MORE CARE: NARROWING THE RURAL INTERPROFESSIONAL ORAL HEALTH CARE GAP

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COLORADO RURAL HEALTH CENTER
The State Office of Rural Health

PENNSYLVANIA OFFICE OF RURAL HEALTH

South Carolina Office of Rural Health

DentaQuest®
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www.porh.psu.edu

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education.musc.edu/colleges/dental

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The mission of the DentaQuest Institute is to promote optimal oral health through efficient and effective care and prevention. Unlike many institutes that focus on either scientific research or policy commentary, the DentaQuest Institute emphasizes a hands-on approach by working directly with oral health care professionals to support them in improving the care they provide to their patients. We believe that the oral health care delivery system is undergoing an important transition from one that focuses mainly on surgical care (filling teeth) to one that uses the latest innovations in science to help patients prevent and manage the underlying disease.
www.dentaquestinstitute.org

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MORE CARE: NARROWING THE RURAL INTERPROFESSIONAL ORAL HEALTH CARE GAP

Transformational business and patient care models are emerging in the current United States health care system which focuses on the value paradigm and highlights goals of the Triple or Quadruple Aim. The Quadruple Aim[a] emphasizes four focus areas that include: improving the patient care experience, improving health care teams' satisfaction and work health, improving the health of populations, and reducing the per capita cost of care.[1-2] As the health care delivery system changes and evolves, there are both opportunities and challenges with patient care, professional training, new practice methodologies, and care team communication. Born out of this ongoing evolution, oral health[b] interprofessional practice (IPP) has demonstrated early promise with positive patient outcomes and reductions in the total cost of care.

Rural Health Clinics (RHCs) and their communities face unique challenges that act as barriers to IPP; which minimize or delay its benefits and result in incomplete care pathways for patients. Rural areas are more likely to be located within Dental Health Professional Shortage Areas (DHPSAs), have limited transportation options, and higher rates of poverty; a higher reliance on the public insurance programs of Medicare and Medicaid; larger percentages of uninsured and underinsured residents; and populations with greater health care needs.[3-4] The purpose of this document is to provide State Offices of Rural Health (SORH) and Rural Health Care Systems (RHS)[c] with information to initiate interprofessional oral health networks (IPOHNs)[d] that integrate and coordinate person-centered oral health care in their communities.

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a. **Quadruple Aim** – Vernacular often used when the satisfaction and business model support of clinical care teams is considered in addition to the other goals of the Institute for Healthcare Improvement's (IHI) Triple Aim.

b. **Oral health** – As a fundamental component of health and physical and mental well-being, oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease of the craniofacial complex.

c. **Rural Health Care Systems** – Health care providers, stakeholders, and organizations impacting care in the rural (non-metropolitan) setting.

d. **Interprofessional oral health networks (IPOHNs)** – A system of interdisciplinary care teams providing patient centered oral care that provides the integration and coordination for patient and community.

ORAL HEALTH:
A NATIONAL ISSUE WITH RURAL IMPLICATIONS

Poor oral health is a national problem that impacts overall health and contributes expense to the United States health care system.[5] The U.S. Surgeon General declared oral disease a silent epidemic in 2000, and recent analyses revealed the significant impact oral disease has on overall health and well-being, societal and care costs, the student-education process, as well as individual workforce sustainability, and loss of wages.[6-10]

The significant disparities in oral health care for rural populations have been documented in multiple reports.[3-5, 11-16] Rural adults are more likely to have all their teeth missing compared to non-rural populations (leading to decreased nutrition) and untreated tooth decay is observed more frequently.[3-4] In addition, approximately 74 percent of the United States' DHPSAs are in non-metropolitan communities.[4,12] Although many gains have been made in improving the oral health of the pediatric population, rural children are more likely to report unmet dental needs, less likely to have visited the dentist in the past year, and are more unlikely to see a dental care team for ongoing preventive care.[13-14] Rural communities are more likely to have an inadequate supply of dental providers participating in Medicaid, a lack of dental care options within available benefits packages, socioeconomic status indicators that align with poor oral health outcomes, transportation limitations, and a lack of integrated and coordinated health care.[4,15-17]

INTERPROFESSIONAL PRACTICE AND THE
ORAL-SYSTEMIC HEALTH CONNECTION

Interprofessional care delivery, which incorporates both the coordination[e] and integration of care[f], includes a group of individuals from different health care disciplines working and communicating with each other to enhance and support person-centered care. It is advantageous if the functionality of an interprofessional network aligns with the Triple or Quadruple Aim. Interprofessional practice has demonstrated positive health system outcomes and the role of oral health in systemic care has increased over the last decade.[8] In 2014 and following the recommendation of the Institute of Medicine to address the need for improved oral health access, the Health Resources and Services Administration (HRSA) provided four recommendations for current health care practice. *www.hrsa.gov/sites/default/files/hrsa/oralhealth/ integrationoforalhealth.pdf*

- Apply oral health core clinical competencies within primary care practices to increase oral health care access for safety net populations in the United States.

