity to delve into the details of the specifications. This process challenged assumptions at both the clinic and state levels regarding capabilities of EHRs for quality measures reporting. Phone calls and in-person conversations with grantees on the reporting process were particularly valuable for understanding the specifics of the process and for appreciating some of the difficulty associated with retrieving data from EHRs

## T-CHIC Final Report

### Category A Implementation and Results: Oregon

Oregon was the first, and to date, the only state to meet an expectation for grantees working on Category A, that is, to produce and submit all 24 of the core measures. In so doing, we also provided detailed feedback on each measure to CMS on the challenges and questions raised in the process. But the work Oregon did wasn't to simply critique the measures; we sought to meet the objectives of the enabling legislation. More importantly though, Oregon has incorporated 13 of the 26 core measures into its health care transformation effort, and uses these measures to monitor and evaluate the services we provide through our managed care organizations and regularly report them. We also provide measurement dashboards to each of the 16 managed care organizations, called Coordinated Care Organizations (CCOs) in Oregon. On an ongoing basis the 2016 Child Core Set measure are now built into Oregon's Transformation Reporting. The child core measures Oregon uses are highlighted below.

*Table 3 Child Core Measures Used by Oregon*

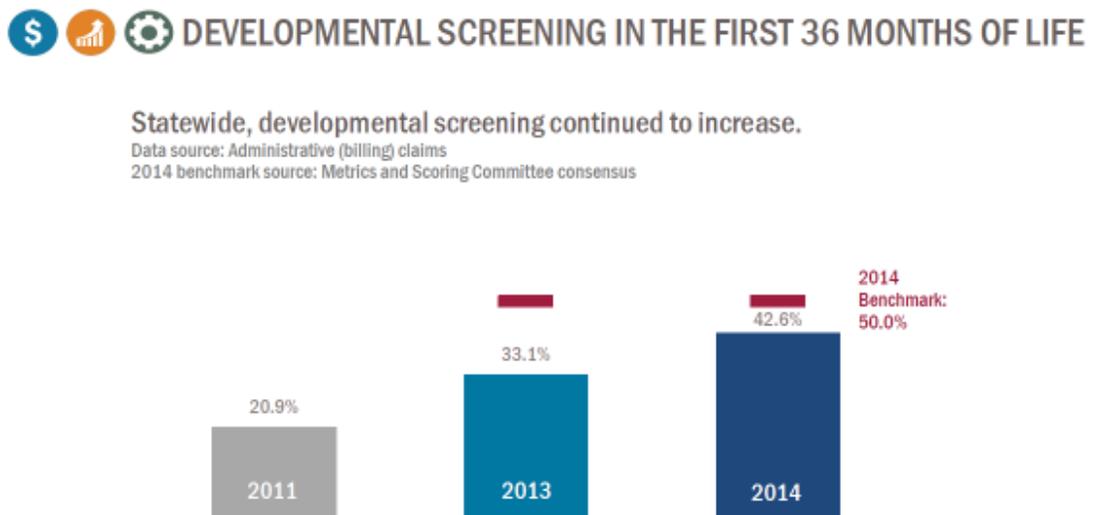
NQF Number	Steward	Measurement Name
NA	NCQA	<b>Child and Adolescents' Access to Primary Care Practitioners (CAP)</b>
<b>Preventive Care</b>		
0033	NCQA	<b>Chlamydia Screening in Women (CHL)</b>
0038	NCQA	<b>Childhood Immunization Status (CIS)</b>
1392	NCQA	<b>Well-Child Visits in the First 15 Months of Life (W15)</b>
1407	NCQA	<b>Immunizations for Adolescents (IMA)</b>
1448	OHSU	<b>Developmental Screening in the First Three Years of Life (DEV)</b>
1516	NCQA	Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life (W34)
1959	NCQA	Human Papillomavirus Vaccine for Female Adolescents (HPV)
NA	NCQA	<b>Adolescent Well-Care Visit (AWC)</b>
<b>Maternal and Perinatal Health</b>		
0139	CDC	Pediatric Central Line-Associated Bloodstream Infections – Neonatal Intensive Care Unit and Pediatric Intensive Care Unit (CLABSI)
0471	TJC	PC-02: Cesarean Section (PC02)
1382	CDC	Live Births Weighing Less Than 2,500 Grams (LBW)
1391	NCQA	<b>Frequency of Ongoing Prenatal Care (FPC)</b>
1517	NCQA	<b>Prenatal &amp; Postpartum Care: Timeliness of Prenatal Care (PPC)</b>
1360	CDC	Audiological Evaluation No Later Than 3 Months of Age (AUD)*
NA	AMA-PCPI	Behavioral Health Risk Assessment (for Pregnant Women) (BHRA)
<b>Behavioral Health</b>		
0108	NCQA	<b>Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication (ADD)</b>
0576	NCQA	<b>Follow-Up After Hospitalization for Mental Illness (FUH)</b>
1365	AMA-PCPI	Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment (SRA)

## T-CHIC Final Report

NQF Number	Steward	Measurement Name
NA	AHRQ-CMS CHIPRA NCINQ	Use of Multiple Concurrent Antipsychotics in Children and Adolescents (APC)*
<b>Care of Acute and Chronic Conditions</b>		
0024	NCQA	Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents – Body Mass Index Assessment for Children/Adolescents (WCC)
1799	NCQA	Medication Management for People with Asthma (MMA)
<b>NA</b>	<b>NCQA</b>	<b>Ambulatory Care – Emergency Department (ED) Visits (AMB)</b>
<b>Oral Health</b>		
<b>2508</b>	<b>DQA (ADA)</b>	<b>Prevention: Dental Sealants for 6–9 Year-Old Children at Elevated Caries Risk (SEAL)</b>
NA	CMS	Percentage of Eligibles Who Received Preventive Dental Services (PDENT)
<b>Experience of Care</b>		
<b>NA</b>	<b>NCQA</b>	<b>Consumer Assessment of Healthcare Providers and Systems (CAHPS®) 5.0H (Child Version Including Medicaid and Children with Chronic Conditions Supplemental Items) (CPC)</b>

Examples of how these measure are used and reported follows. The first approach shows trends against benchmarks.

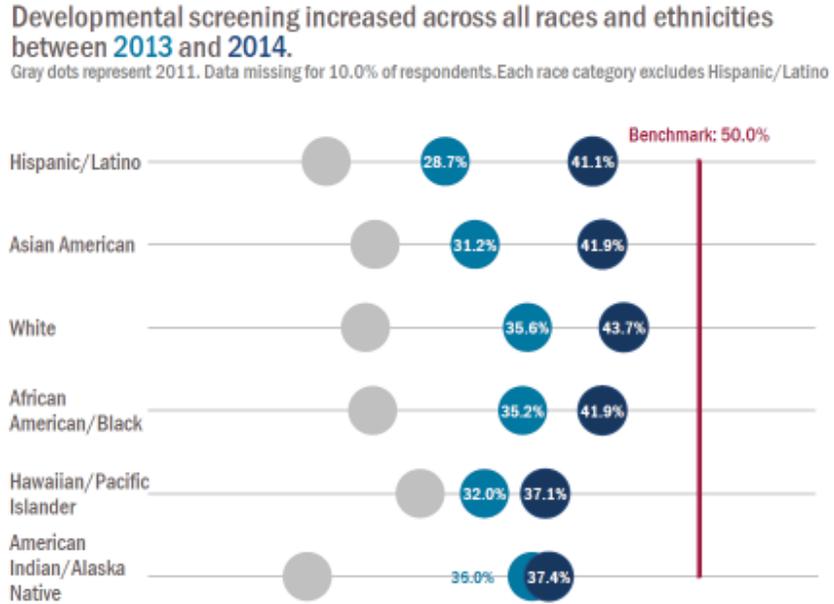
Figure 4 Core Measure, Change Over Time



# T-CHIC Final Report

Oregon also stratified these measures by race and ethnicity and publicly report those results as well.

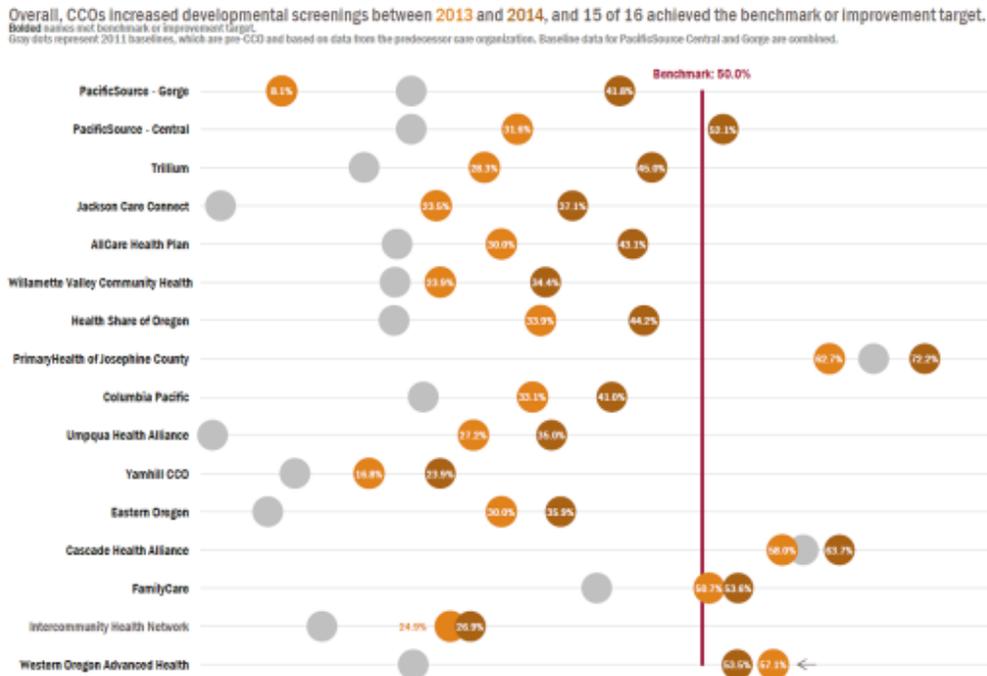
Figure 5 Core Measure By Race and Ethnicity



Oregon also produces and publicly reports comparisons between managed care organizations.

# T-CHIC Final Report

Figure 6 Core Measure By Managed Care Organization



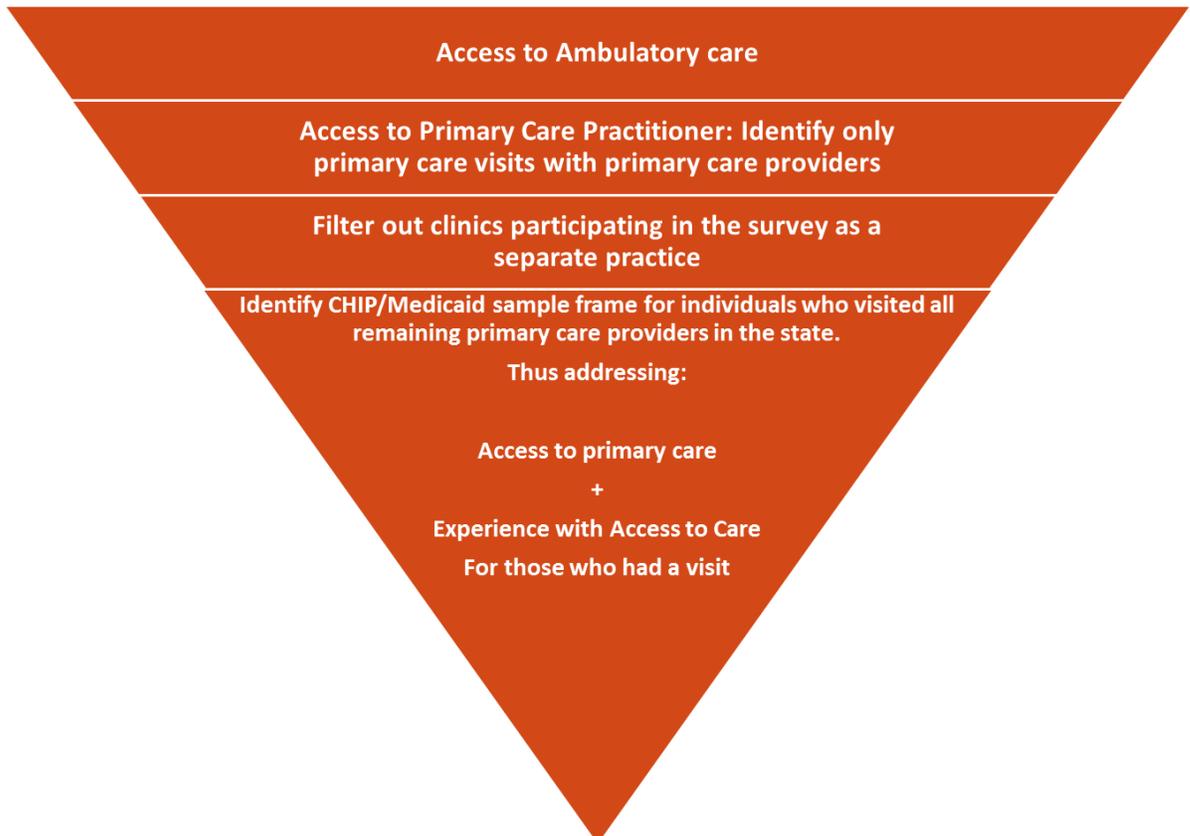
T-CHIC facilitated and supported the implementation of the Consumer Assessment of Health Plans Survey - Patient Centered Medical Home survey (CAHPS-PCMH), for the triple purpose of (1) meeting the CHIPRA federal mandate to states to conduct a patient experience of care survey, (2) providing practices applying for PCMH recognition with a survey that met the requirements and could support/inform their practice-level transformation work, and (3) providing the patient perspectives on components of PCMH implementation of interest to the project, and to assess if patients experience improvements in processes and systems reported by the practices. The T-CHIC Principle Investigator (PI), with full support from the three state teams, was also able to get permission to use the CAHPS Clinician and Groups version, with assurance that the underlying CHIP population could be identified and reported separately. The T-CHIC PI also obtained CMS and NCQA approval to include questions of particular relevance in Alaska as well as Oregon and West Virginia, including CYSHCN, care coordination and “shared decision making” questions.

Successful deployment of the CAHPS PCMH CG in 2012 and 2014 (reported on CARTS in 2013 and 2014) was an accomplishment made possible by a coordinated effort (including multiple conference calls with NCQA and the NCQA-certified vendor, T-CHIC state staff,

including Dr. Gallia and Rusha Grinstead of the State of Oregon and notably the OPIP staff). One incentive for the practices to cooperate was that the CAHPS could help meet the NCQA PCMH certification standard, and in Oregon, the state's standards for its Patient-Centered Primary Care Home Program.

As mentioned in the previous section, the methodology of the CAHPS C&G-PACMH survey was modified to take a hybrid approach using state administrative data, elements of CAHPS Health Plan survey and the CAHPS C&G-PCMH survey. This approach made it possible to get information on access to care, beyond having a primary care visit, at a state level and experience of care at a provider and state level. This meant we produced clinic level comparative information and overall state data. A learning collaborative with clinics and the health plans brought forth various opportunities for clinics and health plans to work together in improving patient experience of care. This was not possible previously with the CAHPS HP survey or the CAHPS C&G-PCMH survey.

*Figure 7 The T-CHIC CAHPS Approach*



Category A Implementation and Results: Oregon practices

Instead of generating measures *de novo*, Oregon relied on results produced for PCMH recognition and the existing submissions to Oregon's Aligning Forces for Quality Organization, The Oregon Health Care Quality Corporation (Q Corp), to give a snapshot of how practices were doing. It was exciting to the investigators and practices to see how the early leaders were doing in comparison to other practices in the state.

Among the eight ECHO practices in Oregon, they produced and submitted the results of nine CHIPRA core measures in 2011 as part of State's PCMH recognition process. That increased to 22 CHIPRA core measures among the eight practices in 2012. Separately, the Oregon Health Care Corporation provided practice-level data to eligible practices, based on the all payer, all claims data base, which could be considered for the PCMH attestation. That baseline information covered 4 CHIPRA core measures at a practice level: Well-child Visits up to Age 15 Months, Well-child Visits ages 3-6, Chlamydia Screening, and Appropriate Testing for Children with Pharyngitis.

**What operational lessons were learned?**

***State-level quality measurement and reporting operational lessons.***

Oregon spent considerable time and energy producing the CHIPRA Core measures. Thematically, we learned several things; some general themes are listed below.

- State Medicaid/CHIP measures require modifications from the technical specification provided by NCQA. State rates cannot be produced from NCQA HEDIS measures specification as they are. For example, the continuous enrollment criterion is complex and is not consistently applied; technically, we are directed to have continuous enrollment in CHIP or Medicaid, and within a single managed care organization.
- Combining criteria with any other population characteristic, such as race or special health care needs and the denominators, let alone the numerators, are often too small for statistical analysis.
- Measures that require coverage and provider stability are more difficult to produce.

## T-CHIC Final Report

- There are Medicaid / CHIP specifications and HEDIS specifications that are not always the same, nor should they be.
- Knowing what measures are being developed at the federal level for states' use is not as clear as it should be. States need lead to making plans to incorporate the measures. The new measures are often improvements the states are seeking but don't know about.
- Measures do not emphasize the programmatic eligibility groups- medically fragile children or those who became impoverished as a result of medical costs, or demographics of the Medicaid population and are more limited to health systems rather than population health over time.
- Measures that span more than one year are difficult to produce because encounter data is reliant on claims submitted while covered by Medicaid/CHIP.
- Measures that are more general, for example, general ambulatory care and emergency department use, are not as 'actionable' or easy to understand in terms of what constitutes good or optimal performance, as more discrete measures such as immunizations.
- Age segmentations in measures, even adult versus child, may not make programmatic or clinical sense. Smoking, alcohol and drug use, and pregnancy happen before age 18.
- Population instability and mobility may mean we are missing the population that is 'most vulnerable' and most in need of care, yet omitted from quality of care assessments.
- The current roster of measures has some value and importance to providers, but their practical utility is not necessarily obvious.
- The most compelling information for practices, oftentimes, was formally presented patient feedback, through the C&G survey or patients' participation on panels and boards helping to guide interpretation of results.
- The overwhelming number of measures physicians are asked to produce results in them not going through the process to validate them, which, in turn, means they are easy to discount. This issue surfaced with the immunization registry information several times.
- Yet, run-charts and registries frequently were seen by the clinicians as more worthwhile time investments than retrospective assessments of clinical performance.

## T-CHIC Final Report

- The state has little time to analyze results. The cycle between starting each measure round leaves little or no staff time to examine the results, assess the implications, and develop courses of action.
- There is little or no opportunity to examine relationships between measures.
- There is little knowledge about performance sensitivity or basis for knowing when variations from year to year are of concern, or when similar measures show conflicting results.

Lessons learned from the CAHPS C&G-PCMH survey in 2012 and 2014 are:

- Several practices did not have the human resource or technological capacity to easily extract patient information for survey sample.
- Some practices did not have up to date information on patients' contact information which affected the response rates for those clinics.
- Clinics that had leadership support and understanding of the importance of the patient experience survey were able to provide information more rapidly.

Lessons learned about state level measurement (continued)

**State Administrative Support for the Development and Use of Health Care Quality Reporting Systems.** Both the Alaska and West Virginia project teams indicated that their states were nascent in regard to reporting and using state-level data on health care quality to support decision-making. In Alaska, it was the first time they implementing quality measures reporting. In West Virginia, the SCHIP program had targeted HEDIS measures they have been reporting, but are trying to use this project to bridge collaborations and build quality measurement within their program and within Medicaid.

**Current and Past Data Collection Efforts Not Likely to Yield Comparable State-Reported Measures.** The baseline assessment for the Core Measures revealed a number of factors that may compromise the comparability of the Core Measures results across states particularly for the data that was collected in 2010. *(It should be noted the T-CHIC partners seem to be committed to working together to identify potential ways that comparable*

*measurement specifications, for the state-level measures, could be used*). Among these are differences related to the data sources for the measures, the validity and reliability of the data, and the health care delivery systems within the states.

**Differences in Data Sources.** The T-CHIC states differ in their current reporting capacity for the Core Measures and given flexibility, will make different decisions for how they report the measures. For example, while all three Tri-State members will be reporting on a set of the Core Measures derived from the Health Effectiveness Data and Information Set (HEDIS), West Virginia and Alaska will be using solely administrative data while Oregon will be using Hybrid measure techniques and/or using administrative data for measures that have already undergone validity testing via their External Quality Review (EQR) validation process. This systematic difference in the data source and the quality of the data source used is highly likely to have an impact on the validity and meaningfulness of the data and it should be explored, at a meta-level, by the national evaluator.

**Differences in the Validity and Reliability of Data.** Within data sources (e.g. claims data), there are differences in the validity and reliability of data across states. Therefore, even if standardized methods are used to collect data from claims data across the three states, the validity and usability of the findings based on this data varies significantly. For example, Oregon has a history of working with an EQRO to verify the validity of data used for measures reported from administrative-only data, while West Virginia and Alaska have not undertaken this work.

**Differences in Eligible Children Identified for the Denominators of the Measures.** A majority of the measures are derived from the HEDIS data set, which was created for the managed care environment. These measures use a 12-month continuous enrollment criteria that was developed based on the goal of comparing MCOs and identifying a comparable group of children for which MCOs felt they should be accountable for the care provided. Applying the 12 month continuous enrollment criteria in the context of state-level measures, and across both managed care and FFS environments, may not fit with the goal of assessing the quality of care at the state-level. Furthermore, in a state like Oregon, calculating the core

measures based on 12-months in the state will lead to differences in the state quality measures when compared to what they currently do, which is examine the MCO-level findings reported (which are based on 12 months continuous enrollment in the MCO). In addition, differences among states in policies related to eligibility (e.g. the frequency of income eligibility verification) and factors associated with enrollment in Medicaid and CHIP (e.g. extreme seasonal variations in the population in Alaska), must be considered when specifying continuous enrollment criteria for a state-level measure.

**Differences in health care delivery systems.** The benefit of the T-CHIC is that the consortium represents very different state program structures and then, within the states, varied health care systems. Key learnings have already been gathered about the impact of these differences on the usability and interpretation of the findings. For example, the unique structure of the health care system in Alaska raises questions about the comparability of Alaska's data to other states, and more generally points to the need to consider the effect of differences in health delivery systems between states on the comparability of the measures for states. It will be important to ask questions such as -- are low emergency department utilization rates a sign of good access to primary care or a reflection of the lack of emergency departments in the region? It is essential that the impact of the structure of a state's health care system be understood in the context of the measures to ensure that only appropriate comparisons are made between states.

**Differences in reporting periods.** The February 2011 Core Measures Specifications indicated that the Federal Fiscal Year (FFY) should be used as the reporting year, unless the specifications for the measure indicate otherwise. This reporting year is not aligned to the reporting period for the HEDIS specifications, which use a calendar year. As a result the current specifications seem to call for approximately half of the measures to be reported using a calendar year and half using the FFY. These differences in reporting periods among measures are not clearly articulated in the specifications, and have therefore, led to confusion among the states. To ensure efficiency and sustainability across reporting systems, reporting periods should be aligned among systems (e.g. EPSDT, CHIP reports, MCO HEDIS reports, etc.), and clearly articulated to the states.

States also need **clarification** and direction about whether they will eventually be expected to **stratify the data** by race/ethnicity, socioeconomic status, and children with special health care needs (CYSHCN). The CHIPRA legislation calls out the need for stratification by these groups:

“The types of measures that, taken together, can be used to estimate the overall national quality of health care for children, including children with special needs, and to perform comparative analyses of pediatric health care quality and racial, ethnic, and socioeconomic disparities in child health and health care for children.” --- CHIPRA § 401, 123 Stat. 72

However, to date, there has been no clear expectation set around this stratification, and more importantly, no specifications or technical guidance about how this should be done.