- Develop infrastructure that is interoperable, accessible across clinical settings, and enhances adoption of the oral health core clinical competencies. The defined, essential elements of the oral health core clinical competencies should be used to inform decision-making and measure health outcomes.

e. **Coordination of Care** – Using a continual care pathway approach that allows the patient easy navigation as well as develop an understanding of their needs within the health care system. Goals of coordinating care should incorporate a Tripple or Quadruple Aim approach.

f. **Integration of Care** – An interdisciplinary approach to health care that incorporates specific procedures of other disciplines into daily practice. These types of networks often demonstrate a team-based care approach to disease management.

- Modify payment policies to efficiently address costs of implementing oral health competencies and provide incentives to health care systems and practitioners

- Execute programs to develop and evaluate implementation strategies of the oral health core clinical competencies into primary care practice.

As IPP expands, additional opportunities for oral health to impact whole-person care are emerging. Oral health interventions by primary care teams, including oral health assessments, fluoride varnish application, risk factor identification, and oral health coaching, show great promise in reducing oral disease risk and improving oral health awareness.[18-19] Oral health's connection to systemic health also presents opportunities for interprofessional team-based care to advance patient outcomes, impact behavior change and produce good health. In addition, dental care teams have seen opportunities to participate in primary care that includes screening and identifying systemic diseases like diabetes and other chronic conditions, providing health and nutrition coaching, performing behavioral health screening, encouraging tobacco cessation, promoting prevention and secondary smoke avoidance, as well as, participation with immunization processes.[7, 19-20] In addition, recent evaluations report that dentists consider medical screening important, primary care providers find value in dentists providing chairside medical screening, and the screening for systemic disease in the dental office is accepted by patients.[21-23] When medical and dental care teams participate in this type of collaborative approach, IPP creates a scenario that enables patients to realize the connection with oral health and overall well-being, encourages healthy behavioral change, and promotes the practice of prevention strategies.

Traditionally, the profession of dentistry has been insulated from paradigm shifts within the healthcare system. However, this siloed environment is fading as medical systems, insurance carriers, federal and state governments, patient advocacy groups and health care organizations seek to identify oral health interventions and prevention strategies to improve patient outcomes, stabilize and prevent disease, and

reduce the total cost of care.[7-10] A recent analysis by the American Dental Association (ADA) Health Policy Institute found cost savings with newly diagnosed Type 2 diabetics receiving oral periodontal intervention. Their findings demonstrated lower total medical costs excluding pharmacy (-$1,577) and lower Type 2 diabetes health care costs (-$408).[43] In addition, analyses exploring various chronic diseases such as diabetes, cardiovascular disease, and cerebrovascular disease, by Aetna Benefits Company, Cigna Health, and United Healthcare Group reported savings to their systems as a result of dental care utilization and integration.[44-46] As seen in **Table 1**, oral health prevention and/or intervention has demonstrated positive health impact for those with diabetes, cerebrovascular disease, chronic renal disease, HIV/AIDS, respiratory disorders, pregnancy, as well as, the consensus that cancer patients should receive oral health intervention prior to beginning treatment.[7, 23-42]

As the health system continues to see growth in the value-based care market, this information provides support for oral health as a valued target for competing time and resources. While dental and medical providers in rural communities have traditionally been located in small practices, they are increasingly becoming employed by larger health systems with the resources to engage in population health, provide information technology support, and integrate care.[47-49] Much of this change is being impelled by the advancement of value-based care models or value-based payment models, an increased awareness of oral health's role in overall health, and the growth of practice-level quality improvement activities.[50-51]

Table 1: An Abbreviated Evaluation of Oral Health's Connection and Impact on Systemic Well-being.