As seen in a Baseline Core Measures Assessment, the members of the Tri-State Consortium do not have clear definitions of either socioeconomic or CYSHCN, and they do not believe that they have valid data to support stratification by these variables. More work is needed to clearly define these stratifying variables, to understand the measures for which stratification is most meaningful, and to understand the nuances of applying stratification to different populations (e.g. stratification by race/ethnicity may be very meaningful in Alaska, which has a large Native American population, but less so in West Virginia where there is a very small minority population for race/ethnicity).

**Continued exploration of data sources that are standardized across states.** Given the issues noted above, it is clear that even if standardized specifications are used, the program differences and other factors still mean that even within a specific data source (claims data), there is not standardization in the reliability and validity of the data.

Category A & C:

## T-CHIC Final Report

We had anticipated doing pre- and post-assessments of the ECHO practices using the claims data. That data exist, but staffing resources do not. The evaluation budget cut at the onset made that impossible. We also anticipated working with the CAHMI in thinking about how the areas not addressed in administrative data could be developed and information from the National Survey of Children's Health and National Survey of Children with Special Health Care Needs could be used for estimates. Changes in relationships with CAHMI ended that effort in 2013. Instead, we incorporated questions from the National Survey of Children's Health survey that CAHMI oversees, into the T-CHIC CAHPS Clinician and Groups survey.

The structure and model of the ECHO Learning Collaborative with eight primary care practices in itself reflected a novel approach to piloting methods by which Medicaid can partner with front-line practices to support collection and meaningful use of data. Medicaid data about the kinds of practices that serve children and youth in the state was used to inform the design parameters for recruitment of the practices to ensure that the improvement efforts were implemented in the various sites that serve publicly insured children. Secondly, Medicaid supported the OPIP and ORPRN staff to collect robust data from the practices that fully articulated the systems and processes in the practices so that this "quality story" about the practice could be compared and contrasted to the "quality story" told by the data that Medicaid has access to most often: Claims data. Comparing and contrasting the practices office systems and processes with the data reports of practice-level administrative data provided invaluable insight into the gap analysis, issues with attribution, and potential transformation projects that could be targeted to enhance population-specific processes and systems that better meet the needs of publicly insured children. Previous to the CHIPRA effort, nearly all of the practices had collected patient experience of care surveys. That said, the ECHO LC model of allowing practices to join on a state contracting train, obtain standardized data for a tool that is used through the state, and to receive technical assistance and support to thoughtfully use the data was the first time this has ever been done in the state. Furthermore, the comparison and contrasting of the "quality story" told by the patient experience of care survey data versus the administration and systems/processes of care data illuminated a number of disparities that practices ended up focusing on that they would not have had they not received the data. For example, many practices in the ECHO LC were doing well on ACCESS measure, reporting all of the key systems and processes in the NCQA PCMH and MHI-RSF. Their access rates, according to

## T-CHIC Final Report

claims data, were fairly good as compared to their peers. Their overall CAHPS CG PCMH scores on the access domains also met quality thresholds. However, when the CAHPS data was then stratified by the patient reported race-ethnicity, significant disparities and opportunities for improvement were identified and acted upon. This important work focused on equity of care would not have occurred if these various data sources had not been shared.

### Category A Implementation: West Virginia

At the state level, a major accomplishment of the T-CHIC initiative was the initiation of CARTS reporting by West Virginia's Medicaid agency. West Virginia was able to report on all the CHIPRA measures originally chosen for this purpose. This allowed for a combined view of the data across all Medicaid and CHIP children and completion of project objective A4 related to a state-level profile. This reporting process is now in place for regular reporting by the state. A second achievement was the introduction of the CAHPS survey, which was administered twice during the project period (2012 and 2014).

In an effort to compare measures derived from administrative claims data with that coming from practice EHRs, West Virginia pulled claims data for select CHIPRA measures and used an attribution methodology to compute measures by practice. The measures were shared with the respective practices but were met with skepticism as to validity.

- Operational lessons
  - Measures derived from claims data were very different from those derived from EHRs; issues and challenges of patient attribution in the absence of managed care or medical home panels result in questions about data validity and therefore its usability.
  - Practices felt that the CAHPS results shared with them were valuable; having data to compare across practices and across states facilitated focused improvement efforts when data over time was not yet available.
  - Transparency in reporting promoted competition among the practice sites resulting in an increased effort to improve quality.
- Strategic lessons
  - Challenges related to consistency of definitions as well as patient attribution make it imperative that any efforts to make the data transparent to the public be accompanied by education in the interpretation of the data presented.
  - The perceived value of CAHPS data to individual practices, along with a national emphasis on the three-part aim and patient experience, seem to warrant consideration of a mechanism to fund and broadly and consistently implement CAHPS or a similar survey.

## T-CHIC Final Report

- Design changes
  - None

### *Category A Implementation and Results: West Virginia Practice level measurement*

The list of proposed CHIPRA core measures was shared with the West Virginia T-CHIC Advisory Council to determine which would be used. The members of the Council thoughtfully reviewed the list of measures with their definitions and selected a subset of the group that would be presented to the practice sites with instructions for reporting their data to a central warehouse. The practices were instructed to report their data on a monthly basis along with a narrative to explain any detail that might need to be teased out of their submission. Each practice submitted data as they were able for the next 10 months. Despite the fact that nine out of the ten T-CHIC practices had an EHR, it was determined that in most cases, not all of the data was available to the practices. In some cases the time required to collect the data was not feasible for the practice sites. At this point the Advisory Council was asked to narrow the subset of measures again to further limit the number of measures the practice sites were asked to report on a monthly basis.

In the end, each of the practice sites were able to report on some subset of the measures and some practices did show improvement in a number of measures. Each practice was also asked a series of questions to determine the usefulness and ability to obtain data for each measure. Questions and summary responses are included in Appendix D. All of the practice sites indicated most of the measures were useful and that they would continue to collect and use the Core Measures data. They have incorporated the core measure set into their quality improvement efforts, making them a part of their automatic reporting data sets. As a result of the engagement and discussions one of the practice sites hired a Clinical Quality Manager to coordinate the process and work through the IT issues.

Final measures selected by the Advisory Council and used for reporting are found in Appendix D

In West Virginia, all participating practices reported data on a monthly basis, but despite concerted efforts on the part of the practices, no practice was able to report on all of the selected

measures. Observations about each of the CHIPRA measures that were selected for practice-level reporting show that the immunization measures are the most frequently reported and these are also the measures for which the practices as a group experienced improvement.

Immunization rates were uniformly cited by the practices as important and meaningful and this generally translated to more focus on those measures. Although the compound measure of “appropriate immunizations for two year olds” may infer optimal quality around this topic, the measure itself is seen as less useful than the measures of individual immunizations; this latter detail is important to better understand causes of variation and to assure the follow-up needed to improve compliance rates.

Overall, practices were able to generate reports on rates for each immunization type, but did question the accuracy of the numbers reported. Not all immunizations that occur are actually documented in the EHR primarily due to lack of communication with school based clinics or public health locations that administer the vaccines. The meaningful use requirement for an electronic interface with the state immunization registry should, in theory, address this issue, but even in cases where the practice is uploading immunization data to the registry, the interface does not send information back to the practice site; query is possible, but requires human intervention, which, in turn, promotes errors and omissions. Even with these issues, practices have been able to use the immunization rate data to identify children who are in the denominator of the measures and should therefore be in the numerator as well; gap reports assist in outreach and follow up.

Well-child visits represent another set of measures for which reporting has been relatively consistent across the participating practices. Again, practices feel the measures are valuable and represent the standard of care that should be followed; this has translated to outreach efforts and efforts to improve the respective visit rates. The one exception to this generalization is the adolescent well-child visit measure that was assessed by several physicians as not particularly useful; their assessment was based on clinical judgment that a well visit for an adolescent was not always indicated.

BMI assessment and counseling measures are very important in West Virginia because of the high prevalence of obesity in both children and adults in the state. As a meaningful use indicator, these measures should be relatively easy for practices to report and the rate for actual BMI assessment is straightforward. The assessment components, however, require work flows

and data mapping that were not always completed at the time of EHR installation. As a result, there are significant data integrity issues with both nutrition and physical activity counseling and both show great opportunities for improvement.

A1c testing for children with diabetes is a measure that was assessed as important by practices, but applies to a fairly small number of children and offers little opportunity for improvement because the reported numbers were so low. Some EHRs do not track this measure for persons under 18, so reporting has been limited to a small number of practices that are able to query their EHRs for this information.

Developmental screening has proven to be a problematic measure that none of the West Virginia practices can report on a consistent basis. Practices did not refute the importance of developmental screening, but approaches to screening are not standardized and most EHRs simply had no capability to track whether screening was done.

One additional observation of practices related to the CHIPRA measures addresses children with special health care needs (CYSHCN). None of the practices are able to segment their populations and report specifically on process and outcomes for CYSHCN; most practices do not have a system in place for routinely identifying children who have special needs. The practices that were able to capture relevant data from their EHR were generally able to use the data to assist in their improvement efforts. Two of the practice sites show improvement in all 2 year old immunizations except Rotavirus and Influenza, as well as in adolescent vaccines rates. Other practices showed improvement only in isolated measures as indicated below:

- 2 practices show improvement in PCV vaccine rates
- 1 practice shows improvement in DTaP vaccine rates and 2 are at 100%
- 3 show improvement in Hepatitis A vaccine rates
- 2 practices show improvement in rotavirus vaccine rates
- 5 practices show improvement in influenza vaccine rates
- 2 practice show improvement in adolescent vaccines rates and 4 others are at 100%
- 2 practices show improvement in BMI documentation and 6 practices are at 100%
- 2 practices show improvement in the two counseling measures and 3 practices are at 100%
- All practices reported less than 10% for no well-child visits at 15 months
- WCV 3-6 year--- 2 were not able to report, 4 practices showed improvement
- Three practices were able to report A1c and all maintained a level of 100%
- Those sites affiliated with school based health centers used this avenue to manage their pediatric population to complete well child visits, administer immunizations and counsel for nutritional and physical activity.

## T-CHIC Final Report

West Virginia staff observed that practices focused on areas of improvement that shared several common characteristics. One was the ability to monitor progress through the use of data. The second was a history of tracking and paying attention to the subject of the measure. A third was the feeling that they could make a difference. The fourth was the belief that the subject of the measure is important. One area in which all practices concentrated their effort was childhood immunizations. Through the use of PDSA cycles and interventions using the care coordinators, practices were effective at improving their immunization rates.

However, the West Virginia team found that some practices required technical assistance to create reports that would allow them to report measures that followed measurement specifications. Many of their EHR's were simply not able to report the data as requested. This had a negative impact on the production and use of the core measures. Resources that could have been used for quality improvement were directed to addressing data issues. The upgrade and replacement of EHRs in all practices further compromised the practices' ability to truly address improvement until late in the grant cycle when a level of EHR maturity had been achieved and data was seen as valid and credible. A study assessing the improvements after an EHR is functional and staff are well versed in its functionality is warranted.

In 2012, the practices participated in the fielding of the CAHPS PCMH Survey in an effort to assess patients' experiences of care. DataStat, Inc., a NCQA certified vendor conducted the survey on behalf of the Tri-State Children's Health Consortium (T-CHIC). As a result of the engagement and responsiveness among the practices that participated in the initial fielding of the survey, the project team recognized the value in providing practices with the opportunity to conduct the CAHPS PCMH survey again, in an effort to learn what there was about the changes that might have occurred based on the quality improvement efforts that had taken place through the project work. The second fielding was completed in the spring 2014.

There was some variation worth noting in how the surveys were fielded. The first survey fielding included only the pediatric population for the practice. The second fielding included both adult and pediatric patients, with the exception of one practice that declined to survey their adult population. During the course of the second survey fielding, the decision was made to incorporate a phone component to increase the response rate.

The questions that had statistically significantly higher scores in 2014 as compared to 2012 were in the areas of Child Prevention-computer Time (+11.6), Trouble in the Household

(+10.5); Self-Management Support (+7.6); Child Prevention (+7.3); Child Development (+5.7); Office Staff-helpful (+4.6) and Courtesy (+3.7).

Areas of the survey that revealed lower scores comparatively from 2012 to 2014 related to Urgent Care Appointments (-9.7); Overall Mental Health Condition (-5.0); Overall Health (-3.9); Provider Communication (-2.1); and whether the Provider Listens (-2.1).

2014 CAHPS survey report is included as Appendix E

### **Operational lessons**

- Technical assistance was necessary for practice sites to be able to extract data from their EHRs and to understand how to use that data for improvement, and to have data that is usable and comparable across organizations.
- Data specifications written for administrative data do not translate well to data captured through current HER technology.
- Lack of consistency in definitions and how practices extracted (or were able to extract) data from their EHRs led to an inability to make comparison across the practice sites.
- Not all practice sites have the technical ability or the analytical skills to extract data if that data is not pre-defined in a canned report using the exact definition desired. Lack of technical skill also applies to the ability to scrutinize the data for accuracy and assure its integrity.
- Improvement in some measures was attained but only for a subset of the quality measures and mainly by those physicians receiving extensive technical assistance.
- Although the use of bundled measures, such as appropriate immunizations for 2 year olds, may reflect better patient care, the bundling makes efforts to improve the measure more difficult since the practice does not know whether a problem with a single vaccine might be driving the overall rate.
- In response to queries, practices reported that most of the measures were useful. It was noted that some of the practices had already been collecting at least a subset of measures or related measures prior to the project, notably those related to immunizations, so these continued to hold value in their perception. Some measures were identified as more useful than others, particularly those listed in the “Preventive Care and Health

Promotion” category, such as well-child visits, immunizations, and BMI measurement. It was seen as helpful to observe the percentage of well-child visits by different age groups, but some of the practice sites were not able to perform outreach by age group because their EHR did not permit generation of a list of children included in each of the age cohorts. Other measures were considered less useful, such as the 15 month child measure. Measures would have been more useful if they could be tailored to the individual practice site based on provider and parent input. However, it is recognized that standardization was part of the intent of core measures set.

*Strategic lessons*

- The individual practice sites should have been involved in the initial selection of the measures they would report on for the project. They had insight that would have been valuable related to the feasibility of data collection as well as usability of the data reported.
- The operational lessons learned about data capture, need for definitional precision, and lack of interoperability across multiple sources for some data elements (e.g. immunizations) are able to be applied to inform policy and activity in the state.
- The introduction of CMS EHR incentive program shortly after the start of the T-CHIC initiative forced practices to give the T-CHIC initiative in a lower priority for allocation of resources. It also resulted in a change or upgrade in the EHR in every T-CHIC practice; when this occurred previously generated reports were often lost and re-work was required to determine how to extract the core measures data from the new system.
- ONC certification of an EHR for meaningful use does not equate to the EHR’s ability to support population health reporting and management.
- Reduction in number of measures practices were asked to report.
- Unbundling of immunization measures to permit assessment of individual vaccine rates.

Lessons about factors that limited improvement and implications

- The practice sites lacked technical assistance on site to assist with the collection of data. Providing that technical support from a project perspective would have allowed each practice to use their existing EHR to its potential. As a result of limited technical

support, the lack of data retrieval and reporting cannot be attributed solely to EHR limitations.

- Using the ability for data transparency across the practice sites could have been leveraged more effectively to engage the providers in a more intent way. Although each practice had access to the other practice data, on an ongoing basis the data was not retrieved and used as effectively as originally planned.
- The practice providers could have been more actively engaged in the quality improvement effort, related to the data reporting and retrieval. As a result of the EHR limitations, the providers lost confidence in their data reports.
- Engagement of the “C-Suite” at each practice site could have had an impact on the project data. When the administration was present and involved in the project work the quality improvement increased at a greater pace than when they were not as fully engaged.
- Understanding and articulating the deliverables from each side is important in a project that runs over several years. There is a tendency for the practice sites to lose motivation after the first year.
- When recruiting a practice site, making sure there is a team of individuals deciding to participate in a multi-year project is important. When an individual, whether it be the physician champion or the practice administration, the commitment and buy-in to the project is not as strong as if it is a team decision.
- Including school based health centers, where available, at the onset of the project, to assist with immunizations, well-child visits and developmental screening would have allowed for a greater impact on those data.
- Developing a strong memorandum of understanding between the project leads and the practice administration could have permitted a more robust data set. Making sure each team member, including administration was aware and responsive to the data could have made a difference.
- Before a practice enters the project a discussion with representation from administration, clinical services, physician champions and the quality improvement officer is key to not

only sustainability in the project but to accomplish the level of quality improvement desired.

- Monthly reporting is onerous to the practice site. Requiring a less frequent deliverable could allow for more time to determine the accuracy and reliability of the data.
- Adding a representative from the State Immunization Registry to the Advisory Council would have been beneficial to help both parties understand the shortcomings and difficulty the practice sites encounter when attempting to send and retrieve immunization records.

## **Category B Implementation and Results**

### Category B Implementation and Results: Overall

Summarized below are the activities and lessons learned from implementation of the Tri-State Children's Health Improvement Consortium (T-CHIC) with respect to Category B, which was intended to develop or improving the use of HIT to improve children's health care quality. In October 2013, members of the T-CHIC project team formed the HIT Planning Team to develop a work plan and proposal to coordinate assessment of HIT across Alaska, Oregon and West Virginia with a targeted focus on pediatric care in medical homes, including developing a set of guiding questions to inform and meet objectives in the CMS approved Final Operation Plan (FOP).

Among the three CHIPRA Categories (A-C), Category B was one of the most challenging. At the mid-point of the grant, October 2012, partners in the T-CHIC Learning Collaborative carefully assessed progress and barriers related to HIT and HIE. Summarized below were key opportunities identified at the mid-point of the grant. These opportunities served as the implementation milestones for the remainder of the grant.

- Learn about and assess potential role and use of certified EHRs in monitoring and reporting on health quality metrics including intersection(s) between Meaningful Use (MU) and initial CHIPRA measure set.
- Focus on the experience of practices using EHRs in the demonstration, including developing recommendations for health IT integration with facets of the medical home model.
- Solicit feedback on perceived effects of EHRs including patient and provider satisfaction and perceptions of utility.
- Work with HIE entities in Alaska, Oregon, and West Virginia as feasible, to ensure networking opportunities are in place for provider clinics/practices to exchange data with other authorized entities involved in the project.
- In West Virginia, support the demonstration sites in using a Personal Health Record (PHR) as a communication tool.

During the grant period, several themes emerged across T-CHIC related to the goals and objectives around Category B. First, there were persistent delays in the statewide roll-out of HIE services across all three states. Second, at the practice level, a majority of sites experienced significant challenges in use of advanced EHR functionalities. This was partially due to the practices being at different stages of implementation, sophistication, and onboarding of EHR functions that support medical home functions, including quality improvement. Specifically, interactive functions that support patient communication and care coordination were often not available from EHR vendors, and such services, if available, required considerable resources among practices to support and maintain.

Additional evaluation activity would have been beneficial to better and more consistently understand how practices and providers use EHRs to improve pediatric care within the context of a medical home. Specific to Category B assessment, limited quantitative data was available to assess HIT implementation across the practices, particularly functionalities specific to clinical care. Information that was inconsistent, limited or not available in a standardized way included:

- Perceived impacts of HIT including patient and provider satisfaction and perceptions of utility.
- Enabling factors/barriers to using an EHR system for improving the quality of pediatric care within the context of a medical home.
- Practices' capacity to run queries or generate reports and the extent to which these reports are utilized for quality improvement.

After the conclusion of the federal grant, the project ultimately lacked the ability to describe the extent to which practice-generated EHR reports are used by clinicians to improve quality in a systematic and rigorous way. In sum, the project ultimately was unable to adequately, systematically assess “how HIT systems influence how PCMHs affect child health care quality.” That said, the project did gather a number of important lessons learned through implementation of key activities supported as part of Category B, which are described below.

### Category B Implementation: Alaska

For the first three years of the project, the Alaska T-CHIC Team held bi-weekly Internal Stakeholder meetings with participation from the State of Alaska IT Planning Office which is the coordinating point for all State of Alaska involvement with the statewide Health Information Exchange (HIE). The State of Alaska contracted with the Alaska e Health Network (AeHN) and Orion to develop the HIE. The Alaska IT Planning Office and partners worked on HIE pilot projects including a Lab Pilot and improvements to the state's VacTrAK system. The Lab Pilot built a security plan to approve the VPN tunnel to allow the connection between state systems to BizTalk which would then connect to the HIE. The next step was to connect VacTrAK to allow providers currently contributing to the HIE to submit their immunization records via the HIE to BizTalk and ultimately to VacTrAK. Participation by the IT Planning Office in the bi-weekly Internal Grantee Calls and regularly providing updates on the projects and opportunities helped facilitate progress in this area.

Since the Alaska HIE was operationalized later than initially anticipated, the focus of this objective shifted from reporting quality measures to the HIE, to grantees collecting data and developing quality reports from their own EHRs.

Alaska T-CHIC internal stakeholders made a plan for grantees to use Direct Secure Messaging for transmission of PHI in lieu of using the state HIE. Direct Secure Messaging (DSM) enables providers to electronically communicate in a secure manner with other providers, receive a patient care summary, receive patient appointments and transmit or receive other vital information to aid patient care provided. The staff of the Department of Health and Social Services in the State of Alaska was assigned DSM accounts to exchange protected health information. For the Division of Public Health specifically, many of the disease registries strongly encouraged providers and hospitals to submit registry information using DSM. AeHN worked with providers one-on-one to sign them up for DSM accounts and to problem solve technical issues. This solely state-sponsored use was to encourage practices that decided not to use DSM in the past to reconsider. Also, as providers achieved Stage 1 Meaningful Use and began focusing on Stage 2, the need to transmit data securely to state registries (including immunization rates) was to become more of a priority.

## T-CHIC Final Report

T-CHIC coordinated a training session for AK grantees with the HIE Vendor (AeHN) on Direct Secure Messaging enrollment and use. The main two uses of DSM are to transmit patient referrals and clinic care summaries. The two T-CHIC practices eligible for MU incentives signed up, and all three practices were expecting to participate in the HIE (signing up directly with the HIE) as it became operational. Each practice had one or more providers signed up for DSM but each of them had an existing procedure for its message transmittals and expressed reluctance to turn to DSM, apparently preferring to make the switch directly to the HIE when it became available. With DSM it was also found that there were limitations on the size of attachments, distrust in the privacy, and few other medical providers in a DSM network to exchange data with.

T-CHIC State staff also facilitated a dialog between the HIT office and one of the clinical grantees to clarify some misinformation and encourage use of DSM; however their clinic instead implemented Provider-to-Provider (P2P) for secure messaging.

The Alaska T-CHIC team continued to work with the State of Alaska HIT office to determine the implementation plan for state HIE and asked the T-CHIC grantee practices to provide updates about their status with respect to joining the HIE. The Alaska DHSS Deputy State HIT Coordinator participated in several grantee meetings to share information. Staff continued to facilitate trainings as needed, and collaborated with AeHN to identify opportunities for training and development. Alaska continued to identify opportunities for training and collaboration between T-CHIC and AeHN. The State of Alaska Health Information Technology (HIT) Office (a T-CHIC internal stakeholder) participated in various HIE workgroups with the Alaska E Health Network (AeHN).

The Alaska HIE go-live began in June, 2013 with a pilot project that included three large facilities in Fairbanks. The HIE is a data repository, with query based functions that enable providers to inquire and retrieve patient health information such as clinical care summaries. The Alaska e-Health Network (AeHN) worked on state on-boarding of the HIE and has developed a schedule for the statewide roll out at the beginning of 2015 all the T-CHIC sites were at various stages of on-boarding the HIE, with the largest urban clinic making the most rapid progress.

The HIE privacy and security policies were revised and approved by the Alaska eHealth Network (AeHN) Board of Directors and the Executive Director, and posted on the AeHN website: <http://ak-ehealth.org>. The State of Alaska HIT Office worked on a policy for patients to

## T-CHIC Final Report

opt-out of exchanging protected health information (PHI) in the HIE (except under specific conditions). AK T-CHIC facilitated sharing of information among AeHN, State of Alaska, and T-CHIC grantees.

The Alaska AeHN and State of Alaska Department of Health and Social Services responded to the need to increase patient awareness of electronic health records (EHR) and health information exchange (HIE) efforts through the creation of a media and education campaign. The goal of the media campaign was to increase patient engagement and awareness of the HIE. The Office of the National Coordinator for Health Information Technology (ONC) was contacted to request assistance to build a patient awareness campaign. The existing communication efforts (website content, e-newsletters, newspaper ads, videos, brochures, twitter and Facebook) in place in Alaska were complemented and extended by the ONC. This resulted in customized public service announcements aired on the radio and television for several months throughout Alaska. The Alaska HIE media campaign was spotlighted in the May 2013 State Health Information Exchange Program newsletter produced by the ONC.

Alaska was not targeting specific sites for MU, *per se*, but was to work with sites to enhance their current HIT capacity in order to participate in the statewide HIE. However, the HIE became available for clinics much later than anticipated by T-CHIC. During the T-CHIC project the state began piloting the HIE with select hospitals and did not begin to connect clinics until the latter part of T-CHIC.

In 2014, T-CHIC was asked to draft the part of the Alaska Health Care Commission report that focused on the use of EHR and HIE in the state. We confirmed that the Alaska eHealth Network offers EHR technical training and support services to all of Alaska's providers, including primary care providers, dentists, chiropractors, and pediatricians. Only the largest clinics and hospitals are signed up so far as active users of the Health Information Exchange in Alaska. Alaska Native Medical Center and their associated outpatient clinics (such as Southcentral Foundation primary care) are active users.

Alaska T-CHIC continued to document progress made by the clinical demonstration sites with Category B throughout the project. Progress and challenges with HIT and HIE were documented through monitoring quarterly reports from practices and holding learning sessions focusing on HIT/HIE. The grantee quarterly report format asked the following: "During the last

## T-CHIC Final Report

quarter, and as a result of your participation in T-CHIC, what activities did your practice undertake in the area of HIT, pertaining to children and youth?”

In 2014-2015, all the clinics were in an EHR transformation process, including upgrades or new EHRs, while learning how to use them effectively. The most significant progress by the end of the project was the data mall at Southcentral which displays measures weekly, segmented by clinic and provider, to evaluate variation and performance and produce action lists for the integrated care teams to support quality care for customer owners. This will allow best practices to be replicated across the system.

Peninsula purchased a new EHR that will integrate their primary care, dental, and behavioral health components, which were previously supported by three different EHRs. The goal was to adopt a new EHR after implementing new ICD-10 standards. Their T-CHIC team continued to assist patients with accessing the portal and signing up for insurance, by using the computer kiosks in the clinic lobby. They also hired a new IT team. Peninsula began using their EHR messaging system and Peninsula and Southcentral rolled out their portal to a larger test group.

The smallest clinic, Iliuliuk, reported that a new upgrade includes Systematized Nomenclature of Medicine (SNOMED) codes with the goal of achieving better reports, a patient portal, and a reminder system to reflect patient preferences by text, phone, mail or email.

The T-CHIC clinics exchanged IT information through webinars, teleconferences, and in-person meetings set up by T-CHIC staff at the state. In-person meetings were especially helpful as there was more opportunity for extended discussion among the diverse sites about IT and the advantages and disadvantages of EHR types. Two clinics were surprised to learn that one might be switching to the same EHR vendor that the other had found most difficult to work with.

To facilitate development of the use of HIT to improve patient access, coordinated and clinically managed care, and team based comprehensive care, AK T-CHIC arranged for two trainings for grantees on Direct Secure Messaging, as described under Objective B1. The Alaska e Health Network (AeHN) provided training over two sessions in August 2012 to all three grantee sites. The first session was an oral presentation during the bi-weekly grantee meeting where grantees were introduced to the concept of DSM. We learned that DSM was not used at the practice level, although it may be used by other areas of the organization. The following training occurred via webinar and all three grantees participated. AeHN staff demonstrated DSM

## T-CHIC Final Report

functions and use. SCF immediately saw the opportunity for use internally among its clinics that currently fax with the main medical center. Iliuliuk was hesitant to adopt, indicating that the staff was satisfied with the current referral and follow-up process in place which involves phone calls and faxing patient information, and does not see the benefit to adopt the new process. Peninsula followed up individually with AeHN as there were questions specific to their sites.

Alaska T-CHIC supported the state public health infrastructure for families and children by funding a small amount of travel for training for the State of Alaska Division of Public Health Nursing. The training was related to migrating rural databases to Anchorage to help centralize the majority of their databases in preparation for beginning to use an EHR.

T-CHIC Category B staff made a site visit to Iliuliuk Family and Health Services in Dutch Harbor and met with the director and all staff, and produced a site visit report. A new tele-psychiatry pilot project at Iliuliuk increased care options for local patients. It provides comprehensive tele-behavioral health services via an electronic tablet computer connected through a secure video conferencing network, so that patients receive counseling through live interaction with a method similar to Skype. This eliminated the need for patients to travel 800 miles to Anchorage to receive care or wait for a visiting psychiatrist to travel to Unalaska. It also gives patients more privacy than they usually have in their small town. The project was spotlighted in a statewide publication. This project was reported to T-CHIC as a success in achieving better access and care continuity.

SouthCentral Foundation, the large urban tribal practice, made major progress this period (demonstrated during a site visit by AK T-CHIC project lead) with a new data warehouse and report development effort so that they can report pediatric QMs to T-CHIC (for the selected core measures) on request and to their provider teams on a daily basis for QI purposes, using the dozens of indicators they have found useful for all of their customer owners. In the process of developing the data warehouse they also recognized that they need to further integrate some of their records. They successfully added the records of the home visiting nurses, who see high risk infants, to the EHR, thus adding a critical pediatric data component related to potential CYSHCN to the database. This was attributed to the importance the T-CHIC project has put on (1) complete and useful EHR data and (2) quality measures for quality improvement, (3) identifying children with special health care needs, and (4) using HIT to improve quality.

## T-CHIC Final Report

Peninsula achieved more efficient identification of children with special health care needs through their EHR. T-CHIC-supported staff set global alerts for special needs (medical and/or socioeconomic) for all the children and youth, including chronic conditions even if they weren't being treated for that condition by a Peninsula provider. They can now run a report and get immediate numbers of children with special conditions for whom they have identified and set an alert.

Alaska T-CHIC staff worked with the other T-CHIC states to develop a set of questions to ask relevant personnel at the T-CHIC demonstration sites about their experience with HIT and HIE. Results of the evaluation were to inform CMS and meet the objectives of the TCHIC grant, as well as inform the monthly IT Governance Dashboard for the DHSS HIT office.

The immunization registry implementation parallel to T-CHIC work was one focus of effort for ensuring reporting capabilities. Immunization testing continued between the Fairbanks Memorial Hospital and the State of Alaska VacTrAK systems. The new Medicaid Management Information System (MMIS) and department performance measures were expected to strengthen access to practice level data.

T-CHIC was one of 15 projects that provided monthly updates to the State of Alaska IT Governance Dashboard Report and this served as a communication tool.

Patient portals were launched and the initial barriers were related to passwords and user identification, as well as low response in general. One site suggested that there needs to be dedicated technical support for the portal and other online initiatives the clinic is pursuing. Pilot tests showed that they need a protocol for how parents can easily handle setup and access to the online accounts of their children. They report that the issues the patients had with the portal were not what had been expected, but did not give more information.

Alaska T-CHIC regularly collected information from clinical demonstration sites on the implementation experience of HIT and milestones accomplished. We required the clinical demonstration sites to complete quarterly grant reports that contained questions about their experience and progress with HIT.

Through quarterly grant reports, as well as site visits and learning curriculum meetings, we found that the clinics perceived that HIT had the potential to enhance the quality of care, particularly for managing data, records, screeners, and referrals, and for developing more effective means to communicate with providers, patients, and specialists for referrals.

## T-CHIC Final Report

Limitations included patients' reluctance or ignorance about electronic methods. The care coordinators addressed this through PDSA cycles that included setting up kiosks at the clinics, assisting patients with the kiosk computers, and making more personal contact with patients for screening. Clinics with patients who had more knowledge about electronics made further progress on their patient portals and put screeners and surveys on tablets in the waiting room.

HIT as a contextual factor appears to be important either negatively if it interferes with smooth clinical service delivery (e.g., when screening results documentation delays the start of a clinical visit), or positively if it provides an immediate charting of height and weight to a growth chart for a provider to use with a child and parent, or easily viewed trends in lab results which enable the provider to counsel the parent about a referral for specialist follow up. The challenges in getting summary reports for a practice out of the practices' EHRs turns out to be daunting for the small practices due to insufficient programmer availability. T-CHIC helped to fund EHR modifications to improve this report functionality. (SCF implemented such report functions and were able to do the reports at the team level as well as the overall pediatric clinic level and the organization as a whole.)

T-CHIC practices all were committed to participating in the HIE. Participating providers' EHR/PHR systems continued to be improved so that presumably they will be able to participate effectively in the HIE when available, both for reporting MU measures and providing the data elements expected for the HIE.

Providers continued to collect and report on the subset of core quality measures. One practice switched EHRs and built a data warehouse with extensive capacity for generating team-specific reports on both T-CHIC and practice-defined quality measures, including flagging of both condition specific and non-condition-specific (screener based) indications of a child being CYSHCN. All three practices reviewed their capabilities for generating reports on immunization status of children and youth, Medicaid enrollees and total patients. They also reviewed the BMI and counseling documentation, and their ability to evaluate the quality measures using what is in the records. Additional programming of the queries appears to be needed.

Alaska HIT leadership was recognized by the Office of the National Coordinator for Health Information Technology in March 2013 for advancing the use of health information technology throughout Alaska. The efforts were recognized in part due to 3,984 health care providers and their office staff who were enabled for electronic care summary exchange use. For

## T-CHIC Final Report

the complete article, please see the Anchorage Daily News at:

<http://www.adn.com/2013/03/20/2833276/alaska-recognized-as-leader-in.html>, and on the State of Alaska website: [http://dhss.alaska.gov/News/Documents/press/2013/GRP\\_032013.pdf](http://dhss.alaska.gov/News/Documents/press/2013/GRP_032013.pdf)

Two sites launched patient portals as a tool for improved communication. Peninsula's portal went live, to their entire patient population, on April 17, 2013. They reported that the response to the portal was slow but the number of patients who were web-enabled doubled during the first month. At SouthCentral, the portal was piloted with the integrated care teams and met with an 85 percent acceptance rate, and then they tested it on a small number of customer-owners.

In order to improve care coordination, Peninsula investigated how to put referral and follow-up information in a more centralized place, so that everyone on the care team could see when a referral was due and why it may not have been completed. They improved their understanding of their EHR and how it might enhance their ability to deliver patient centered coordinated care. With a PDSA cycle Peninsula discovered that the EHR can set action item reminders and alerts which facilitate easier follow-up. This allows the T-CHIC Care Team members to readily see all of their items that need follow up. Now the T-CHIC Team members can tell much sooner if a parent has not followed up with a referral and they can contact the parent when the action item is past due.

One of Southcentral's large outlying services areas in Kodiak began sharing the central electronic health record. This will facilitate direct communication between SCF and their regional hub for specialty services. Care delivered in Kodiak or Anchorage will be immediately available for those delivering care or proactively managing populations. Also the records of Southcentral's home visiting nurses who were assigned to follow up with high-risk infants became integrated into the SCF EHR. This was due to SCF's T-CHIC-funded project staff requesting that these important pediatric records be integrated instead of being separate.

As part of the continuation grants to the clinical sites, AK T-CHIC asked sites to propose a HIT area to be focused on during the following year.

### Category B Implementation and Results: Oregon

Summarized below are key challenges experienced among practices around the use of HIT in Oregon as a result of implementation of a range of activities across Categories A-C supported largely through the ECHO Learning Collaborative. With respect to HIE, several practices established agreements with CareAccord, which offers Direct Secure Messaging (DSM). However, availability and uptake remained tentative throughout the grant period, largely due to limited functionality of DSM and trading partners.

- Technical issues: several practices upgraded EHR systems which often required additional IT support and customization to generate quality measures to meet federal and state reporting requirements.
- Variations in functional capacity across sites influenced the degree to which sites were able to customize their EHR, and devise workarounds and other ad hoc solutions.
- Population management: many sites had to develop workarounds to effectively identify, track, and manage populations.
- Creation of the CYSHN registry in the EHR required vendor support with associated costs.
- Clinical usefulness: managing and tracking referrals was difficult for the majority of practices, partially because EHRs are not typically built to have this capacity.
- Medical home transformation: EHR limitations were noted by the practices as a barrier to achieving medical home domains and effective care coordination.
- Documenting, updating, and sharing Shared Care Plans was difficult across sites.

### Category B Implementation and Results: West Virginia

Category B objectives proved to be the most challenging, and frustrating, for West Virginia. West Virginia began the T-CHIC initiative with 9 out of the 10 participating practices already using an EHR system. With the introduction of the CMS EHR Incentive Program, all practices aimed to achieve meaningful use (MU) of HIT and worked diligently to either upgrade or replace their existing EHRs with a system that was MU-certified. At the same time, the state of West Virginia was awarded a cooperative agreement to implement a Health Information

Exchange and began work on planning, selection of a technology vendor, and roll-out of the HIE. This landscape gave the project team confidence that EHRs and the planned use of a PHR would have a positive impact on the health of children in the state. Our experience did not support initial assumptions.

At the outset of the project, the use of a PHR was intended to enhance electronic communication between providers, care coordinators, and the patients and families. This approach was based on several assumptions, 1) that none of the EHRs in place had patient portals or the capability for documentation of care coordination; 2) the state HIE would be fully in place to support two-way information sharing that would populate a PHR with data from multiple sources and loci of care; and 3) the PHR developed for adults through Medicaid transformation funding would only require minor adaptation to accommodate the pediatric population. None of these assumptions turned out to be accurate and, combined with challenges already related to EHR use discussed in this report, resulted in an inability to accomplish the objective of using a PHR for communication.

In 2013, West Virginia made a decision not to continue to pursue the development of a PHR for use by the participating practices and care coordinators. A major factor in this decision was the feedback from practices that existing EHR systems included patient portals and without an interactive interface with the PHR or portal, the use of a separate or untethered PHR was both cumbersome and prone to error. Another key factor was that without a statewide functioning HIE network required to facilitate data movement in and out of the PHR, the system was only able to push data from the practice EHRs to the PHR. It could not populate the EHR with any information that was added to the PHR by a parent or care coordinator.

As the use of the PHR was discussed with each of the practices, every practice expressed reluctance to use the system despite general positive comments on its theoretical functionality. The primary reason for the reluctance was that the system would provide no value added to the information already being captured in the EHR. Instead, the PHR required extra work, having to log into a separate system and look in two places for information. A secondary reason was that many of the practices then had patient portals that were part of their

upgraded and certified EHRs and felt the PHR was redundant. Some of the EHRs also supported access and documentation by the care coordinators, eliminating the need for the PHR to provide this function.

Although the practices perceived that the PHR would not provide value, the project staff decided to explore the use of the PHR as a *tool* that could be used by parents, focusing directly on utilization by parents of children with special health care needs (CYSHCN). Development on the PHR to that point in time included software changes required to generate a Continuity of Care Record (CCR), inclusion of several measures related to children's health such as growth charts, and a parent notebook designed to allow the parents of CYSHCN to electronically present the child's history. The system's intent was to push data from the EHR to create an additional tool for the providers and care coordinators to engage parents. The information would be available to the provider, parent and care coordinator in a manner that would be beneficial to the ongoing care of all children. Use by parents was beta tested with 10 parent volunteers from each of the practices. Each parent was given secure, unlimited access to the system to enroll their child's personal health information.

After approximately a month, feedback was solicited from the 10 parent volunteers and practice staff. Anecdotal feedback from practices using a patient portal was also solicited. Based on this feedback, and the issues described above, the West Virginia project team made a decision to suspend further activity related to the PHR. This feedback confirmed the team's hypothesis: that without a two-way interface and ability to update the EHR used in a practice, the PHR provides minimal value to its users. Both the parents and practices did agree that, conceptually, the information included in a PHR would help to facilitate communication and coordination. However, developing bi-directional interfaces and updating capability using imported data would require not only significant additional funding but also the cooperation of multiple EHR vendors.

### **Operational lessons**

Patient portals are commonly included in most EHRs and have been implemented by the West Virginia T-CHIC practices. However, functionality, scope of use and the acceptance by both patient and care teams are variable. Use of portals is increasing, but is progressing slowly.

Providing the non-technical individuals with assistance on an ongoing basis would ensure the data integrity to be at the level necessary for the providers to have confidence in the reports. Having the availability of a person with technical savvy from the project staff available to the practice would allow for improved reporting.

Despite the enthusiasm for EHRs, and the recent acceleration in adoption (in part driven by the CMS EHR Incentive Program), quantifiable evidence that EHRs improve quality of care is elusive. Qualitative assessment among the practice sites was mixed.

EHRs may have long term benefits, but the transition from paper to EHRs can be disruptive, with a steep learning curve required to effectively use the features of the EHR to improve quality of care. Each of the practice sites has now implemented an EHR. The timeline for maturity in using the EHR in a number of practices was well over a year.

### **Strategic lessons**

- It is realized that a strong Federal campaign will be required to develop an EHR template for the children/adolescent population
- Interconnectivity is still moving at a very slow pace in West Virginia. The delay causes a lapse in the continuum of care between practice sites and specialists, dental providers and hospitals.
- An early assessment of readiness is necessary for success in using technology; even though the PHR was a good solution it failed due to a lack of readiness on the part of the providers as well as the EHR systems with which interfaces were necessary.
- Electronic health records proved to be perceived as both a help and a hindrance to data collection at the population level. Practice expectations of the EHRs and what MU certification would deliver were much higher than the reality faced when trying to generate reports. In addition, vendor commitments did not always translate to reality without an investment of time, money, and a considerable amount of frustration on the part of the practice.
- HIE has great promise, but absent a solid business model and use case demonstration, adoption can be very challenging and therefore very slow. HIE also has value when both ends of the planned connection nodes are operational and are willing and able to share patient

data. Because West Virginia does not yet have a fully operational HIE, it was difficult for the practice sites to affect change for measures of any services taking place outside the practice, including measures on behavioral health, ED visits, and dental care/treatment.

- Using a PHR as a tool for communication among patients, families, care coordinators, members of the care team and other stakeholders has theoretical appeal but it is extremely difficult to implement in the absence of systems that facilitate exchange of information.

*Design changes:*

The development of the electronic personal health record was halted after partial completion. Several reasons drove this decision. One was the fact that the additional development effort required in the absence of interconnectivity through an HIE was prohibitive and could not be accommodated within grant funding. Six different EHRs were in place in the 10 participating practices and each required its own interface. Secondly, as the grant period progressed, so did the capabilities of EHRs that evolved to include their own patient portals. Although the PHR was intended to bridge information across providers, in the absence of an exchange, providers, care teams, and patients/families were left with redundant work of accessing and populating two distinct systems. Feedback obtained directly from families and providers indicated that the PHR did not provide enough added value to merit this work. While this feedback helped WV address key objectives of the grant, it validated the project team's assessment that a design change was needed.

## **Category C Implementation and Results**

### **Category C Implementation and Results Overall**

This category of work will have contributed the most to knowledge about improving the capacity of state to work with practices on delivery system change. Each of the states took different approaches to implementation. The three states defined medical homes differently and took different approaches in transformation.

Alaska state staff developed seven PCMH core competencies that providers must demonstrate. In its recruitment and solicitation the Alaska program staff said that the program recognizes that there are different ways to approach and attain the seven core medical home competencies, based on philosophy, practice size, geographic location, information technology infrastructure, staffing, population served, and other variables.

Oregon created and used the Oregon standards of PCPCH program stating that the basis of the primary care home implementation should align with the Oregon PCPCH attributes. In order to maintain reasonable logistics for sites, and to allow for more directed evaluation of specific attributes, it is recommended that implementation of the attributes be phased. West Virginia chose to use NCQA standards

After the choices had been made, the work that was underway to guide the choices and definitions was none the less presented. That comparative work can be seen as Appendix F. For a variety of reasons, each state stuck with their initial definitions and selections. This meant that making comparisons and describing the impact of specific medical home domains was not possible since the characteristics of a medical home were operationalized differently. So the definitions varied by state and the implementation did as well.

Table 4 State by State Medical Home Implementation Pathway

	AK	OR	WV
IHI-style Breakthrough Series Learning Collaborative		X	X
Learning Curriculum:			
<ul style="list-style-type: none"> <li>▪ Learning curriculum anchored to MHORT data, goals, and objectives, and meant to operationalize key domains of Medical Home</li> </ul>	X – Developed in 2012	X	
<ul style="list-style-type: none"> <li>▪ Learning curriculum anchored to fundamental QI principles and priority areas identified</li> </ul>			X
<ul style="list-style-type: none"> <li>▪ In-person Learning Sessions</li> </ul>	X – Annual Meeting	X – Every 6 Months, Specific to Action Period QI Focus	X – Annual Meeting
<ul style="list-style-type: none"> <li>▪ Group-level learning curriculum calls, webinar-supported (All Practices)</li> </ul>			
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>○ Group calls with site leads or team</li> </ul> </li> </ul>	X		X
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>○ Group calls with team</li> </ul> </li> </ul>		X*	
<ul style="list-style-type: none"> <li>▪ Care Coordinator community support through listservs or calls among Care Coordinators across practices</li> </ul>	X – PCMH calls began 2014	X	X

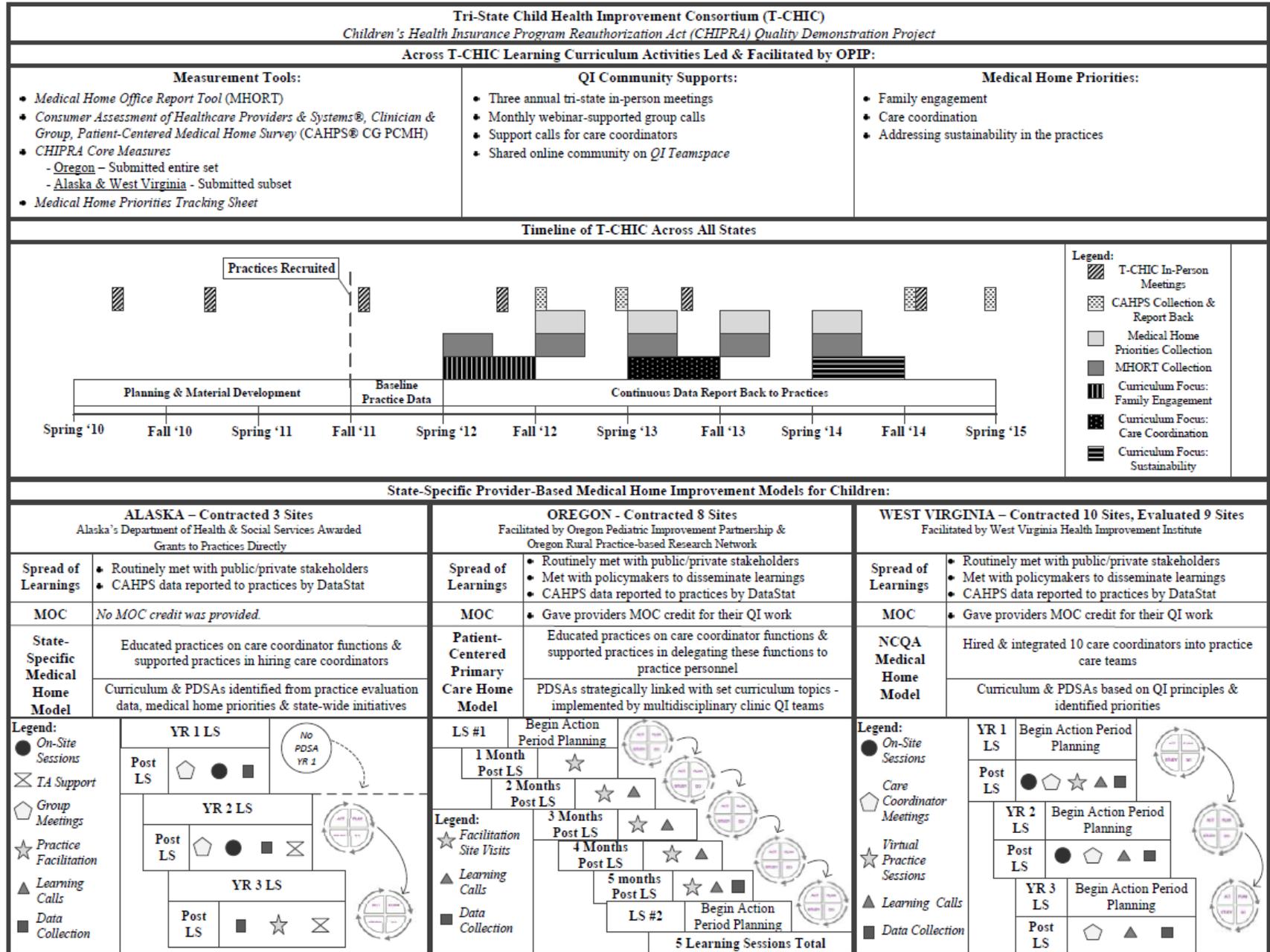
T-CHIC Final Report

Table 5 Components of the Tri-State Children’s Health Improvement Consortium (T-CHIC) Learning Community and Shared Resources

Components of T-CHIC Learning Community	Five Year T-CHIC Grant Period									
	Y1 2/10-1/11		Y2 2/11-1/12		Y3 2/12-1/13		Y4 2/13-1/14		Y5 2/14-1/15	
	2/10-7/10	8/10-1/11	2/11-7/11	8/11-1/12	2/12-7/12	8/12-1/13	2/13-7/13	8/13-1/14	2/14-7/14	8/14-1/15
<b>In-Person T-CHIC Meetings</b>										
Meetings held of project leads and state Medicaid agencies	5/10	11/10		9/11	6/12		6/13			9/14
<b>Shared Data Collection Across T-CHIC</b>										
Medical Home Office Report Tool (MHORT)										
Development				X	X					
Collection					X	X	X	X	X	
Data Cleaning and Face Validity Checks					X	X	X	X	X	X
Distilled Reports Across T-CHIC/Within State & Back to the Practices.					X	X	X	X	X	X
MH Priorities Tracking Sheet						X	X	X	X	
Collection						X	X	X	X	
Distilled Reports Across T-CHIC/Within State & Back to the Practices.						X	X	X	X	X
CAHPS CG PCMH®										
Development of process/contract				X	X			X	X	
Collection						X				X
Distilled Reports Across T-CHIC/Within State						X				X
Reports Showing CAHPS® by MHORT						X	X			X
<b>T-CHIC Learning Collaborative</b>										
Development/Refinement Learning Curriculum					X		X		X	
Webinar Supported Group Calls										
T-CHIC Collaborative						X	X	X	X	X
T- CHIC Members Working with Practices						X	X	X	X	
T- CHIC Practices						X	X	X	X	
T- CHIC Members Reporting Core Measures						X	X			
Shared Online Community for T-CHIC <sup>2</sup>						X	X	X	X	

# T-CHIC Final Report

Figure 8 Learning Collaborative Characteristics of Medical Home Implementation by State



Legend: LS = Learning Session; YR = Year; PDSA = Plan-Do-Study-Act cycle; MOC = Maintenance of Certification; QI = Quality Improvement



### Category C Implementation and Results: Alaska

All three Alaska grantee practices completed the baseline Medical Home Office Report Tool (MHORT) by March 2012. Grantee sites completed the MHORT for the second time in fall 2012, and these findings were compared to baseline findings. In November 2012, staff from OPIP attended an Alaska learning collaborative and presented “gaps” or weaknesses in Alaska’s medical home competencies as measured by the MHORT. Alaska T-CHIC staff held two follow-up meetings with the clinical demonstration sites to review these gaps and determine whether or how recent activities were addressing them and what technical assistance might be needed. It was useful for the meeting participants to focus on each specific shortcoming identified in the group setting. T-CHIC has reviewed the weaknesses among all 21 practices and prioritized areas for focus.

Grantees completed the MHORT for the third time (the second update after the baseline assessment) in spring 2013. Prior to completing the update, all grantee sites were given a briefing to review the MHORT update process presented by the Oregon team. Alaska T-CHIC staff entered the updated data into the online RedCap reporting tool, and the Oregon team provided an analysis of the findings, both across the three states and in an Alaska-specific report.

State-specific Medical Home efforts were also assessed through the quarterly reports submitted by grantees to Alaska T-CHIC. Alaska T-CHIC staff made modifications to the quarterly report template form in mid-2013 in an attempt to elicit more detailed and specific information from grantees. Additionally, the MHORT and CAHPS were used to collect practice-level data and record changes within clinic medical home implementation categories between reporting periods, as described above.

At the beginning of this project stakeholders convened to develop consensus on how the project would be approached. Alaska T-CHIC staff researched patient centered medical home models and drafted seven PCMH competencies. The competencies were included with items from Categories B and C in the Request for Proposals for Alaskan non-profit clinics to apply under the grant process. The RFP asked applicants to respond under each competency. Three clinics were awarded grants. These included two Section 330 Community Health Centers and also the state’s largest tribal provider of services to children; these sites varied from a

## T-CHIC Final Report

frontier/isolated site three hours by plane from the nearest hospital, to a centrally-located urban site that already had PCMH recognition level III under NCQA.

Key activities to achieve category C goals included a learning collaborative within the state and with the other T-CHIC states; participation in statewide conferences; assistance from practice facilitators; implementation of the Medical Home Office Report Tool and the CG CAHPS-PCMH ; and use of a prioritized tracking sheet displaying summary MHORT data.

In May, 2011, Alaska kicked off its assessment of how key clinical and policy stakeholders view and value quality improvement, inviting Oregon’s Senior Policy Advisor Charles Gallia to join the T-CHIC project manager and the Denali KidCare Coordinator for meetings with twenty one policy and clinical leaders in Anchorage and Juneau. These meetings clearly informed many of the individuals interviewed about the T-CHIC project, informed the Advisor about the particular needs of Alaska’s pediatricians and Medicaid program, and triggered follow-up planning for Dr. Gallia and Dr. Christina Bethell from the Child and Adolescent Health Measurement Initiative (CAHMI) to lead a statewide broadcast session of pediatric Grand Rounds September 13 in Anchorage. Examples of stakeholders who responded very favorably to the visit and welcomed follow-up were Dr. Richard Mandsager, pediatrician and CEO of Providence Health and Systems Hospital and Children’s Hospital in Anchorage, Dr. Jodi Butto, President of the Alaska AAP chapter, and Kimberli Poppe-Smart, Deputy Commissioner of the Alaska Department of Health and Social Services.

Key activities completed by the Alaska Learning Collaborative included 2-day in-person learning sessions, biweekly and monthly conference calls, and webinars related to achieving medical home competencies and measuring those achievements.

In January, 2012, Alaska’s T-CHIC project presented a statewide learning session on “Implementing a Pediatric Medical Home: the Role of Care Coordination”, with panelists from one of the T-CHIC grantee clinics on the Nuka model, one from a private pediatric practice, and others with rural experience. The 100 participants included the T-CHIC clinical demonstration sites as well as clinicians, administrators and policymakers statewide. The T-CHIC state lead coordinated the PCMH track of the statewide Rural Health Conference in April, 2014 in which some T-CHIC clinics shared their successes and challenges with referral tracking.

For the three T-CHIC sites specifically, Alaska T-CHIC held bi-weekly meetings to review and analyze CHIPRA core quality measures and tools to measure medical home. In 2012

## T-CHIC Final Report

the meeting structure was adjusted to meeting monthly with more pre-work and participation by the clinics.

Learning sessions during the Alaska T-CHIC meetings included the following topics: quality measures, CAHPS-CG, MHORT, care coordination, CYSHCN, self-management, mentoring, referral tracking, HIT, immunizations, oral health, developmental screening, mental health/ACEs, patient engagement, sustainability and spread.

Each demonstration clinic reported on the MHORT and documented their progress and barriers on prioritized competencies at learning sessions and through quarterly reports. Also site visits were made by T-CHIC staff to the clinics, and one clinic toured Southcentral Foundation and another community Health Center in Anchorage that had successfully set up pods and implemented care teams. The tri-state learning collaborative that included all 21 sites was especially helpful, as were the practice facilitators.

During the grant period Alaska planned and hosted two annual tri-state meetings. The first one which included care coordination, cultural competency, developing aims statements, and defining and using measurement tools for quality improvement. The group reached consensus on practice-level characteristics to be collected across all the Category C practice sites and used to assess factors associated with and predicative of medical home quality improvement activities. The meeting's first day opened to interested participants from state agencies, non-grantee health care providers and organizations as well as the grantees and the tri-state teams. Key staff from Alaska's Medicaid and CHIP programs participated, whose expertise and engagement in quality assurance, quality improvement, performance improvement, EPSDT, and vaccination and disease registries were valuable as part of the overall learning process.

In early 2012, Alaska T-CHIC practices began collecting and reporting baseline data under the Medical Home Office Report Tool (MHORT). Alaska worked closely with OPIP to ensure consistency in its interpretation and to promote validity in the responses to the MHORT items and address clarifying questions until all remaining questions were resolved. Significant effort was required from T-CHIC staff to communicate with practices on these item-specific questions.

In fall, 2012 and every six months after that, each grantee clinic updated their responses to the MHORT. Alaska T-CHIC staff worked with Oregon Pediatric Improvement Partnership (OPIP) to coordinate these updates and regularly used MHORT data to identify topics needed for

## T-CHIC Final Report

technical assistance and learning sessions, and strategies to achieve PCMH competencies. A matrix was developed comparing MHORT findings, T-CHIC priorities, and Alaska medical home competencies that had been developed at the beginning of the demonstration. The most recent MHORT outcome data for each clinic was added under the relevant competency in the format for narrative reports that were required of each grantee quarterly. Also helpful was the T-CHIC Medical Home Priorities Tracking Sheet, a 2-page document that displayed progress made by each site through their answers to key questions in the MHORT at baseline and 6-month intervals.

Throughout the grant period Alaska continued learning curriculum meetings with grantees who participated in learning sessions with a more structured schedule based on results from the data in the Medical Home Office Report Tool, the CHIPRA core quality measures, and the CAHPS-CG patient experience of care survey.

T-CHIC staff arranged for the site with the highest MHORT scores and depth of training resources to deliver training to the other two sites during T-CHIC learning curriculum meetings. These presentations included self-management and stages of change, improving well child visits, and effective ways to use core quality measures for quality improvement.

The CAHPS-CG PCMH survey was administered to samples of patients at the Alaska T-CHIC demonstration sites in late 2012. Alaska T-CHIC staff served as a liaison to one of the practices to extract the data needed for the sample frame, and met with the other T-CHIC states and the survey vendor regularly.

A second CAHPS-CG PCMH patient experience of care survey was completed in 2014 with the three T-CHIC sites as well as three other clinics, including the largest pediatric provider in the state. Under the CHIPRA no-cost-extension a two day learning session was held in April 2015 on “Delivering Patient-Centered Care” and a learning collaborative being developed to work with the survey results and achieve higher quality.

T-CHIC has provided information and guidance about the MHORT and CAHPS-CG PCMH to the new PCMH initiative in Alaska and the National Governors’ Association Super Utilizers project. This PCMH initiative is coordinated by the Alaska Primary Care Association and other statewide organizations that regularly work closely with T-CHIC and the Primary Care Office in the government section that oversees T-CHIC in the state. The practice facilitators that T-CHIC has contracted with to provide assistance to the T-CHIC clinics work at the Primary

## T-CHIC Final Report

Care Association and was at the April session on Delivering Patient Centered Care. As a way to familiarize Alaskans with the MHORT, T-CHIC gave a round table presentation about the Medical Home Office Report Tool at the statewide Alaska Health Summit in 2014.

At the practice level, a wide range of rates was observed in a single measure, for example, developmental screening combined Medicaid/CHIP rates ranged between 0% and 66.7%. The practice reporting 0% noted that though screenings were being done, they were not using the 96110 billing code; reporting to the CMS specifications resulted in a rate of 0%. At the state level, the reported Medicaid/CHIP rate for the same measure was 5.2%. This low rate was also attributed to limited use of the 96110 code, and it is expected to increase over the next year following improved outreach and training on use of the code and addition of the modifier. These examples illustrate some of the different challenges both with using billing data as well as interpreting and applying the measurement specification.

Practices reported for the third time on the subset of Child Core Quality Measures in February 2014 for the calendar year 2013. These data were compared to calendar year 2012 data and showed improvement in a number of areas. All three practices demonstrated improvements between calendar years 2012 and 2013 in the measures for immunization rates, well-child visit rates, and BMI assessment rates. Improvements were consistent with focus areas of learning collaborative sessions and priorities chosen by grantees. IFHS in particular raised its adolescent well-child visit rate from 1.3% to 45.4% as a result of a focused quality improvement project between 2012 and 2013.

One T-CHIC practice began using the 96110 code which improved their ability to measure developmental screening. Parents not bringing in kids for well child checks was still been reported as a challenge, but solutions by the T-CHIC clinics were as simple as calling parents, putting up “Did You Know” posters showing that well-child visits are covered by insurance; and sending out postcard reminders.

# T-CHIC Final Report

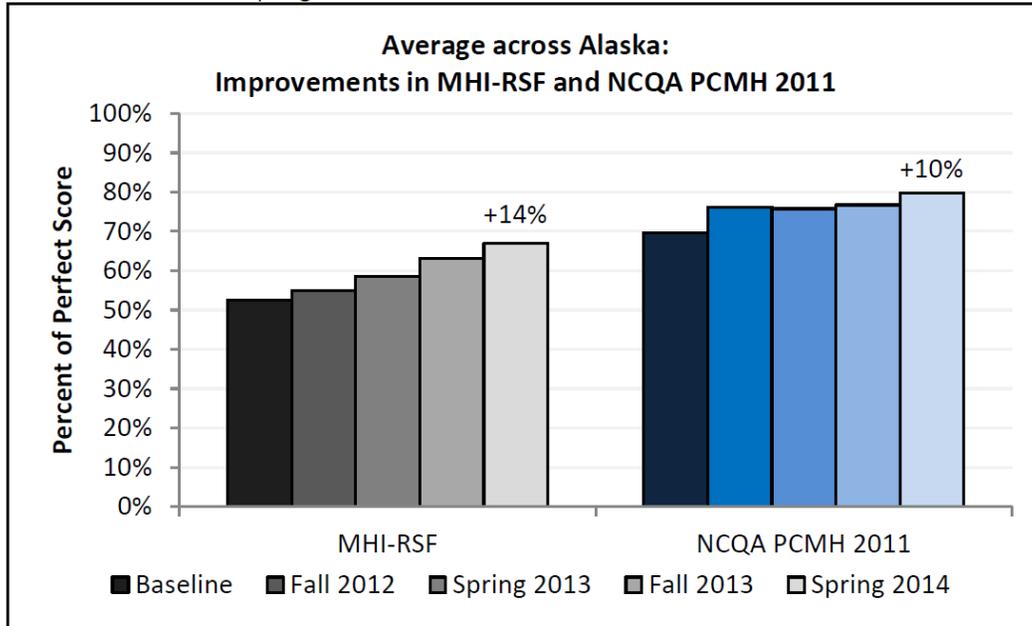
Table 6 Selected Core Quality Measures Outcomes, Calendar Year 2012 and 2013:

			Iliuliuk Family and Health Center		Southcentral Foundation		Peninsula Community Health	
			Calendar Year 2012	Calendar Year 2013	Calendar Year 2012	Calendar Year 2013	Calendar Year 2012	Calendar Year 2013
CMS #7 Weight Assessment/B MI	3-11 years	Overall	94.2%	100.0%	65.6%	78.2%	64.3%	70.4%
		Medicaid	100.0%	100.0%	64.6%	77.5%	57.4%	70.8%
	12-17 years	Overall	95.9%	100.0%	62.7%	72.4%	62.1%	76.0%
		Medicaid	100.0%	100.0%	59.9%	69.7%	57.5%	77.1%
CMS #8 Develop- mental Screening 0-3 years of life	Screened on or before 1st birthday	Overall	75.0%	87.8%	81.0%	85.1%	0.0%	48.1%
		Medicaid	100.0%	90.9%	80.2%	81.7%	0.0%	55.6%
	after 1st or on or before 2nd birthday	Overall	50.0%	68.0%	66.3%	74.0%	0.0%	37.9%
		Medicaid	80.0%	100.0%	63.6%	71.0%	0.0%	38.7%
	after 2nd or on or before 3rd birthday	Overall	23.3%	36.0%	53.1%	56.7%	0.0%	19.6%
		Medicaid	16.7%	33.3%	54.3%	53.2%	0.0%	21.3%
	Total screened on or before 3rd birthday	Overall	47.7%	68.1%	66.8%	72.1%	0.0%	34.8%
		Medicaid	53.8%	67.9%	66.7%	69.7%	0.0%	38.3%
CMS #12 Adolescent Well-Care Visits		Overall	1.3%	45.4%	29.4%	26.6%	3.8%	6.1%
		Medicaid	0.0%	36.8%	29.0%	25.7%	5.8%	9.3%

## Medical Home Office Reporting Tool (MHORT)

Grantee sites completed the baseline Medical Home Office Reporting Tool (MHORT) in spring 2012, and every 6 months thereafter through spring 2014, for a total of five reports. The graph below shows overall improvement in both the MHI-RSF and NCQA PCMH-2011 modules of the MHORT:

Figure 9



In November 2012, staff from OPIP attended an Alaska learning collaborative and presented “gaps” or weaknesses in Alaska’s medical home competencies as measured by the MHORT. Alaska T-CHIC staff held two follow-up meetings with the clinical demonstration sites to review these gaps and determine whether or how recent activities were addressing them and what technical assistance might be needed. It was useful for the meeting participants to focus on each specific shortcoming identified in the group setting.

According to the NCQA module of the baseline (spring 2012) MHORT, the following areas were identified as opportunities for improvement in Alaska sites:

1. Providing timely clinical advice by telephone when the office is not open
2. Documenting after-hours clinical advice in patient records
3. Increasing the percent of patients who have electronic access to their current health information within four business days of when the information is available to the practice.
4. Two-way communication between patients/families and the practice through a secure electronic system
5. Monitoring the percentage of patient visits with a selected clinician or team.
6. Training and assigning care teams to support patients and families in self-management, self-efficacy and behavior change
7. Conducting pre-visit preparations
8. Collaborating with the patient/family to develop an individual care plan, including treatment goals that are reviewed and updated at each relevant visit

9. Giving the patient/family a written plan of care
10. Assessing and addressing barriers when the patient has not met treatment goals
11. Giving the patient/family a clinical summary at each relevant visit
12. Identifying patients/families who might benefit from additional care management support
13. Developing and documenting self-management plans and goals in collaboration with at least 50 percent of patients/families
14. Documenting self-management abilities for at least 50 percent of patients/families
15. Provides self-management tools to record self-care results for at least 50 percent of patients/families
16. Demonstrates its process for contacting patients/families for appropriate follow-up care within an appropriate period following a hospital admission or emergency department visit
17. At least two utilization measures affecting health care costs
18. Performance data stratified for vulnerable populations (to assess disparities in care).

The following additional areas for improvement were documented in the baseline

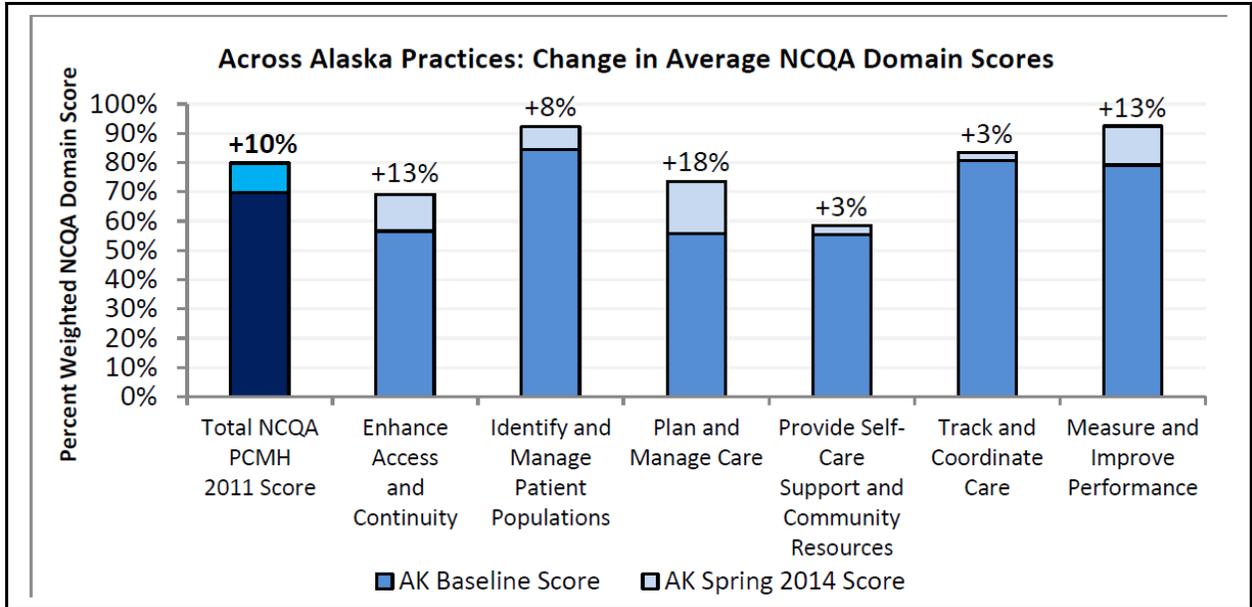
Medical Home Index (MHI-RSF) module of the MHORT:

1. Identification of CYSHCN
2. Care Continuity
3. Cooperative Management
4. Transition to Adulthood
5. Family Involvement
6. Assessment/Plan of Care
7. Community Needs Assessments
8. Electronic Data Support
9. Quality Standards
10. Cultural Competence

In Alaska, after comparing spring 2013 reports to baseline data, several areas of specific improvement were made by practices. Since baseline, all three practices improved in NCQA PCMH 2011 item 6F.3, providing data to immunization registries or systems; an informational call with the state immunization registry may have contributed to this improvement. Additionally, according to analysis by OPIP, all three Alaska sites achieved at least 10% improvement in the Plan and Manage Care Domain, and all three report tracking community referrals provided to families. In other domains of the MHORT, practices also demonstrated improvement in a variety of areas, recognizing that practices have in some ways chosen different areas to work on at different times.

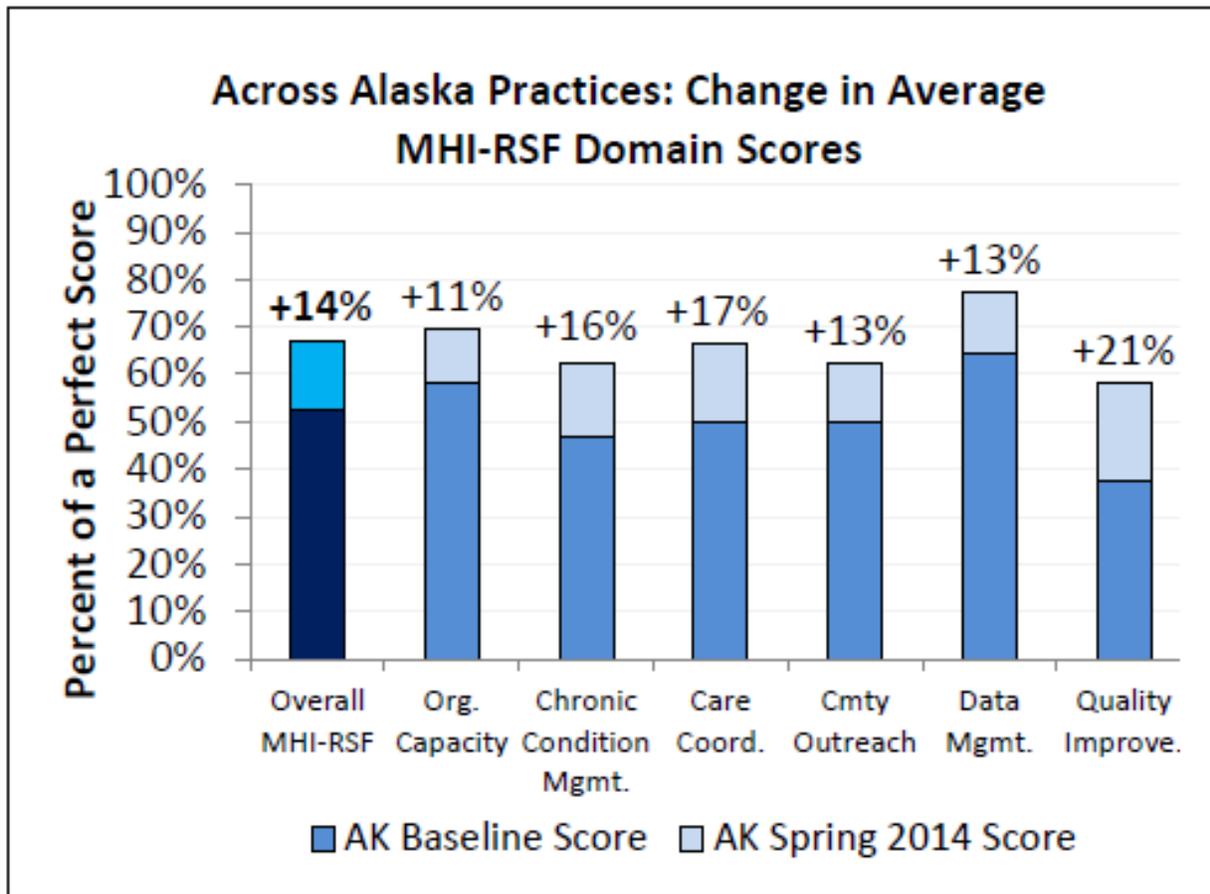
Results documented changes among practices between the 2012 (baseline) MHORT and the Spring 2014 update (NCQA-PCMH-2011 module) show the largest gains in the “Plan and Manage Care” domain and the “Measure and Improve Performance” domain. Of those practices showing improvement, most clinics improved on items related to patient experience of care surveys and coordination of care.

Figure 10 Alaska Change in Average NCQA Domain Score



In the MHORT MHI-RSF, the most improvement in Alaska sites between baseline and 2014 was observed in the quality domain related to Quality Improvement (+21%), Care Coordination (+17%), and Chronic Condition Management (+16%).

Figure 11 Alaska MHI RSF Domain Score Change



CAHPS-CG

In the CAHPS-CG composite scores, Alaska scored 13 percent lower than T-CHIC in the area of child developmental comprehensiveness and 9 percent lower in child prevention comprehensiveness. These areas include questions about whether someone at the provider’s office talked about your children’s learning ability; the kinds of behaviors that are normal for your child at this age; how your child's body is growing; your child's moods and emotions; how much time your child spends on a computer and in front of a TV; how much or what kind of food your child eats; and how much or what kind of exercise your child gets. The results also showed that Alaska scored lower in some areas of Access (ability to get the care needed during evenings, weekends, or holidays and to receive same day response to phone calls made during regular office hours)

### Category C Implementation and Results: Oregon

Nearly all work in this category in Oregon was led by the Enhancing Child Health in Oregon (ECHO) primary care learning community. ECHO was a learning collaborative led by the Oregon Pediatric Improvement Partnership (OPIP) in collaboration with the Oregon Rural Practice-based Research Network (ORPRN). ECHO was a portion of the Tri-state Children's Health Improvement Consortium (T-CHIC) project - specific to Oregon that provided insight into the effects and learnings (successes and barriers) of implementing medical home concepts in (successes and barriers) of implementing medical home concepts in primary care settings. The areas of focus for ECHO are based on identified needs or interests by participating practices (by report or by baseline assessments) and are designed to be cross-cutting of multiple medical home attributes.

The eight primary care practices (5 Pediatric, 3 Family Medicine) are spread throughout rural (n=3), suburban (n=3) and urban (n=2) Oregon. The table provides an overview of participating sites in Oregon.

T-CHIC Final Report

Figure 12 Oregon Practice Characteristics

Descriptive Variables about Oregon Practices	OR Practices (N=8)	Childhood Health Associates of Salem	Family Medical Group	Hillsboro	The Children's Clinic	Woodburn	Eastern Oregon Medical Associates	Siskiyou	Winding Waters
<b>Specialty of the Majority of Providers</b>		Pediatrics	Family Medicine	Pediatrics	Pediatrics	Pediatrics	Family Medicine	Pediatrics	Family Medicine
<b>Number of Primary Care Providers</b>		MD/ DO - 10 NP - 3 PA - 5 Other - 1 TOTAL - 19	MD/ DO - 5 NP - 1 TOTAL - 6	MD/ DO - 7 NP - 5 TOTAL - 12	MD/ DO - 26 NP - 1 TOTAL - 27	MD/ DO - 4 NP - 4 PA - 2 TOTAL - 10	MD/ DO - 5 NP - 2 PA - 2 TOTAL - 9	MD/ DO - 4 NP - 1 PA - 0 TOTAL - 5	MD/ DO - 3 NP - 2 PA - 1 TOTAL - 6
<b>Practice Location</b>		Suburban	Urban	Suburban	Urban	Rural	Rural	Rural	Rural
<b>Practice Model</b>									
Private Practice-Physician Owned		✓	✓	✓	✓	✓		✓	✓
Part of Larger Health System							✓		
<b>Other Characteristics:</b>									
<b>Years of Electronic Medical Record (EMR) Use</b>		14	7	11	9	6	10	1.5	2.5
<b>NCQA Recognized Medical Home</b>					✓				
<b>Pediatric Patient Size</b>		16,333	1,225	11,885	38,826	7,255	2,145	4,599	707
<b>Percentage of Total Patient Panel that is Pediatric</b>		100%	10%	96%	100%	99%	28%	100%	22%

The T-CHIC Medical Home Office Report Tool (MHORT) was the data system used to assess changes in the practices as they focus in becoming medical homes, as well as tracking the processes and systems that are improved through the T-CHIC efforts. The MHORT data were collected at baseline, before the T-CHIC sponsored efforts began, and was updated in Fall 2012 (Aug. 15 to Nov. 30 2012), Spring 2013 (Feb. 1 to Apr. 30 2013), Fall 2013 (Aug. 15 to Nov. 30 2013), and Spring 2014 (Feb. 1 to Apr. 30 2014)

### *Key Components of ECHO*

**Learning Collaborative:** Public/private stakeholders were engaged to develop goals and objectives for an IHI style learning collaborative. An intentional strategy was used to develop the starting point **Learning Curriculum (LC)**, which included an assessment of **Goals, Needs, Objectives, Methods, and Evaluation** for curriculum development (**GNOME** analysis) and analysis of **baseline data**.

**Participants:** Eight private practices were recruited to represent the kinds of practices that serve children enrolled in Medicaid/CHIP in Oregon (5 Pediatric, 3 Family Medicine; 2 Urban, 3 Suburban, and 3 Rural). One of the practices was bought out by a larger system over the course of the project. OPIP facilitated five sites and ORPRN facilitated three sites. The Oregon Center for Children and Youth with Special Health Needs (OCCYSHN) was a critical partner at the Learning Sessions. Practices received an annual stipend of \$7,000.00 to cover expenses related to attendance at meetings

### **Evaluation Data:**

**Office Report of Systems and Processes:** The **Medical Home Index: Revised Short Form© (MHI-RSF©)**, a tool specific to Children & Youth with Special Health Care Needs (CYSHCN) and the **National Committee for Quality Assurance Patient-Centered Medical Home (NCQA PCMH)**, were collected at baseline and every six months during the two-year project. Additionally, the practice's **Patient Centered Primary Care Home (PCPCH)** attestation data was collected at baseline (November '11) and when the practice re-attested.

**Patient Experience of Care Data:** OHA sponsored collection of the **Consumer Assessment of Healthcare Providers & Systems®, Clinician & Group, Patient Centered Medical Home (CAHPS® CG PCMH)** version in Fall 2012 and Fall 2014.

Provider and Office Staff Surveys: Evaluation surveys were collected at each Learning Session.

Throughout, the data were used to modify and enhance the curriculum. An evaluation survey of the curriculum and LC structure was administered after the final Learning Session.

Policy Improvements: ECHO's Impact on Policy was fairly significant. Below are highlights of some of the impacts of the ECHO Project on policies:

#### **National Policies:**

- Learnings from ECHO/T-CHIC are informing national discussions about CHIP and health reform efforts, including being highlighted in policy briefs on care coordination, identifying children with special health care needs, adolescent well visits and developmental screening
- National Medical Home Standards: Strategic memos have been shared with NCQA and the CAHPS team to inform improvements in the tools. Staff from OPIP have been asked to present on key learnings from ECHO at the November 6th NCQA meeting on patient engagement.
- **CHIPRA Core Measures**: Learnings from ECHO and T-CHIC are being used to inform discussions about the relevance and meaningfulness of the core measures for practice-level medical home transformation. Through T-CHIC, Ms. Reuland has been able to maintain her role as Measure Steward for the Developmental Screening in the First Three Years of Life measure.
- **CHIPRA Quality Demonstration Grant National Evaluation Briefs**: Of the nine briefs developed by the CHIPRA National Evaluation Team(NET), ECHO & the Oregon- based efforts have been spotlighted in four out of nine Evaluation Briefs -#2, 4, 6, & 9  
<http://www.ahrq.gov/policymakers/chipra/demoeval>

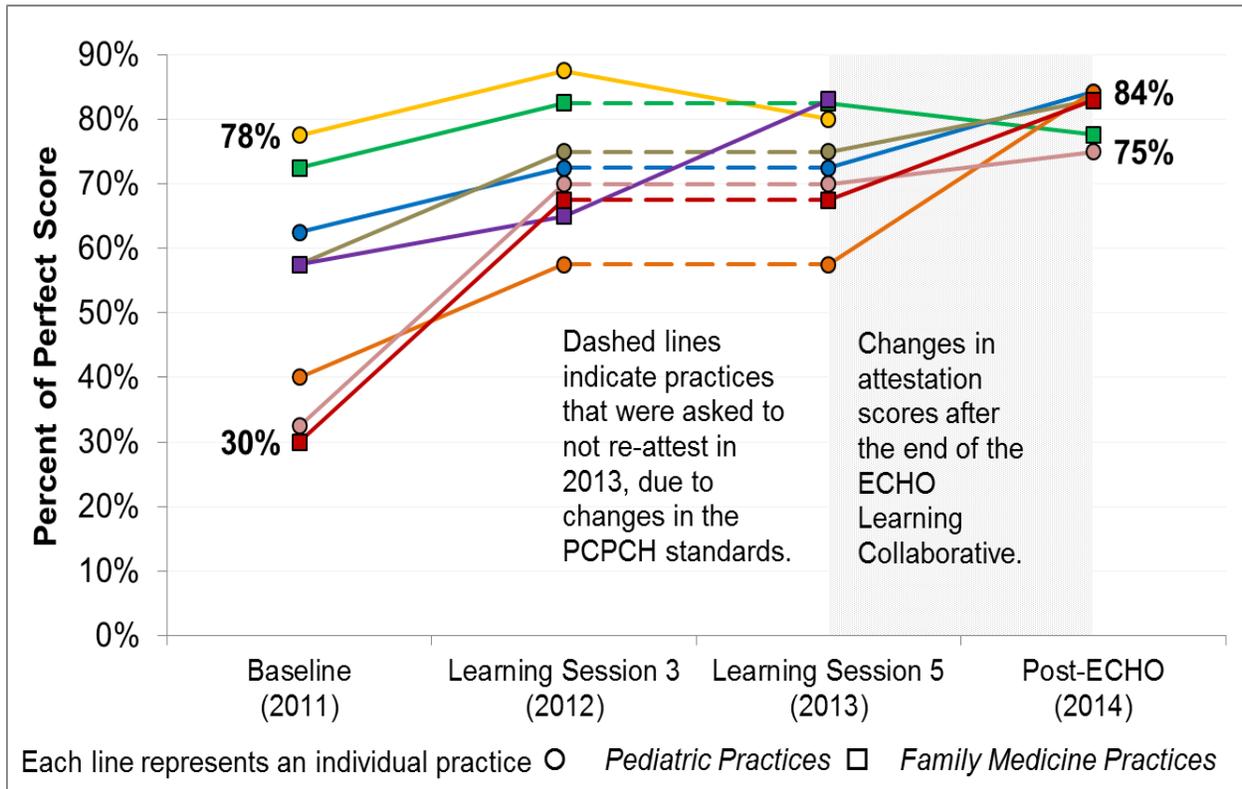
#### **Oregon Policies:**

- **Improvements to Oregon's Patient-Centered Primary Care Home (PCPCH) Standards**
  - Drs. Gillespie and Fagnan served on the original **PCPCH Steering Committee** and shared learnings from the ECHO project. Since that time, Dr. Gillespie and Ms. Reuland have participated in committees focused on update and enhancements to the PCPCH standards.
- A number of recommendations from OPIP memo "**Oregon Health Authority's Patient-Centered Primary Care Home (PCPCH) Standards Update: OPIP Comment Based on Front-Line Experience, Partner and Practice-Level Review – June 2013**" were included in the updated 2014 standards.

- A number of recommendations from OPIP’s “**Oregon Health Authority’s Patient-Centered Primary Care Home (PCPCH) Star Program: Comment Based on Front-Line Experience, Partner and Practice-Level Review – January 2014**” were included in the 9/14 preliminary draft of the STAR program.
- **Structure & Focus of the Patient-Centered Primary Care Institute (PCPCI)**
- OPIP and ORPRN are **technical assistance providers** within PCPCI and able to spread learnings from this project within those efforts.
- A number of recommendations from OPIP’s memo, “**Next Steps for the Patient-Centered Primary Care Institute (PCPCI) – Memo from OPIP about Important Next Steps- July 2013**” were addressed in Year 2 of Patient Centered Primary Care Institute work.
- **Child- and Family-Centered Incentive Metrics. Metrics & Scoring Committee:** Dr. Gillespie is one of the nine appointees to this committee, and in that role builds off the learnings from ECHO. Of the 17 metrics chosen for the Medicaid Managed Care Organization’s incentive pool, several relate directly to care for children and youth.

All practices went from un-tiered to Tier 3. Below are the practice results showing before and after in terms of reaching the scores for Oregon’s Patient-Centered Primary Care Homes (PCPCH) standards, the percent of perfect score.

Figure 13 Change in Oregon Practices

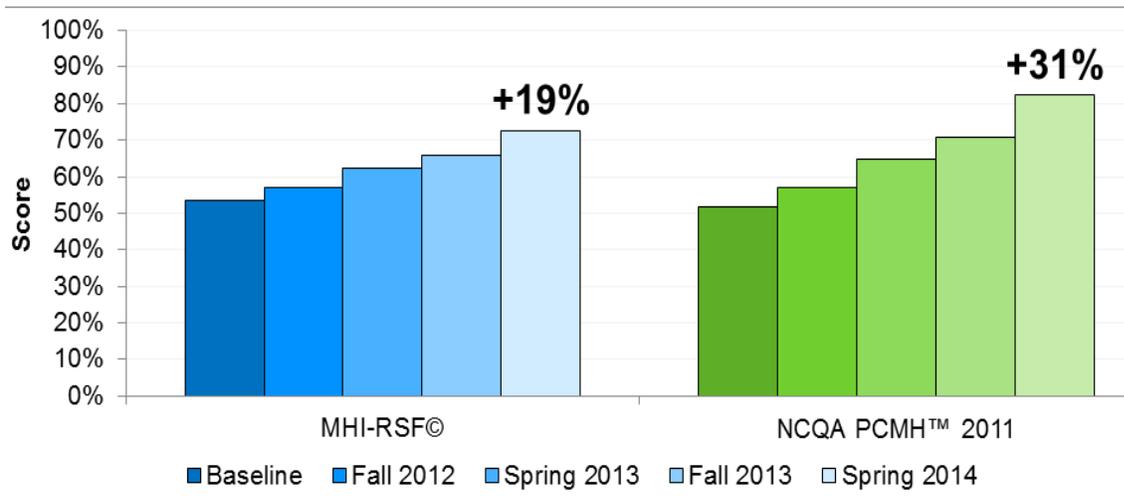


*Practice Transformation in ECHO*

- Practices transformed their level of medical home services. Improvements were observed on the MHI-RSF© (+19%) and the NCQA PCMH 2011 (+31%).
- Within the MHI-RSF©, which assesses medical home for CYSHCN, the largest improvements were in Care Coordination (+26%), Community Outreach (+25%), and Organizational Capacity (+20%).
- Within NCQA PCMH the largest improvements were in Plan & Manage Care (+42%) and Enhance Access & Continuity (+36%).
- All eight of the practices have achieved **Tier 3 status** on the Oregon PCPCH standards (see <http://www.oregon.gov/oha/pcpch/Documents/TA-Guide.pdf> for Current Standards).
- All have care coordinators. The spring data collection is an indication of sustained improvements.

# T-CHIC Final Report

Figure 14 ECHO Practice Improvements as Measures by the MHI and 2011 NCQA Standards



In 2012, CAHPS scoring was used to calculate achievements. This means that somewhat positive responses were included with positive responses as achievements. For example responses of "Usually" or "Always" to the question "How often did this provider listen carefully to you?" were considered achievements.

In 2014, in order to allow comparisons to NCBD 90th percentile scores, only Top Box scores were used to calculate achievements. This means only responses that indicate the most positive experience were labeled as achievements. For example a response of "Always" to the question "How often did this provider listen carefully to you?" is considered an achievement.

In the Trend Analysis, achievements for the 2014 results are recalculated using CAHPS scoring to allow for comparisons to the 2012 scores. Increases in Oregon scores are shown below. We present the scores from the Child survey achieved by the Oregon practices in the table below. These questions had statistically significantly higher scores in 2014 as compared to the 2012.

Table 7 Oregon T-CHIC CAHPS Significant Improvement 2012 versus 2014

Question	ORE 2014 Score	ORE 2012 Score	% Point Change	Composite Group
Q47. Someone at provider's office talked to you about how your child gets along with others	54.3%	44.6%	+9.7	Child Developmental
Q17/Q24. Got a reminder from provider's office between visits	58.6%	49.5%	+9.1	Single Items
Q44. Someone at provider's office talked to you about how much time your child spends on a computer and in front of a tv	55.8%	46.8%	+9.0	Child Prevention
Q48. Someone at provider's office talked to you about whether there are any problems in your household that might affect your child	45.2%	39.3%	+5.8	Child Prevention
Q36/Q50. Someone at provider's office asked if there are things that make it hard for you to take care of your (child's) health	22.2%	17.0%	+5.3	Self Management Support

What was the value of the ECHO Collaborative?

- Impacted Total Practice Populations, Specific Focus on CYSHCN
- Impacted over 100,000 patients' total. Produced benefits for patients beyond just Medicaid populations, even though the project was funded by the CHIP grant.
- Brought a focus to specific population groups (CYSHCN, adolescents) were not a focus in previous medical home efforts
- Informed State Policies Through Meaningful Engagement and Distillation of Practice Level Findings
- Informed development of and revisions to statewide measures, such as CCO incentive metrics, and the PCPCH Standards.
- Ensured focus on application of these measures to specific populations (e.g. CYSHCN) and best practices.
- Stakeholders engaged in a way not done previously, new people at the table.
- Meaningful Data Collected and Used
- Collection and dissemination of data supported multiple used: informed practice QI work, state policies, evaluated improvements, and facilitated patient engagement.
- Project included essential support to empower practices to meaningfully use the data and meet the intent of medical home standards, and not just check the box for completion.
- Multi-Stakeholder Engagement/Collaboration
- Enhanced relationships and collaboration built between numerous stakeholders (e.g. state, practices, TA providers, community groups, schools). Learnings were spread across communities for State and local policy and practice improvements.
- Peer-to-peer in-person networking and shared learnings were extremely effective for practices to spread ideas and identify new tools and processes.

### *ECHO Identified Essential Components of Practice Transformation*

#### 1. Care Coordination

- Care Coordination is a “living process” in practice that addresses key functions. Care coordination is organic to the practice infrastructure, team and roles. The act of hiring a Care Coordinator does not achieve care coordination alone.
- Care Coordination increases value of patient visits, efficiency, and effectiveness; however, practices need significant education to understand the value of these functions in order to be willing to invest in the position.
- To have effective Care Coordination, the functions/positions need to become internal components of the practice structure and culture, not serve as an external role.

#### 2. Patient & Family Engagement

- Patient and family voice is crucial in guiding patient-centered practice transformation (e.g. identifying opportunities for improvement, developing strategies, setting priorities, interpreting patient experience of care data, etc.).
- Patients and families need to be at the center of improvement efforts. They should be incorporated as equal members on the team. It is important to use methods to diffuse the power differential between the practice and the patient/family.

## T-CHIC Final Report

- Important to incorporate the family as a holistic unit. The increased health of the family unit will therefore increase the health of the child.

### 3. Spread of QI to Broader Populations, Ensure CYSHCN Focus

- When looking at QI efforts for patient populations, it is important to ensure focus is spread beyond adult-only populations.
- Ensure that a pediatric focus explicitly calls out and includes CYSHCN population for QI efforts.

### 4. Practice Culture / Teamness

- Value of team-based care as opposed to physician-centered care.
- Important to ensure collaborative processes for QI and spread, involving patients, providers, staff, and community resources.
- Important for clinic providers and staff to practice at the top of their licenses.
- Practices may need significant time and support to buy-in to practice transformation and the concept of team-based care. Identification of clinic and administrative champions critical.

### 5. Navigation and Collaboration with Community Resources

- Ground-level involvement of community resources, beyond traditional clinic structures, is critical.
- Collaborate with community resources essential for children: Education, SBHC, State and Local policies, etc.
- That said, practices experience barrier in this such as different work hours, different priorities.

## Supports Still Needed for Practice Transformation and Sustainability

### 6. Technical Assistance & Facilitation

- Practices are too busy to drive transformation without external support
- Practices/ communities lack technical skills needed to participate in QI projects (e.g. evaluation)
- Need to be mindful of both the benefits and challenges to practices receiving facilitation from groups to groups to which they have vested interest (e.g. part of their health system, the state) versus facilitation from external entities (e.g. organizations like OPIP and ORPRN ).

### 7. Continuation of Learning Communities

- Provide opportunities for peer learning, moral support, and interaction with non-health stakeholders (e.g. schools, community groups)
- Continued Education & Training
- Education is necessary for practices and providers to understand the importance of care coordination functions, use of quality data, and meaningful engagement with patients and families.
- Ongoing support is necessary for patient and family partners to enhance engagement with practices and policy makers.

### 8. Financial Support and other Incentives

- Multi-payer payment reform models are necessary to move forward medical home transformation. Current reimbursement is unsustainable. Payment cannot just come from public payers (benefits are not explicit to Medicaid populations).
- For practices: Currently, no reimbursement to practices for care coordination functions and/or roles. Practices cover the cost on their own, which is not sustainable long-term. For providers: Incentives should include Continuing Medical Education and/or Maintenance of Certification credits.
- For patients and families: Need financial support and continuing education to be an equal member of Patient Advisory Boards and QI Teams. These positions should not be volunteer positions.

#### 9. Quantifying Benefits/ROI of Practice Transformation to Stakeholders

- It would be valuable to gather information that quantifies internal and external benefits of practice transformation.
- Need to clarify the ripple effect of improved health at pediatric level, into adulthood (e.g. early detection and treatment of mental health and other risk factors, healthier communities, educational attainment, decreased workdays missed, reduced ED visits, reduced likelihood to enter criminal justice system, etc.)

#### Category C Implementation and Results: West Virginia

The West Virginia project plan related to PCMH as able to partially address objectives C1 and C2. The model implemented emphasized the care coordination function, but was intended to facilitate migration to a medical home model of care delivery along with achievement of NCQA PCMH recognition. To these ends, a learning collaborative approach was adapted to fit the needs of the 10 practices. Annual face to face learning sessions were conducted to review change concepts related to medical home attributes as well as the basic skills and tools of quality improvement. Monthly webcasts provided additional opportunities for practice interaction and additional content and ideas for change. The Project Manager received NCQA certification as a PCMH expert in order provide coaching to those practices considering the recognition path. A parallel tri-state collaborative effort focused on high-priority topics derived from the MHORT and agreed upon by the group. Through the course of the grant period, practices implemented a number of process changes reflective of medical homes:

- Team-based care
- Population management rather than thinking solely about individuals
- Better referral tracking and follow up for their patients
- Improved patient/family reliance on the practice site for whole patient care

## T-CHIC Final Report

- Improved resource availability for patients/families
- Establishment of QI processes and structures to guide specific improvement efforts
- Outreach activities to bring patients in who might otherwise drop through the cracks
- Shared care plans
- Self-management support approaches.

Through these practice changes, the PCMH model was operationalized and through the MHORT progress toward PCMH was assessed. However, the intent of objectives to assess the impact of these changes could not be fully realized. There was no way to segregate the impact on quality of one change versus another or the use of HIT. Subjective feedback from providers and patients supported the conclusion that a positive impact was felt, but quantifying the individual impacts was not feasible.

As the practices worked on their process changes and measures reporting, the Project Manager facilitated peer learning within the group of 10 care coordinators. The care coordinators met monthly to share experiences and learning and were always available to each other for support, questions, or ideas. Training sessions for the care coordinators were conducted annually to improve their skills and provide another forum for sharing. This care coordinator network was an important structural component of the T-CHIC project.

### Operational lessons

- Although practices did not complete their transformation journey through this initiative, enough momentum was created that the value of many of the practices changes incorporated through T-CHIC has been recognized and these changes have been embedded in routine practice operations.
- Improvement initiatives will only be successful if all parties involved have appropriate awareness, interest, knowledge, and engagement in the project.
- The role of care coordination is not well understood and is sometimes confused with care management. Defining the role for both those filling it and the other members of the care team will accelerate success, even when the role varies from one practice to another.
- Patients were sometimes skeptical of the care coordinators due to the lack of a provider facilitated warm hand-off; the value of face to face versus telephonic interaction was emphasized.
- As a care coordinator, learning the IT systems of a practice was challenging while simultaneously learning and evolving their new role. The lack of a dedicated IT person or persons caused the reporting burden to be pushed to the care coordinators. Having an individual with the skills

necessary to create reports that will allow for accurately reporting data using the technical specifications is key to continued quality improvement.

- Not having enough care coordination resources to serve all the needs of all the patients was noted as a barrier in some practice sites. There was no agreement on the number of care coordinators that were needed in each practice as the role and number of patients served can always be expanded to maximize the use of any available resources. However, there was no disagreement that one care coordinator was not enough for the larger practice sites.
- Regardless of the care coordination model that is ultimately put into place, there is value in establishing a network of individuals filling the care coordinator role so that training can be consistently conducted and experiences and lessons learned shared.
- Involving administrative staff in the process facilitates overall progress.
- Success of the PCMH program can be measured by the amount of provider and administrative staff engagement.
- Developing project contracts with the practice sites that specifically outline deliverables from each party is important. The contracts will help to recruit only those practice sites that are truly committed to the goals and objectives of the project. Having such a committed requires that the plan be outlined from the very beginning.
- Incorporating maintenance of certification for the providers involved permits the providers to obtain licensing credit for specific pieces of the project. From the project perspective it further entices the providers to be involved and engaged.

Parental involvement on the Advisory Council is challenging but very informative if attained.

Parents have a number of factors that limit their ability to participate in ongoing meetings. The recruitment process must be one that looks for a parent that is not only comfortable speaking with a group, but has to have resources available to him/her to allow them to attend the meetings.

### Strategic lessons

- The T-CHIC initiative provided West Virginia will some evidence that a quality infrastructure would be needed in the state in order to sustain the gains that were being realized; such an infrastructure was established at the state level.
- Strong administrative and provider buy-in to transformation efforts is essential for transformation to take place. Without leadership support transformation will not occur; as improvement initiatives are

undertaken, leadership commitment should be documented through memoranda of understanding, delineating roles and responsibilities and expectations.

- Observations on the T-CHIC project were able to influence West Virginia Medicaid to revise MCO contracts to reflect expectations related to PCMH, care coordination, QI, improved quality and decreased costs.
- Resources must be made available to small rural providers for transformation work to progress. They lack available internal resources to facilitate the work.
- Small rural practices are not “eager” to apply for recognition because of lack of the resources required to implement the practice changes needed and lack of any reimbursement associated with recognition. This is a factor that has influenced the West Virginia Medicaid agency that has been reluctant to require medical home attributes in some of its program because it may deter some providers from accepting Medicaid patients.
- Lack of payment for care coordination/care management in the pediatric practice sites discourages continued care coordination services despite the benefits providers and patients might see.
- Care coordination alone is insufficient to drive a practice to medical home transformation; at the same time care coordination is a necessary component of a medical home. In West Virginia, the concept of regional care coordination resources continues to be discussed as a potential approach to addressing the inability of individual practices in many parts of the state to support the function internally. Careful consideration will need to be given to how the relationships with care teams as well as patients are established before that type of model is put into place.

#### Design changes

- The original T-CHIC proposal included a care coordination network of individuals to work across multiple practices. This model had previously been successfully employed in pilot form, but in a geography where the practices were close together and the care coordinator could spend time in each practice. When practices were being recruited for T-CHIC, it became apparent that that model was not going to be viable; this resulted in a single coordinator being physically deployed to each practice while under central administrative supervision through the T-CHIC Project Manager.
- An early goal of the T-CHIC initiative was for each practice to achieve NCQA recognition. In the absence of any reimbursement changes over the course of the 5 year project, this goal was given up;

practices were unwilling to commit the time and resources necessary to achieve formal recognition although all practices implemented many of the practices changes required to reflect PCMH attributes.

*Category C Implementation and Results: West Virginia*

The T-CHIC Medical Home Office Report Tool (MHORT) is comprised of five modules that include a total of 321 items, with an additional 11 items focused on descriptive information about each primary care provider in the office. The five modules are the following: 1: Demographic Form; 2: Practice Characteristics; 3: Pediatric Medical Home Index: Revised Short Form (MHI-RSF); 4: National Committee for Quality Assurance Patient-Centered Medical Home (NCQA PCMH) 2011.

The MHORT was collected at baseline, before the T-CHIC sponsored efforts began, and was updated in Fall 2012 (Aug. 15 to Nov. 30 2012), Spring 2013 (Feb. 1 to Apr. 30 2013), Fall 2013 (Aug. 15 to Nov. 30 2013), and Spring 2014 (Feb. 1 to Apr. 30 2014). There was an overall increase of 27% from the baseline fielding of the MHORT to the spring of 2013.

The MHI-RSF assesses improvement efforts specifically targeted to children and youth with special health care needs (CYSHCN). The most improvement areas were observed in the quality domain related to Quality Improvement (+17%), Data Management (+15%), and Community Outreach (+14%). Individual, practice-based improvement efforts observed in this area were focused on identification of CYSHCN, care coordination, and communication / access

Improvements were also observed on scores to the NCQA-PCMH, which looks more globally at patient-centered medical homes for all patients. The greatest change was observed in the domains related to Measuring and Improving Performance (+39%), Planning and Managing Care (+26%), Identifying and Managing Patient Populations (+25%), and Tracking and Coordinating Care (+25%). Of those practices showing improvement, most improved on items related to collecting and sharing electronic data, sharing materials and information with patients, and obtaining patient feedback and patient experience of care surveys. This latter score was directly impacted by the fact that T-CHIC facilitated and supported the implementation of the Consumer Assessment of Health Plans Survey – Patient Centered Medical Home survey (CAHPS-PCMH).

On the NCQA-PCMH, all practices improved in their overall score. The domains of care for which the West Virginia practices have the most room for improvement include Providing Self-Care Support and Community Resources (Domain average score: 66%) and Plan and Manage Care (Domain average score: 76%). There is one process that 8 of 9 West Virginia practices are not doing; this is “collaborates with the

patient/family to develop a written care plan for patients transitioning from pediatric care to adult care”. Although, significant work did take place relative to patient/parent engagement this remains an area that is difficult for WV practice sites to impact. In order to incorporate shared care plans into the EHRs, customized templates would need to be requested from the vendors. In the absence of funding for these services this function has not been available for the practice sites.

While increased scores on the T-CHIC MHORT have been observed, there remains significant opportunity for improvements. The practices have more room for overall improvement on aspects of medical home as assessed by the MHI-RSF. The average score across West Virginia was not above 74% for any of the MHI-RSF quality domains (the lowest domain score is for Quality Improvement – 57%). It is important to note that the improvement opportunities identified and the relative rank of the practice level scores often varied significantly between the MHI-RSF and NCQA PCMH. While both are focused on the concept of medical home, the specific focus on CYSHCN and related needs for this population yielded different observations about the quality of care provided and improvements observed.

Final MHORT trend reports are found in Appendix G.

### *Lessons learned about improvements observed and implications*

Based on the data collected through the MHORT, the T-CHIC team identified five medical home priorities for which there were enhanced tracking and practice facilitation as well as content and peer-sharing webcasts. The five priorities identified were the following: Primers to Care Coordination 1) Standardized systems/process for Identifying Children & Youth with Special Health Care Needs (CYSHCN) 2) Patient education and engagement materials defining medical home and assessing the patients’ needs from the medical home overall, and specifically as it relates to care coordination. Three Care Coordination Functions as defined by Richard C. Antonelli, Jeanne W. McAllister, and Jill Popp in Making Care Coordination A Critical Component Of The Pediatric Health System: A Multidisciplinary Framework (May 2009) 3) Develops care plans with families 4) Manages and tracks tests, referrals and outcomes 5) Coaches patients/families.

Incorporation of a learning collaborative within West Virginia allowed the practice sites to share methods and insights into the PCMH transformation process. The practice sites participated in annual face to face sessions used for the purpose of content dissemination, networking, sharing best practice as well as review of data submitted in regard to the core measures. Topics included during the learning sessions were: team-based care, self-management support skills, developing a quality improvement program, reliable referral management, motivational interviewing, care coordination strategies, parents sharing their stories of care coordination and

what it means to their families and ideas for enhancing access. The sessions provided continuing medical and nursing education credit.

Each month, West Virginia project staff facilitated webcasts with the 10 practice sites. The topics include: moving the dot in asthma care, population management, oral health partnership: moving the dot in dental services, community partnerships, involving parents, making the business case and others as identified through practice interactions. The calls were recorded and made available on the West Virginia Health Improvement Institute (WVHII) workspaces for access after call. Each practice was also given the opportunity to participate in The IHI Leadership for Improvement Achieving Excellence in Primary Care Web Series. Grant funding supported the registration fees for the practices.

In West Virginia, the most significant challenge, not unique to this state, is making opportunities for participation for busy providers. Efforts to resolve this challenge include offering calls and events during the lunch hour for provider to enhance their overall participation rate. It was learned that not all the practices schedule provider lunch at the same time. This made for a bigger challenge in offering learning opportunities that were facilitated across all 10 practice sites.

In West Virginia's 10 practices, the care coordinators served as the key ingredient to implementation of an effective model of care coordination. These individuals worked toward the implementation of the following PCMH activities necessary to implement and support a new model of care coordination:

- Create linkage between the client and their Medical Home, community and their licensed healthcare providers while ensuring the healthcare provider has the necessary information regarding the discharge and/or concurrent treatment plan
- Intervene, assist, manage and be a strong advocate for their clients or to promote issues
- Navigate the medical system, then inform, counsel and help their patients and their families understand the results
- Fill out paperwork such as insurance claims
- Keep abreast of current medical laws, rules and policies such as Medicare, Medicaid, CHIP and other companies

The main reasons identified for referring patients to care coordination included; chronic issues, elevated BMI, multiple referrals, behavioral/social issues, high risk for "being lost in the system" due to either

family/caregiver lack of knowledge or noncompliance, children who are frequently late on appointments/immunizations.

In addition to contributing to the implementation of a care coordination function in each of the 10 participating practices, the care coordinators deployed to the practices also contributed to the overall progress each practice made toward the objective of medical home transformation. Although only four of the practices have been recognized by NCQA as Patient-Centered Medical Homes, all have made significant progress as demonstrated by the NCQA survey and have been held back from achieving recognition only by the cost and paperwork involved in the process.

Subjective comments from administrators and providers in the WV practices site improvements not necessarily reflected in the quantitative measures. Prior to the T-CHIC program and funding, these practice sites did not have pediatric care coordination. They did not track/document pediatric referrals, have a plan set in place with specific guidelines to prevent children “falling through the cracks” of the healthcare system. They had many children that were not up to date on immunizations and chronic care patients with little parental knowledge of how to navigate the healthcare system. Practices feel that Care Coordination has given the patients a name, a face, and a response in the system regarding who and where to call. It is the person that can help them navigate through the forms. Care Coordination can improve outcomes and increase patient satisfaction. It is an approach to care that seeks to improve patients’ health, increase access to appropriate care, and reduce costs by placing the patient at the center of care.

With the Care Coordinator’s assistance quality improvements have been accomplished in the areas of patient access, patient flow, care planning, daily integrated clinical team preparation (team huddle), and team-to-team and team-to-clinic communications.

Development of a standardized “list” of care coordination functions that are anchored to support continuous QI work within individual practices is key. The size of the practices in the WV project range from having a patient population of less than 5,000 patients to greater than 10,000 patients in their population. This fact requires that the duties performed by the care coordinators be different if for no other reason than time limitations for the care coordinator. Building consistency among the duties for the ten care coordinators is a challenge but a core set of duties across the practice sites would allow return on investment activities to be conducted.

Parent involvement initiated with parents of a child with special health care needs in each practice site would have provided valuable input into the PCMH transformation process. Although this was attempted by

many of the practice sites, they were unsuccessful in attaining parent involvement for extended periods of time. Further work in this area is needed to get that valuable insight.

Having a parent involved with the Advisory Council offering their perspective to the decisions of the Council from the onset of the project would allow the parent to better understand the depth and breadth of the project.

The implementation of Care Teams very early in the project curriculum should be a part of the memorandum of understanding to provide efficient implementation of talent and focus to provide consistent and attentive care to the patients.

Providing asynchronous learning opportunities by recording each session and making it available on the workspaces site to increase the opportunity for provider participation.

Provide on-site technical assistance to the practice site to help facilitate improvements in the practice in the efforts to implement and sustain models of care coordination from the onset of the project.

The challenges of collecting measurement data at the practice level often overshadowed their QI and transformation efforts.

A return on investment design component should have been incorporated into the care coordination effort from the onset of the project. In the end, the return on investment will be the question asked in as the sustainability efforts are outlined.

It was often noted that asking a provider to leave the practice for a learning session decreased the potential earnings for the provider or practice. Building into the budget increased funding for providers to participate in learning session could have given them more incentive to participate in offsite sessions.

Alternative ways to deliver asynchronous learning other than recorded sessions will be important given the ever changing landscape in technology. Incorporating a contract with an agency to provide a learner management system would allow for a greater capability of tracking usage.

## **Sustaining the Gains**

### *Sustaining Category A: Alaska*

From the beginning of the project, Alaska made efforts to ensure that stakeholders would be involved in the T-CHIC project. Stakeholders include the Division of Public Health and the Division of Health Care Services (Medicaid), both within the Department of Health and Social Services; grantee clinics, including both their leadership and their patient populations; and the Alaska Primary Care Association.

One example of the T-CHIC Alaska team's efforts to disseminate lessons learned was a round-table discussion on medical home measurement at the Alaska Public Health Association's annual Health Summit in January 2014. Staff from the Alaska T-CHIC team and the lead case manager from Peninsula co-facilitated this and shared some of the experiences using the MHORT (NCQA-PCMH and MHI-RSF modules) and CAHPS to measure medical home implementation, and resources (standardized tools, literature such as the CHIPRA Evaluation Highlight No. 2) available to practices interested in PCMH implementation and measurement.

Another example of sharing data and strategic lessons was a poster that Alaska T-CHIC prepared for the national CHIPRA meeting in Baltimore in December 2014. This poster outlined the link between grantee clinics' Plan-Do-Study-Act cycles and core quality measures, demonstrating selected improvements as measured by the CHIPRA core quality measures.

At the grantee clinic level, Alaska T-CHIC distributed the results of the CAHPS-CG survey to the sites and spoke with the director of one of the clinics about the including the strengths and weaknesses shown in the results; context and timing of the survey were addressed as well. Across T-CHIC as well as in Alaska, the CAHPS-CG survey results reported the highest scores in Access, Communication, and Office Staff; the lowest scores were in Self-management Support, Child Developmental Comprehensiveness, and Child Prevention Comprehensiveness.

The issues identified through the reporting of the quality measures related both to measurement concerns (like under-reporting via claims of some activities) and to the "results" themselves which show need for improvement in performance are being followed up with the appropriate stakeholders, both within the Department of Health and Social Services and among the practices. Alaska T-CHIC project staff collaborated with the state immunization registry to develop appropriate reports for statewide and practice specific rates, and with the Section of Women, Children's and Family Health (WCFH) on birth-related measures and screening measures, as well as developing new capacity within the Medicaid program for routine quality performance measures reporting.

## T-CHIC Final Report

The Alaska Primary Care Association (APCA) was another stakeholder of the T-CHIC project with which data and lessons learned were shared. The APCA was engaged with T-CHIC as practice facilitators for the Alaska grantee clinics, and the T-CHIC team reviewed outcomes from the MHORT, CAHPS, and CHIPRA quality measures reports, with the practice facilitators to inform their work with the practices. In addition to conveying key information about the practices' progress, this was also an opportunity to share information about the MHORT and CAHPS as standardized tools that could be used for the Alaska PCMH initiative (which is led by their organization) and other potential PCMH-related projects. The staff of the APCA are in key positions to spread T-CHIC's lessons learned to community health centers throughout the state that are aiming to achieve PCMH competencies.

### *Sustaining Category A: Oregon*

As stated in the introduction, much of the work at the state level is embedded in our transformation efforts. Nearly all that effort will not only be sustained but continues to be augmented through participation the Adult Medicaid Quality Grant, the Maternity and Infant Initiative, and in how we monitor and report the quality care for other state financed health care such that provided to public employees.

### *Sustaining Category A: West Virginia*

Through this project and working with WV Medicaid it was made clear that changes had to take place that would further encourage the adoption of quality improvement efforts. As an effort of sustainability, the MCO contracts are being updated to include quality improvement as a requirement for primary care providers.

Each practice site continues to have access to the project data warehouse for data reporting and comparison to the other practice sites.

### *Sustaining Category B: West Virginia*

WV's initial concept behind developing and implementing a personal health record (PHR) was to create a web-based vehicle that could be used by patients, families, care coordinators, and other members of the care team. The abandonment of the PHR initiative was a result of the fact that absent an HIE or custom interfaces developed for each EHR in use, information could only effectively flow in a single direction. In lieu of a PHR, patient portals have been implemented with success showing increased patient usage.

## T-CHIC Final Report

### *Sustainability Category C: Alaska*

Some MHORT data was placed into a dashboard to give the Alaska T-CHIC team and the practices a 2-page summary of progress made on certain topics in the MHORT. Three learning sessions were held on each set of topics so the practices could discuss successes, barriers, and strategies.

Alaska T-CHIC team contracted with practice facilitators from the Alaska Primary Care Association which, by the end of the project, had become viable again with new staff and a vision that all community health centers achieve PCMH recognition. The Department had, in effect, forwarded coordination of the Alaska PCMH Initiative to the APCA, and T-CHIC was in a valuable position to exchange information with them and encourage them to integrate standardized measurement tools like the MHORT and CAHPS into the PCMH initiative. The APCA practice facilitators received the MHORT and CAHPS data from the demonstration clinics and worked with them to assess their status and implement strategies. Work will continue with the learning session in April on “Delivering Patient-Centered Care” for six clinics that participated in the CAHPS PCMH CG survey in fall, 2014.

The practice facilitators delivered training on sustainability to the T-CHIC demonstration sites. The training included leading sustainability, transparency, staff empowerment and ownership, the use of an annual Sustainability Assessment Tool, a Gap Assessment Action Plan for sustainability, and process mapping for gaps identified.

The T-CHIC state lead was appointed to the project advisory committee for a new grant awarded by HRSA to the State of Alaska DHSS, section of WCHF called Enhancing Services for CYSHCN through Systems Integration. By 2017, it aims to increase the proportion of CYSHCN who receive integrated care through a patient/family-centered medical/health home approach by 20% over Alaska’s reported 2009/2010 levels of 42.8%.

### *Sustaining Category C: Oregon*

Practice-Level Focus on PCPCH: Given Oregon’s standards are a component of the CCO incentive metrics, then there remains a focus on the global concept of medical home at large (although not children or CYSHCN specific). Secondly, a number of the CHIPRA core measures are CCO incentive metrics, thereby creating a focus in targeted regions where quality of care is poorer for practice-level focus. For example, there are significant ongoing efforts in the state to support practices in developmental screening and adolescent well-visits and the PCPCH standards require practice-level use of a CAHPS survey.

Practice-Level Support: Oregon has created the Patient Centered Primary Care Institute (PCPCI) which is meant to support implementation and spread of the PCPCH model. OPIP and ORPRN are both partners in these efforts and have shared innovation from these efforts with the PCPCI community. However, funding is now limited to trainings and therefore the learning collaborative style of data collection and facilitation is no longer supported. OPIP continues to provide practice facilitation and support for improving care specifically for children and CYSHCN and is funded through out grants and contracts from private foundations and CCOs.

Public/Private Stakeholder Engagement to Improve Children’s Health Care – Viable and Sustainable Improvement Partnership: While stakeholder had been engaged before the demonstration grant, the Oregon Pediatric Improvement Partnership was officially launched in 2010, with specific staffing, partially due to project-level funding made possible through the CHIPRA project and ABCD III project. In OPIP’s first year, there are .33 FTE and 200,000 in grants and contracts. By 2015, OPIP has an FTE of 6.4 staff and a budget of **\$980,437.9**.

Partially stimulated and supported by the CHIPRA Grant. OPIP is meant to create a meaningful, long term collaboration of stakeholders invested in child health care quality, with the common purpose of improving the health of the children and youth of Oregon. Throughout the project OPIP convened monthly meetings of these stakeholders to share innovation and to inform policy-level improvements. This engaged group of stakeholders committed to children’s health improvement have been able to inform and impact a number of public and private policies. These monthly meetings have been sustained since the CHIPRA funding ended and engagement has not decreased.

When the National Improvement Partnership Network (supported by Category E CHIPRA Funds) conducted an evaluation of impactful IP within their own state and IPs that most positively impacted and informed other OPIP efforts, OPIP was identified as a key leader within NIPN. Academy Health chose to write a spotlight of OPIP given it was seen as the most successful IP to partner with their Medicaid agency, to support practice-level innovation, and to share the findings in a meaningful and relevant way that could inform policy-level improvements.

Lastly, OPIP’s Director, Colleen Reuland, was able to sustain her role as measure steward for the CHIPRA core measure thanks to synergy with her support of OR, WV and AK in their measurement efforts and the availability of feasibility and validity data in these and other ABCD III states.

## T-CHIC Final Report

### *Sustaining Category C: West Virginia*

Conference calls were conducted with each practice site, members of the leadership from each of the ten participating practice sites expressed positive sentiments about the T-CHIC grant and the value the care coordinator has added to the practice---both staff and patients and families.

One of the changes in practice functioning most often cited was moving to the concept of a team in which the physician no longer had to provide all the patient/family interaction; the care coordinators served as an accessible liaison and point of contact, often having separate visits to address resource coordination, education, and self-management support. The role of the care coordinators in patient outreach and follow-up was also cited as responsible for improvements in well child visit and immunization rates. Because of competing financial pressures, not all the practices have expressed an intent to retain the care coordinator position after external funding ended in July, but all have indicated that they would employ a care coordinator if the reimbursement system would support it at least in part. Five of the 10 sites have retained their care coordination positions at this point.

Practices will continue to make incremental progress toward functioning as a PCMH

### **Additional Questions**

*What is the impact of this demonstration grant on the Medicaid / CHIP program in your state or on children's health care more broadly?*

In all three states, having the flexibility to work with practices as a whole, rather than a narrow segment of their CHIP populations meant T-CHIC was able to facilitate systemic improvements in several areas benefiting entire panels. Practices and states were able to collaborate on developing priority areas, practices and states were able to identify policy impediments to care coordination and discuss, and they were able resolve simple issues in near real time such as reimbursement for developmental screening.

By using a partnership approach in developing priorities and understanding shared objectives, we averted the arduous task of getting stakeholder 'buy-in.' We were prepared with the best available evidence supporting practice change, so that everyone could be on the same page. The grant helped move all three states, practices, and parents move closer to understanding *the overall quality of health care for children, including children with special needs, and to perform comparative analyses of pediatric health care quality and racial, ethnic, and socioeconomic disparities in child health and health care for children.* This was achieved by the state's use of the T-CHIC modified CAHPS Clinician and Groups survey.

## T-CHIC Final Report

Reviews of state-level measures led to identifying high level performance and best practices. Narrowing the focus to less than six measures areas was essential.

*How has the demonstration grant influenced the prominence of child health quality in your state?*

Alaska:

A key policy example that was brought forward due to the T-CHIC project was that of tracking developmental screening. Alaska's baseline report on this measure in FFY12 was dismal prior to the implementation of the developmental screening policy. The key to success of reporting this measure and setting goals and strategies for statewide improvement is to get the buy in from providers to utilize the standardized tools and to code the 96110 even if payment is not expected (tribal and community health center providers receive an encounter rate that is considered inclusive, so the 96110 code does not result in an additional payment). To that end, a nurse consultant was retained to train providers and encourage them to use standardized developmental screening tools and to code appropriately so the data can be captured.

The CHIP Manager has continued to work with the EPSDT Coordinator on intradepartmental work group on writing the developmental screening policy for the Department. Work on this has been coordinated across the Department with MCH, Early Intervention/Infant Learning, ECCS and the T-CHIC Project Director and state funding through the Mental Health Trust and the Division of Behavioral Health has been leveraged. The developmental screening policy will add a modifier (33) to the 96110 CPT code when one of the nine standardized developmental screening tools has been used as specified in the developmental screening measure in the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP. This was advanced to the impact assessment stage and the policy is anticipated to be implemented by March 30, 2014.

The implementation of the developmental screening policy was delayed somewhat by the implementation of the new Enterprise MMIS, which became operational in late 2013. The Health Care Services (Medicaid) Director has approved the implementation of this new policy. We feel as though a great deal of progress has been made with this new policy even though it has taken several years. It follows the adoption in regulation of the AAP/BF Periodicity Schedule which also took a great deal of persistence and effort to move through the Department, but persistence and perseverance do seem to pay off here.

The CHIP Manager met periodically with the HIT Coordinator, the Division of Public Health Epidemiology Section, and the Public Health Deputy Director to discuss how to use Meaningful Use (MU) data, the potential intersection of the children's MU measures with the CHIPRA children's core set measures, and to explore statewide goal setting, strategy development and policy direction. T-CHIC's interest and purpose for

## T-CHIC Final Report

having a seat at the table are the four intersecting child measures (MU and core quality measures) even though the methodologies differ. The CHIP Manager's input in this meeting was to say that priorities need to be identified for measurement, for both children and adults, and that strategies and goals for improvement should be set.

The Alaska T-CHIC Project Director was invited by the deputy director of the Alaska Division of Public Health to represent the Division by serving on a new departmental PCMH work group in 2013. This was seen as success because it demonstrated intention to improve alignment between DHSS leadership and the T-CHIC project.

In addition, the T-CHIC Project Director met with the Section of Epidemiology Immunization Registry Manager to further discuss integrating data from the State of Alaska immunization registry, VacTrak, with Medicaid administrative claims data and to facilitate the exchange of reports between the registry and practices, enabling reporting on the child and adolescent immunization measures in the children's core set.

In late 2013 the T-CHIC team (and others) reviewed and provided feedback on the Alaska Primary Care Association's draft Request for Letters of Interest for the Alaska PCMH Initiative. The draft project description did not include standardized tools for the potential grantees to measure their progress or their patients' experience of care. The T-CHIC team therefore provided information about the MHORT and the CAHPS-CG and met with members of the APCA to discuss these tools and align with work already accomplished through T-CHIC. The Alaska team will continue to track the AK PCMH initiative and work with them to use the standardized tools.

This demonstration grant provided groundwork for PCMH growth in the state, with more focus on pediatrics. While a focus on pediatrics is inherently limited in Section 330 Community Health Centers, the T-CHIC project required the clinics to measure progress through a subset of CHIPRA measures, and this illuminated the importance of working with parents and families to support their children, such as bringing them in for well child checks.

The practices in T-CHIC and in the Title V project became familiar with the CYSHCN screener and put it into their EHRs and found other creative ways to disseminate it, such as working with their school district to put the screener in the registration packets for pre-kindergarten and kindergarten. Another practice began scanning records to foresee which children have more likelihood of becoming CYSHCN, based on the pregnant mothers' health and general situation.

Networking with Title V, All Alaska Pediatric Partnership, and the head of pediatrics at Alaska Native Medical Center, and linking them together with the T-CHIC practices, the Alaska Primary Care Association,

## T-CHIC Final Report

and other community health centers and pediatric practices, will strengthen prominence of child health quality in Alaska.

Alaska T-CHIC project staff continued to provide input on the new five-year Alaska Patient Centered Medical Home pilot project for Alaskan health care providers, led by the T-CHIC practice facilitators at the APCA. The ultimate goals of the AKPCMH-I are to develop a practice/delivery model for health care homes in Alaska that improve health and behavioral health outcomes, increase access to services, reduce the system-wide costs of care as well as increase the ease and efficiency of navigating the system. AK PCMH-I grants were awarded to five clinics (including one T-CHIC practice) which will receive targeted technical assistance, PCMH best practices, and one time funding for demonstrated need. Two T-CHIC State colleagues were appointed to sub-committees of this initiative.

All Alaska T-CHIC clinics received PCMH recognition by the end of the grant. Also Peninsula was one of five Alaska clinics to receive a small grant from the Alaska Patient Centered Medical Home Initiative (AKPCMH-I) sponsored by the Alaska Mental Health Trust Authority, State of Alaska Department of Health and Social Services, and Alaska Primary Care Association to support practice transformation. These awards and recognitions are examples of leveraging the work and success of the CHIPRA grant in Alaska. The practices were well positioned due to the ongoing participation and commitment in the project which provided a structure and focus for them to keep improving patient-centered medical home competencies.

Alaska T-CHIC helped disseminate information about a two-day PCMH Content Experts training in Anchorage, which was attended by staff from T-CHIC, demonstration clinics, and several other clinics. The training was coordinated by the T-CHIC practice facilitators from the Alaska Primary Care Association. The PCMH Content Experts training served as an excellent networking forum and helped sites understand PCMH competencies better and how to apply for recognition. The Anchorage location was key in bringing in sites from Alaska. During the training the Medicaid Office gave the NCQA trainers a link to the CAMHI screener page. One of the participating pediatric practices now plans to add the CAHMI screener to their EHR.

At the state level, doing statewide Medicaid reporting on 16 measures for two years is a success that has led to increased commitment by the Medicaid program to strengthening its “data shop” so that such quality measures work can be made a routine part of the process. In a recent meeting with Alaska Medicaid Director Margaret Brodie, she indicated enthusiasm for the collaboration and for the T-CHIC program making use of Alaska’s data for the national demonstration project.

At the grantee clinic practice level, the work to complete NCQA portion of the MHORT was helpful to the practices in the long run, because it showed their strengths and weaknesses related to PCMH competencies

## T-CHIC Final Report

and targets for achieving PCMH recognition. All practices applied or plan to apply for PCMH recognition. Iliuliuk applied and received Joint Commission accreditation for PCMH in June 2014. Peninsula applied for NCQA recognition in January 2015, and Southcentral is applying for multi-site recognition with their rural satellite sites in March 2015.

All of the clinics in the demonstration have achieved PCMH recognition so it is anticipated that their practice transformation achievements will endure.

AK T-CHIC lead built a stronger relationship with the director of the All-Alaska Pediatric Partnership and participated in their monthly meetings. One of the AAPP's top priorities is expanding care coordination.

Besides providing coaching to the T-CHIC practices on Category C elements, the use of practice facilitators has strengthened T-CHIC's relationships with the practices and provided T-CHIC staff with more insights into the practice transformation processes and the clinics' leadership/staff dynamics. They have also helped T-CHIC build stronger connections to other health care organizations and initiatives in the state. Also the TCHIC project itself has resulted in the re-building of a good dynamic between APCA and APCO, both of which have new staff with prior leadership experience in Alaska rural health clinics. This, along with the new interest in PCMH recognition throughout the state, should help spread and sustain lessons learned through T-CHIC. T-CHIC provided extensive feedback on a new statewide PCMH initiative in Alaska and two T-CHIC State colleagues were appointed to sub-committees of this initiative, and this is an example of spreading the lessons learned through TCHIC.

Alaska T-CHIC staff coordinated the PCMH track of the statewide Rural Health Conference in April, 2014 in which some TCHIC clinics shared their successes and challenges. Also the conference's participants from throughout Alaska strategized about how care coordinators could be reimbursed, and this topic is still being discussed.

The PCMH CAHPS-CG patient experience of care survey was expanded to include three clinics in addition to the three T-CHIC clinical sites and is being spread throughout the clinics that are funded by the PCMH Initiative. A learning collaborative was built around this.

The practice facilitators led a learning session on sustainability including the need for: a main repository for pertinent documents; processes becoming basic structures in an organization; leadership buy-in; changing the corporate culture; and evaluation through a focus on aligned performance measures.

In 2015 a PBS special was broadcast on patient-centered care, featuring Southcentral Foundation which was one of the T-CHIC clinical demonstration sites. <http://www.pbs.org/program/rx-quiet-revolution/>



## Feedback for CMS

*Overall Grant Demonstration Program Design: What could have been better? What worked well?*

The process of a largely self-directed multi-state partnership was empowering. Knowing that lessons learned would be conveyed to our federal partners for consideration was also invigorating. This sentiment was expressed at the practice and provider level in addition to the state level.

Having states and practices being able to speak candidly and build a climate of trust about describing concerns and being free to speculate on what the potential causes might was a key component of building a learning community. It was essential.

**What could have been better:** enhanced project management, expertise and focus on Category B. Oregon as the lead the project along – could have benefited from having the other states participate in leading, where their expertise lies. Also, staff turnover and anticipation, planning around managing this issue, within and across the states. An external project management consultant might have been helpful.

The project vision was ambitious and the project multi-faceted, involving many relationships. Being in a tri-state project, it was necessary to rely on email, phone and webinars, and, given the breadth and complexity of the project, this created communication challenges. In-person meetings were especially valuable.

The amount of work required, especially relating to pulling and reporting data, was unanticipated for Alaska T-CHIC staff as well as Alaska's clinical grantees. It was very valuable to have a state leading the project with a lot of experience with patient-centered care, but this, along with differences in location, culture (including pacing), capacity, and experience/education, led to some misinterpretations regarding the scope of work. This may have been a result of reliance on emails and phone that made it more difficult to clearly communicate the scope and impact of some of the work being asked of us and in turn being asked of our clinical demonstration sites, who themselves were thousands of miles away and more rural than we were.

All the clinical sites believed it would have been helpful for the grant to focus on bringing similar quality measurements together and thus reduce data workload on sites. The smaller clinical grantees, working with limited data systems, found the project to be highly demanding in the area of data reporting and thought that fewer data requests would have helped them focus more on transformation work. This feedback was clarified in retrospect and even though ongoing feedback and exchange is a part of any demonstration, the clinics as well as T-CHIC staff took a year to realize that there were more choices than initially believed in how to approach the work in the project (for instance, the number of CHIPRA measures that would need to be reported by practices).

The smaller practices and the practice facilitator believed that the scope of the project was overly ambitious and could have been reduced to one category. “Those doing the reporting needed to work fulltime for 1-3+ days to prepare, write, and submit the reports.” Multiple reporting systems for quality measures burdened the smaller clinics with less IT capacity, yet it also enabled them to confront their limitations.

**What worked well:** It was helpful to have three states participating. Working with two other states provided multiple perspectives and a variety of experience that led to learning opportunities and the emergence and spread of best practices at all levels. The clinics found it very helpful to communicate with the more experienced clinics in the other states, as well as practice facilitators inside and outside Alaska. The encouragement of the T-CHIC staff in all the states was helpful. Clinical grantees said they found it helpful to have the opportunity to regularly discuss how they could make and sustain gains and expand on them in the future.

All the clinics report that the high demands of the project pushed them to confront their shortcomings, find solutions, and focus more on pediatric needs. When high demands (e.g. through T-CHIC) are placed on practices, they are forced to change. As stated before, this was especially true with regard to pulling and reporting data for CHIPRA measures and semi-annual updates to the Medical Home Office Report Tool.

It was especially helpful to prioritize the CHIPRA measures and MHORT data so they could focus on specific changes needed. Prioritizing, reporting, and running PDSA cycles helped the clinics learn how to implement effective ways to improve their quality measure results and outreach to parents and families. Regarding HIT/HIE, both rural clinics reported that the project’s reporting requirements showed them that they needed to have a well-functioning electronic medical system, and although this was challenging it led to changes and improvements years earlier than they would have been done.

The learning collaborative within Alaska and with the other T-CHIC states was one of the most helpful parts of the project. This includes interactions with clinics and experts within and outside the state. The clinics learned a lot from each other and strategized about how they could build on and sustain the lessons learned. The learning collaborative also provided multiple perspectives based on size and geographical location. “Having face-to-face gatherings allowed us to share what we were each doing and appreciate the different types of facilities we are from.”

Also very helpful was the focused technical assistance from local practice facilitators, especially with patient centered medical home competencies.

Alaska T-CHIC found it important to be sensitive to specific regional populations within the state and what activities are effective for those populations. There was a lot of regional variety.

## T-CHIC Final Report

*What recommendations can you make for ensuring that the lessons from this demonstration that are helpful to other states and organizations are shared?*

Employee turnover at the state and practice level, particularly in the rural sites needs to be addressed and anticipated in the planning stages. A lesson learned for this project is that improvements in clinical processes and quality must be driven by clinical leaders, and there need to be mechanisms built so they stay closely involved even if there is turnover. Especially in rural states that have recruitment and retention challenges, extra efforts need to be made for senior leadership to be an integral partner in the demonstration not just at the beginning but throughout. If not, there is a direct relationship to failure to spread “lessons learned” and innovative practices.

Clinician buy-in is needed for quality improvement initiatives such as T-CHIC. Clinicians will not change their practice unless there is strong clinical leadership and an understanding of the benefits of the change to their practice. For instance, CHIPRA core measure rates will not continue to improve unless clinicians are documenting in structured fields. With a physician champion believing and understanding in the project, clinics have been able to make greater strides. All providers do not practice the same way, so there is a need for flexibility in models of care and processes.

State of Alaska cannot give grants to for-profit organizations, so no pediatric practices in Alaska qualified to apply for T-CHIC grant funding. The grants were awarded to FQHCs, which have to serve all age groups, so focusing on families was a key method to help improve quality of care for children. An example is contacting parents to bring in their children for well-child visits, or using motivational interviewing to increase the likelihood that parents would use healthier habits that could model for their children.

The demands of the project for clinics to manage population health and to track and coordinate care illuminated the severe shortcomings of some clinics’ Electronic Health Record systems and the improvements they needed.

Discussions at state and national conferences revealed that the populations around the T-CHIC clinical sites in Alaska are similar to several other rural populations, in that the people prefer to “tough it out,” leading to seeking medical help at the acute stage rather than preventive stage. This provides insights into the reluctance of families to bring in their children or youth for well-child visits.

Sites are continuing to learn that cultural differences between the care team members and the patients have important implications for the clinical encounter. Cultural competence is of course of paramount importance.

## T-CHIC Final Report

Given the amount and breadth of work for the project, it was best to prioritize goals and activities. Grantee meetings that included focus on specific MHORT outcomes, displayed on a “dashboard”, provided an opportunity for each demonstration site to narrow their focus and set up smaller goals and PDSA cycles. In annual grant renewal documents Alaska TCHIC required each clinic to focus on specific goals within each category A, B and C. In quarterly narrative reports the clinics reported on their progress, not only with regard to the focused goals but under each PCMH competency. Also it was helpful for the clinics to have the opportunity to provide feedback on the CHIPRA core measures, choose a meaningful subset to report on, and align the measures with statewide initiatives, such as improving the immunizations and developmental screening processes.

With a wide variety in PCMH competencies among the clinical grantees, it worked better to use a learning curriculum rather than a learning collaborative. One of the grantees was already a NCQA level 3 and they assisted the other sites in the learning sessions and through phone calls and visits to their site. The learning curriculum meetings via webinar, phone, or in-person were an opportunity for the sites to learn from one other and re-examine their practices. There were benefits to having structured learning curriculum meetings that required report-outs from each site. Besides the learning sessions, it was very helpful for the clinical sites to receive more individual technical assistance from OPIP staff and Alaska practice facilitators around the processes to implement specific PCMH competencies.

The wide variety of knowledge and experience about PCMH in the grantee clinics reflected the state in general, with the urban areas having more capacity, stability, and opportunity to implement practice transformation. The rural/frontier areas have a lot of turnover and a need for staff flexibility in order to boost retention, so building care teams is difficult. There is also more focus on emergency medicine and acute care.

Connections between T-CHIC and stakeholder organizations in a state with a low population like Alaska can have a high impact. State-level Medicaid policy related to PCMH, payment reform and QI will be informed by the T-CHIC work done at the practice and state levels with children in AK. Stakeholder input (other payers, providers and recipients) on this early work will be used to assist in structuring the statewide policy (legislation and regulation if applicable) on PCMH and payment reform.

Working with other agencies to plan a conference revealed wide gaps in knowledge about how to coordinate and measure PCMH work in Alaska, and this in turn revealed that T-CHIC and the Title V were at the forefront of some of these changes. Leaders at first stated a preference for creating a unique Alaska version of PCMH measurements, and TCHIC staff offered information on competencies and T-CHIC tools for measurement so that lessons learned from T-CHIC could be spread. Successes, challenges and strategies with

T-CHIC PCMH implementation are now informing new NGA Super Utilizer project as well as new statewide PCMH Initiative. Some stakeholders are opposed to the term “PCMH” but not the activities inherent in the NCQA competencies themselves.

Quality measures showed system gaps and impacts of various payment methodologies (including billing practices and coding) and policies on practice structure (CHC, Tribal health organization). Yet the system challenges led to a primary focus on reimbursing providers for services rendered, making it difficult to move forward with quality improvement initiatives at the statewide level.

The interest in basing payment on quality puts an expectation on quality measurement that may not be met in a system based on FFS and encounter rates. Quality measurement is more likely to be meaningful in a managed care setting where standardization of the measurement is dependent on NCQA certification.

Drawing comparisons between a large urban PCMH model and small rural practices working toward a PCMH model is difficult. It makes it hard to generalize for the benefit of all T-CHIC categories A, B and C. It is difficult to understand a rural/frontier region through reports and data; visiting there and building relationships is valuable. Some technical assistance in the following areas would be useful:

- How to best encourage and support QI participation for states with FFS delivery with limited Federal resources is a challenge.
- How do states account for discrepancies when billing does not capture all procedure codes performed under encounter or CHC rates, which leads to lower CQM rates reported.
- How best to measure improved quality of care remains a question. There is wide variation among the skills and knowledge about QI among Alaska grantee sites.
- How to best coordinate and use the same CQMs so practices and state agencies aren't reporting measures that are similar, but don't use the same methodologies.
- How to synthesize and understand the lessons learned in different Medicaid/CHIP delivery/practice settings and effectively communicate these findings to the Federal government and state agencies so projects/agencies don't have to start at ground zero when implementing state or practice-level children's QI initiatives

*If applicable, which aspects of the collaboration between state grantee partnerships were helpful or challenging to manage?*

Helpful:

The ability to share and spread “best practices/lessons learned” across states related to Categories A and C; inform state Medicaid policy; sharing among 21 practices was enormous; ability to administer CAHPS PCMH survey, both state and practice level implications; commitment among core staff was critical in “holding the project together”

Challenging to manage:

Level of expertise, project commitment, staff turnover, shared vision and goals – planning to implementation related challenges; ongoing

Multi-state collaboration benefits:

Varied viewpoints introduced new ideas not previously thought of Awareness that success can be achieved in different ways; each partner brought strengths to share; having a sense of belonging to something bigger than just what our state brought to the table; appreciation of the cultural differences among the state populations; ability to compare progress and benchmark with others

Multi-state collaboration challenges:

Meeting across time zones can be challenging, but workable with a little effort; beginning the project with varied aims and approaches required time for alignment to occur; understanding the culture of the other states with little exposure to them; making a one size fit all in some requirements with such differences in populations

Although the core measures provide a basis for consistency in assessing performance and improvement, without sufficient education on the underlying definitional and data collection challenges, public disclosure of core measure information at the practice or provider levels poses risks. Data integrity must be assured if the data is going to be useful. This means that significant investment must be made in planning and getting provider buy-in on definition and, attribution as well as on overall communication about what the data is and what it is not.

Even with attempting to collect a subset of the core measures, challenges were encountered by all practices. QI efforts may benefit from focus on only a few measures so that energies at the practice level can be focused on improvement and not simply on data collection.

Practices felt that CAHPS had value for them in providing the patient perspective on their own experience. This value is consistent with CMS's focus on the three-part aim. However, administration of CAHPS is cost-prohibitive for many practices. Some mechanism to make this survey more affordable should be pursued at the national level.

## Spotlight Activities

### *Spotlight Activity: Alaska:*

Focus on CYSCHN in pediatric and primary care practices and the impact that effort had in practices across the three states – demonstrated the ability to affect change, when resourced, planned, and adequately supported; development and implementation of the three T-CHIC medical home priorities; CAHPS PCMH survey (2012/2014) and the level of interest by T-CHIC and non T-CHIC practices, and how our project showed quality improvement in our overall design, approach, and strength as reflected in the CAHPS practice learning collaborative that was supported in 2014; facilitation of quarterly calls across 4 time zones, participation of 21 practices, ability to spotlight and share across different practices, providers, delivery systems, etc.; demonstrated the role of and potential for state based LCs and multi-state LC; ability to learn directly from practices (Cat. A & C) and use that information to inform state and federal Medicaid policy.

*Describe an activity completed during the demonstration of which your project team is especially proud. How could this activity be replicated in other clinics?*

The T-CHIC work with the CAHPS PCMH C&G patient experience survey, integrating both practice level CAHPS PCMH work with the CHIPRA state level work, will likely yield one of the greatest contributions to quality improvement and collaborative learning in Alaska for children's health as well as adult health. The sustainability plan includes further collaboration with the DHSS, the Alaska Primary Care Association, the Mental Health Trust Authority, and Alaska clinics.

Good communication and persistence at the state level, with help from Alaska practice facilitators and the lead state Oregon, was key in guiding the TCHIC project's goals and objectives through periods of extensive turnover and doubt at two of the three clinical demonstration sites. The rural clinics had turnover in leadership, staff and providers, and the new CEO's didn't find T-CHIC to be a high priority at first. However, by the end of the project the organizations showed improvement in CHIPRA quality measures and achieved PCMH recognition.

Our learning sessions with the Alaska sites were valuable, particularly those that were in-person. The in-person meetings provided more opportunity for sites to learn from each other about topics that weren't on an agenda. The in-person meetings, as well as site visits, were also valuable for the state TCHIC staff to gain insight into the activities, dynamics and feedback needed from the practices.

*Spotlight Activity: Oregon*

We chose to highlight this activity because it exemplifies how data, can consensus were used, how resources and supports were identified and made available, and how the lessons learned are embedded into long lasting organizational change at practice and state level.

Enhancing Children’s Health in Oregon (ECHO) Learning Collaborative Session 3: Integrating Behavioral & Mental Health in Pediatric Primary Care. How could behavioral health care needs be better addressed in pediatric primary care? After baseline data collection was conducted, the data was used to strategically identify the topic focus for the ECHO in-person learning collaboratives. The functional definition of behavioral health integration used was: “Integrated primary care combines medical and behavioral health services to more fully address the spectrum of problems that patients bring to their primary medical care providers. It allows patients to feel that, for almost any problem, they have come to the right place.” The objectives for the learning session were to:

- Expand participants’ knowledge of principles and theories of behavioral health integration.
- Understand steps that can be taken preparing practices to enhance competencies in behavioral health.
- Enhance practices’ skills in identification of children and youth with behavioral and mental health conditions, including tools and strategies for screening.
- Expand practices’ ability to manage children and youth with behavioral or mental health conditions within the primary care home.

The meeting included strategic summaries of the practice-level data as it related to mental and behavioral health care, a key note by a parent who experienced lack of effective screening primary care and lack of integration or communication with the mental and behavioral health care her child received, an overview on Behavioral Health Integration, review of the AAP Readiness Assessment focused on mental and behavioral health, **and** tools practices can use to better screen for mental and behavioral health issues and triage strategies. A specific focus of these tools was on adolescents.

Following the learnings session and during the next six month “action period,” all eight of the practices implemented broad strength- and risk-based screenings of adolescents which include depression screening and substance abuse screening (using the CRAFFT).

*Spotlight Activity: West Virginia:*

The recruitment of an Advisory Council with strong physician representation, helped to inform our work from the beginning.

Successful recruitment of care coordinators for 10 practices across the state with a requirement that each was from local area and having necessary knowledge of locally available community services & supports for patients. This allowed the care coordinators to work in their communities, understanding the disparities and barriers to care of the patient they worked with on a daily basis. It also allowed for access to a network of individuals for sharing and solicitation of resources from others in the network. The original plan was to create a centralized /telephonic care management approach to care management. Once the practice site recruitment began it was apparent that this approach did not resonate well with the provider community. The plan was altered to place a care coordinator in each practice site. Having the flexibility to make changes in process made a significant difference in the recruitment process and ultimately the project outcome.

Half of the practice sites hired their care coordinators as full time employees after the grant funding ended, even though there is no reimbursement for these types of pediatric services in WV. Those that made the commitment to retain their care coordination services were practice sites that had project buy-in through the course of the project cycle.

Where there is focus there is improvement. As evidenced in the practice site CAHPS survey results, improvement was noted in the area of self-management support. An emphasis was directed at improving self-management support as a result of the initial CAHPS survey fielded in 2012. This fielding indicated a need for improvement across the practice sites. A learning collaborative was structured and guidance provided for the practice teams. Each site implemented the tools and plans, as a result across the board self-management support improved on the 2014 CAHPS survey results.

## **Appendix**

### List of Appendices

Appendix A Alaska Full Final Report

Appendix B Assessments of the Core Measures: Contribution to the Literature

Appendix C Alaska Review and Recommendations

Appendix D West Virginia Measure Selection

Appendix E CAHPS Report

Appendix F Medical Home Standard Comparisons

Appendix G Current PCMH Standards

Appendix H MHORT

Appendix I ECHO Summary

### Supplemental Items 1-16

1. Overview of the Medical Home Components used in Each State, 2015
2. Key Learning from the T-CHIC Learning Curriculum, 2014
3. T-CHIC Brief on Children and Youth With Special health Care Needs, 2013
4. T-CHIC Brief on Shared Care Plan, 2013
5. Impact of T-CHIC on Medical Home Transformation (MHORT – NCQA and MHI)
6. Alaska, MHORT Summary 2011-2014
7. Oregon, MHORT Summary 2011-2014
8. West Virginia, MHORT Summary 2011-2014
9. Oregon ECHO Learning Collaborative – Model Overview, 2014
10. Oregon ECHO Learning Collaborative – Policy Implications, 2014
11. Oregon ECHO Project Summary, 2014
12. Oregon ECHO Full Report, 2014
13. T-CHIC MHI Report Brief, 2014
14. T-CHIC NCQA Report Brief, 2014

T-CHIC Final Report

Appendix A Alaska Full Final Report

## I. Describe the Background / Initial Vision of the Project Plan (By Category)

- **What was the problem the project was designed to address?**

The overall vision and mission of the T-CHIC project in Alaska was to increase the quality of care for children served by Medicaid, in particular children with special health care needs, through better access to comprehensive and coordinated services including developmental screening and specialty services, behavioral health and dental services as well as primary and other medical care. Alaska's extremely "rural" character has always been associated with lack of specialty services (and even limited primary care) outside of the three largest cities (Anchorage, Fairbanks and Juneau). Only Anchorage (population over 250,000) has the infrastructure to support more than a handful of specialists. Sending children to Anchorage or out of state for consultations has been covered by Medicaid but care has typically not been well coordinated.

Although federally funded Community Health Centers ("330 Clinics") in Alaska are available to many of the state's pediatric Medicaid patients, their efforts to integrate care have typically focused more on adults than children, and despite their adoption of EHRs about the time of the grant program, the use of EHR data for producing quality or performance measures, for communication and coordination with other providers, and for patient access to health care information was in the most preliminary stages in 2009/2010. Two Tribal health care organizations (SCF and SEARHC) were working on building comprehensive clinical data systems, and one of these [SCF] as well as one urban pediatric practice [Woodard] were early adopters of patient centered medical home models of care. The state's Medicaid program looked favorably on the opportunity to encourage PCMH adoption in rural as well as urban locales, to improve quality of care. In a system relying on fee for service private practices, community health centers and Tribal providers, with no HMOs in the state, there was also hope that improved quality and improved coordination would result in fewer emergency room visits and fewer adverse (and expensive) outcomes of delayed care.

In other words, the "problem" was the prevailing lack of coordinated, high quality care for Medicaid children in Alaska particularly in rural areas. The adoption and adaptation of the "patient centered medical home" model in Alaska, with use of (1) clinical quality measures to monitor performance and encourage measurable improvement, and (2) electronic health records and an envisioned health information exchange (HIE), were seen as invaluable tools for addressing needs of children, and addressing deficiencies in Alaska's health care system. The implementation of these approaches will be described in Section II below. It should be noted, however, that the deficiencies in data infrastructure were part of the problem, for both the state Medicaid system and for the health care providers with inconsistent and incompatible EHRs.

Category A mission *"to evaluate the CMS recommended core measures as well as measures focused on pediatric medical home models, identify areas of synergy and gaps in measurement needs, and experiment with measurement strategies yielding meaningful, relevant results"* in Alaska related to the state Medicaid program, public health data and reporting systems such as immunization registry and vital statistics, and practices implementing medical home models.

The Tri-State consortium, by combining the efforts of three states, was expected to help address particular gaps in understanding children's health care quality. Evaluating the CMS core and

**ORIGINAL RESEARCH**

## Rural Clinician Evaluation of Children's Health Care Quality Measures: An Oregon Rural Practice-based Research Network (ORPRN) Study

Lyle J. Fagnan, MD, LeAnn Michaels, BS, Katrina Ramsey, MPH, Stefan Shearer, BA, Oliver Droppers, MS, MPH, PhD, and Charles Gallia, PhD

**Background:** Responding to quality metrics is an accepted and expected component of the current health care environment. Little is known about which measures physicians identify as a priority when reporting the quality of care to their patients, especially the care of children in rural settings. The objective of this study is for physicians caring for children in rural communities to identify which of the initial core sets of 24 child health quality measures are useful and are a priority for reporting and improving care.

**Methods:** A survey was sent to rural Oregon physicians who provide care to children.

**Results:** Of 955 eligible physicians, 172 (18%) completed the survey. The majority of respondents were family physicians (84%), and most respondents (58%) were in private practice. The child health measures stratified into 3 priority tiers: high, medium, and low priority. The top-tier priority measures included childhood immunization status, well-child visits, adolescent immunization status, body mass index assessment, and developmental screening. Dental treatment services, adequate prenatal care, and lower-birth-weight infants were among the lower-tier measures.

**Conclusions:** The priority measures identified by rural family physicians reflect the relevance of the selected measures to their daily practice responsibilities, with missed opportunities to improve community health. (J Am Board Fam Med 2015;28:595–604.)

**Keywords:** Child Health, Practice-based Research Network, Primary Health Care, Quality Improvement, Rural Health

Together, Medicaid and the Children's Health Insurance Program (CHIP) care for more than 1 in 3 children in the United States.<sup>1</sup> Across the United

States, family physicians provide 16% to 21% of physician visits for children,<sup>2</sup> and in rural America, family physicians are often the medical home for children. Medicaid and CHIP are state-administered programs that work with health care practices and community programs to ensure a high-quality system of care for these children. Quality metrics are often developed by expert consensus to emphasize high-impact preventive and evidence-based

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## Variation in Outcomes of Quality Measurement by Data Source



**WHAT'S KNOWN ON THIS SUBJECT:** Administrative health insurance claims have limitations when measuring care quality.



**WHAT THIS STUDY ADDS:** Children's care quality measures assessed using administrative claims alone may not accurately reflect care quality. Use of electronic health record data in combination with administrative claims data provides an opportunity for more complete measurement.

### abstract

**OBJECTIVE:** To evaluate selected Children's Health Insurance Program Reauthorization Act claims-based quality measures using claims data alone, electronic health record (EHR) data alone, and both data sources combined.

**METHODS:** Our population included pediatric patients from 46 clinics in the OCHIN network of community health centers, who were continuously enrolled in Oregon's public health insurance program during 2010. Within this population, we calculated selected pediatric care quality measures according to the Children's Health Insurance Program Reauthorization Act technical specifications within administrative claims. We then calculated these measures in the same cohort, by using EHR data, by using the technical specifications plus clinical data previously shown to enhance capture of a given measure. We used the  $\kappa$  statistic to determine agreement in measurement when using claims versus EHR data. Finally, we measured quality of care delivered to the study population, when using a combined dataset of linked, patient-level administrative claims and EHR data.

**RESULTS:** When using administrative claims data, 1.0% of children (aged 3–17) had a BMI percentile recorded, compared with 71.9% based on the EHR data ( $\kappa$  agreement [ $k \leq 0.01$ ]), and 72.0% in the combined dataset. Among children turning 2 in 2010, 20.2% received all recommended immunizations according to the administrative claims data, 17.2% according to the EHR data ( $k = 0.82$ ), and 21.4% according to the combined dataset.

**CONCLUSIONS:** Children's care quality measures may not be accurate when assessed using only administrative claims. Adding EHR data to administrative claims data may yield more complete measurement. *Pediatrics* 2014;133:e1676–e1682

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#### KEY WORDS

pediatrics, quality of care, electronic health records, Medicaid

#### ABBREVIATIONS

CHIP—Children's Health Insurance Program  
CHIPRA—Children's Health Insurance Program Reauthorization Act  
EHR—electronic health record  
ICD-9—International Classification of Diseases, Ninth Revision  
ICD-10-CM—International Classification of Diseases, Tenth Revision, Clinical Modification  
OHP—Oregon Health Plan

Ms Angier helped conceptualize and design the study, and drafted the initial manuscript; Drs Gold, Gallia, and DeVoe conceptualized and designed the study and critically reviewed the manuscript; Ms Casciato helped design the study, and critically reviewed the manuscript; Ms Tillotson and Dr Marino carried out analyses, and reviewed and revised the manuscript; Dr Mangione-Smith critically reviewed the manuscript; and all authors approved the final manuscript as submitted.

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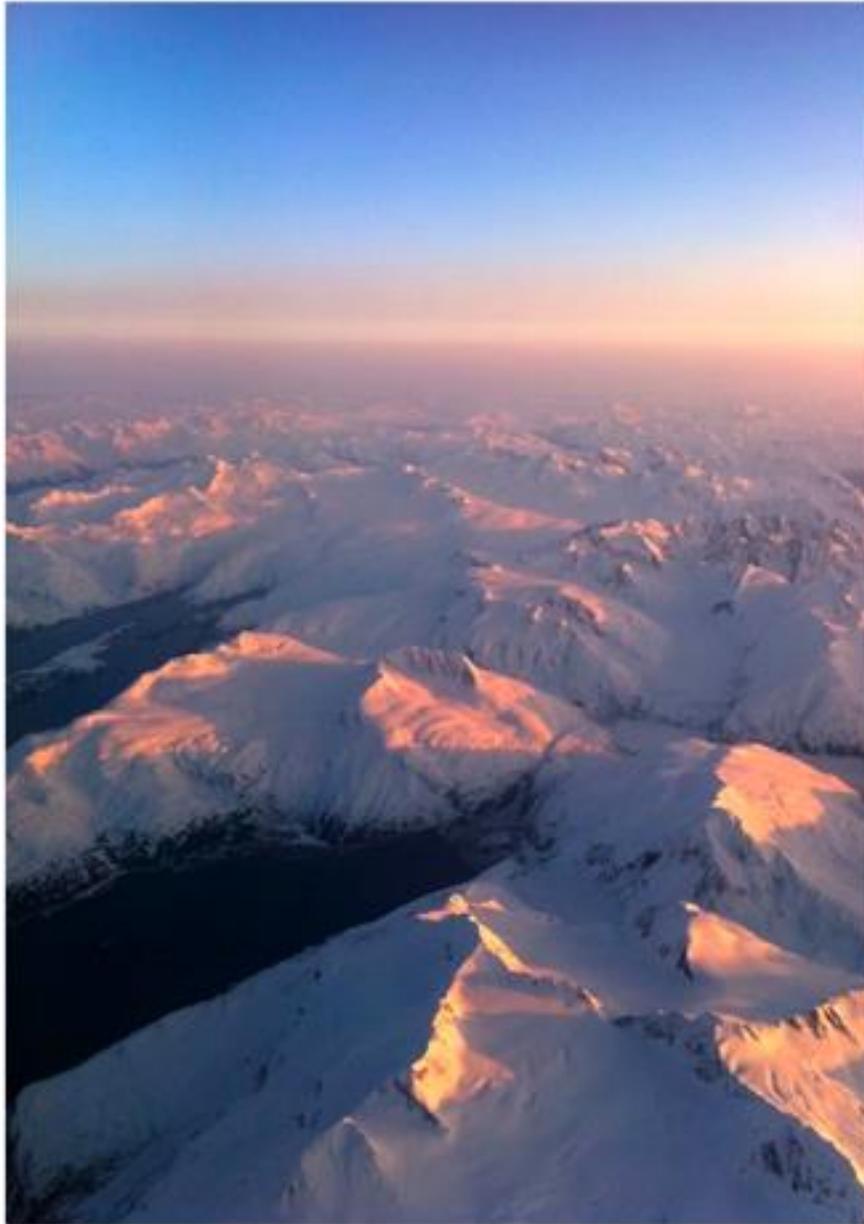
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Appendix C Alaska Initial Assessment and Recommendations



## INITIAL ASSESSMENT AND RECOMMENDATIONS

A BRIEF EXPLORATION OF CHILDREN'S HEALTH CARE QUALITY IN ALASKA :

Charles A. Gallia, Ph.D.

07/17/11

## Appendix D West Virginia Measure Selection

Measures selected by the Advisory Council for the practice sites to report:

Measure	1 <sup>st</sup> Set	2 <sup>nd</sup> Set	Most could report on by project end
1. Timeliness of Prenatal Care			
2. Frequency of Ongoing Prenatal Care			
3. Percentage of Live Births Weighing Less Than 2,500 Grams			
4. Cesarean Rate for Nulliparous Singleton Vertex			
5. Childhood Immunization Status	✓	✓	✓
6. Adolescent Immunization Status	✓	✓	
7. Weight Assessment for Children/Adolescents	✓	✓	✓
8. Developmental Screening In the First Three Years of Life	✓	✓	✓
9. Chlamydia Screening	✓		
10. Well-Child Visits in the First 15 Months of Life	✓	✓	✓
11. Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life	✓	✓	✓
12. Adolescents Well-Care Visit	✓	✓	
13. Total Eligibles Who Received Preventive Dental Service	✓		
14. Child and Adolescent Access to PCPs			
15. Pharyngitis – Appropriate Testing Related to Antibiotic Dispensing	✓		
16. Otitis Media with Effusion – Avoidance of Inappropriate Use of Systemic Antimicrobials			
17. Total Eligibles Who Received Dental Treatment Services	✓		
18. Ambulatory Care: Emergency Department (ED) Utilization	✓		
19. Pediatric Central Line-Associated Blood Stream Infections (PICU and NICU)			
20. Annual Number of Asthma Patients with >1 asthma related ER visit	✓		
21. Follow-up Care for Children Prescribed ADHD Medication	✓		
22. Annual Hemoglobin A1C testing (children/adolescents diagnosed with diabetes)	✓	✓	✓
23. Follow-Up After Hospitalization for Mental Illness			
24. Family Experience of Care (CAHPS)	✓	✓	✓
<b>Outcomes Measures</b>			
BMI > 85%	✓	✓	✓
A1C >9	✓	✓	✓

T-CHIC Final Report

Appendix E CAHPS Report

Tri-State Children's Health Improvement  
Consortium (T-CHIC)

CAHPS® PCMH Child Survey  
Final Report

February 2013



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3975 Research Park Drive  
Ann Arbor, MI 48108

Appendix F Medical Home Standard Comparisons

**T-CHIC Medical Home Attributes Comparison Matrix**

			Model	
Oregon <sup>i</sup>			NCQA <sup>ii</sup>	AAP
Attribute: Access to Care			Attribute: Access and Continuity	Attribute: Access
<i>Standard: In-Person Access</i>				
	Measure 1 - Appointment Access: PCH tracks and improves access to appointments in the clinic and patient satisfaction with appointment access.		1A: Access During Office Hours	
	Tier 1: PCH tracks and reports a standard measure of appointment access.			
	Tier 2: PCH sets a specific goal for improving an appointment access measure and demonstrates improvement.			
	Tier 3: PCH meets a benchmark or demonstrates improvement in the percentage of patients reporting high satisfaction with access to appointments on a patient experience survey.		PECC <sup>1</sup> 1: Do you wait a long time in the office?	
	Measure 2 - After Hours Appointments: PCH offers appointments outside of traditional business hours.		1B: Access After Hours	4.2: Ambulatory and inpatient care for ongoing and acute illnesses in ensured, 24/7
	Tier 1: PCH offers appointments at least 4 hours weekly outside traditional business hours.			
	Additional measure: PCH offers appointments 8 or more hours weekly outside traditional business hours.			
<i>Standard: Telephone and Electronic Access</i>			1C: Electronic Access	
	Measure 3 - PCH provides telephone access to a clinician for advice 24 hours a day and tracks and improves telephone care.		PECC 2: Is e-mail help available?	1.5: Families or youth are able to speak directly to the physician when needed.

<sup>1</sup> Optional Patient Experience of Care Component

T-CHIC Final Report

Appendix G Oregon PCMH Standards

<http://www.oregon.gov/oha/pcpch/Documents/TA-Guide.pdf>

Appendix H MHORT



**T-CHIC:**

The Tri-state Children's Health Improvement Consortium (T-CHIC) is an alliance between the Medicaid/CHIP programs of Alaska, Oregon, and West Virginia formed with the goal of markedly improving children's health care quality. T-CHIC aims to drive continuous quality improvement in child health care by: 1) Improving children's health and health care quality measurement; 2) Integrating Health Information Technology (HIT) systems; and 3) Developing the best models of health care delivery for children and their families. Each participating state will learn what works best for improving children's health in their own state and across T-CHIC.

**T-CHIC MHORT:**

The T-CHIC Medical Home Office Report Tool (MHORT) is comprised of five modules that include a total of 321 items, with an additional 11 items focused on descriptive information about each primary care provider in the office. The five modules are the following: 1: Demographic Form; 2: Practice Characteristics; 3: Pediatric Medical Home Index: Revised Short Form (MHI-RSF); 4: National Committee for Quality Assurance Patient-Centered Medical Home 2011(NCQA PCMH) 2011; Module 5: State-Specific Items

**EXECUTIVE SUMMARY**

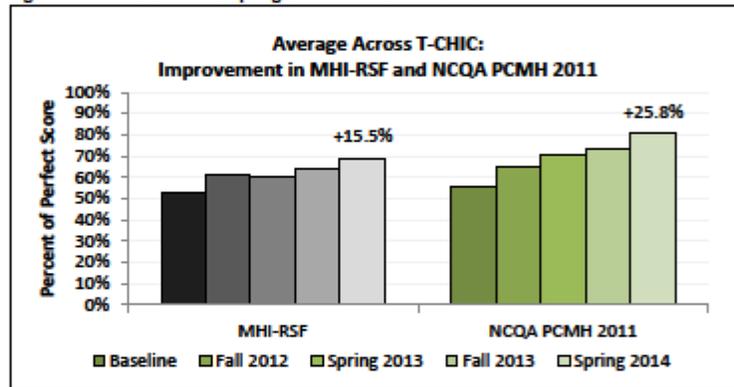
**Tri-State Children's Health Improvement Consortium (T-CHIC)  
Updated Medical Home Office Report Tool (MHORT) Findings:**

**Areas of Improvement and Remaining Opportunities for an Enhanced Focus**

T-CHIC worked with 20 practices on medical home quality improvement and practice-level transformation. Appendix A provides an overview of participating sites. The T-CHIC Medical Home Office Report Tool (MHORT) is the standardized metric that was used to assess the current level to which the practice is a medical home, as well as tracking the processes and systems that were improved through the T-CHIC efforts. The MHORT was collected at baseline, before the T-CHIC sponsored efforts began, and was updated in Fall 2012 (Aug. 15 to Nov. 30 2012), Spring 2013 (Feb. 1 to Apr. 30 2013), Fall 2013 (Aug. 15 to Nov. 30 2013), and Spring 2014 (Feb. 1 to Apr. 30 2014). This brief summarizes the key learnings from the updated data, specifically as they relate to quality of care domains derived from the Medical Home Index: Revised Short Form (MHI-RSF) and National Committee for Quality Assurance Patient-Centered Medical Home 2011 (NCQA-PCMH).

**IMPROVEMENT FINDINGS**

Across T-CHIC, improvements were observed on the MHI-RSF and the NCQA PCMH 2011. Change between baseline and Spring 2014 is indicated in the chart below.



The MHI-RSF assesses improvement efforts specifically targeted to children and youth with special health care needs (CYSHCN). The most improvement between Baseline and Spring 2014 was observed in the quality domain related to Care Coordination (+18.3%), Community Outreach (+18.1%), and Quality Improvement/ Change (+16.3%). Individual, practice-based improvement efforts observed in this area were focused on care coordination, identifying of CYSHCN, and engaging families and assessing their needs.

Across T-CHIC (N=20 Practices): MHI-RSF Items with the Most Improvement	# of Practices that Improved
Theme 2.1 Identification of Children in the Practice with Special Health Care Needs	18
Theme 3.1 Care Coordination / Role Definition	17
Theme 1.1 The Mission of the Practice	16
Theme 1.5 Family Feedback	16
Theme 3.2 Family Involvement	15
Theme 1.2 Communication / Access	14
Theme 4.1 Community Assessment of Needs for CSHCN	14
Theme 2.2 Care Continuity	13
Theme 5.1 Electronic Data Support	13
Theme 6.1 Quality Standards (structures)	13