An Abbreviated Evaluation of Oral Health's Connection and Impact on Systemic Well-Being		
Target Population/ Systemic Description	Oral Health – Systemic Connections	Proposed Outcome/Impact
Cardiovascular Disease	Available data indicates a trend toward periodontal treatment induced suppression of systemic inflammation that is related to cardiovascular disease and improvement in endothelial function; however, the current research is not consistent across studies and gaps in understanding of the connection exist. More information is needed to reach a consensus.[24-25]	Cause and effect has not received consensus and more research is needed. Adults who visited the dentist were less likely to report cardiovascular disease compared to those who did not visit the dentist. Additional correlation between the two disease processes has been reported and supports the need for IPP. [24-25]
Cerebrovascular Disease	Proposed mechanisms related to oral health and stroke incidence include: inflammation mediated pro-coagulant state, atherosclerosis mediated by direct microbial invasion of blood vessel wall, and interaction with recognized vascular risk factors.[26-28]	Early research has stated periodontal disease was found to increase the risk of stroke incidence; however, stroke oral health intervention studies to provide definitive conclusions are difficult to complete.[26-28]
Diabetes Mellitus	Diabetes and periodontal disease share a pathogenesis that includes an elevated inflammatory response. When both disease processes are present, an increased immune response (altered inflammatory response) can occur that may potentiate effects of disease.[7, 29-30]	The impact of poor oral health and dietary intake can have a negative impact on diabetic patients. A total decrease in actual Hemoglobin A1c[g] level is reported between 0.29-0.71 with patients receiving oral health intervention intervention.[29-30]
HIV/AIDS	Many conditions that affect the oral mucosa occurs primary or secondary as a biological response to HIV. The oral cavity can also serve as a source of infection that can disseminate to lymphoid tissues or stimulate systemic inflammatory responses that can lead to negative outcomes for the HIV/AIDS patients.[31-32]	Poor oral health can impede food intake and nutrition, leading to poor absorption of HIV medications. Lack of dental care by HIV patients can negatively affect quality of life. In addition, oral lesions may indicate undiagnosed HIV infection or progression of disease.[31-32] As immunocompromised patients, any infectious disease in the oral cavity puts HIV/AIDS patients at risk of systemic disease.

g. **HbA1c** – Hemoglobin A1c, often abbreviated HbA1c, is a form of hemoglobin (a blood pigment that carries oxygen) that is bound to glucose (sugar). A1c provides a measure of the patient's average blood sugar over the preceding two to three months. Performed with type 1 and type 2 diabetes mellitus diagnoses, HbA1c reports can provide information on how well the disease is being managed. [Normal HbA1c ≤ 6%].

An Abbreviated Evaluation of Oral Health's Connection and Impact on Systemic Well-Being

Target Population/ Systemic Description	Oral Health – Systemic Connections	Proposed Outcome/Impact
Maternal Health	Infection and inflammation are factors in causing preterm birth. Controversy exists as to the connection of oral health and preterm birth with intervention studies completed during the second trimester having little impact in decreasing preterm birth incidence.[33-34]	While dental intervention during the second trimester has resulted with inconsistent results relating to birth weight and pregnancy complications, oral health care prior to and throughout pregnancy has demonstrated better outcomes.[33-34]
Oncology	Many of the cancer treatment modalities can result in adverse oral health occurrences such as: mucositis [inflamed and irritating mouth tissues], caries [caries lead to cavities], xerostomia [dry mouth], and osteonecrosis [death of bone tissue]. The cause of these occurrences can be multifactorial and associations have been proposed as: radiotherapy, toxicity of chemotherapy agents; multicycle chemotherapy; and molecular/cellular factors.[35-37]	Dental examinations and definitive oral health treatment are vital prior to the start of cancer therapy for all patients.[7, 35-36] Additional opportunities for oral cancer screening should be taken advantage of by interprofessional teams to improve early diagnosis.
Renal Disease	Most associations between poor oral health and renal disease (characterized by uremia) relate to immune dysfunction including deficiencies in lymphocytes and monocytes. Additionally, altered cellular immunity along with malnutrition contributes to an immunodeficient state in uremia.[38-39]	Preserving low risk and functional oral health in chronic renal disease patients serves a complementary function that can surpass the advantages established with non- chronic disease patients.[39]
Respiratory Disease	Some research suggests that oral bacteria may reduce the bond of respiratory pathogens to epithelial cell connections. Moreover, oral bacterial products or cytokines in pharyngeal spaces can result in an increase of inflammatory cells.[40-42]	Some studies suggest a direct relationship between poor oral conditions, high plaque indices, periodontal disease and respiratory diseases: pneumonia, COPD, and asthma.[40-42]

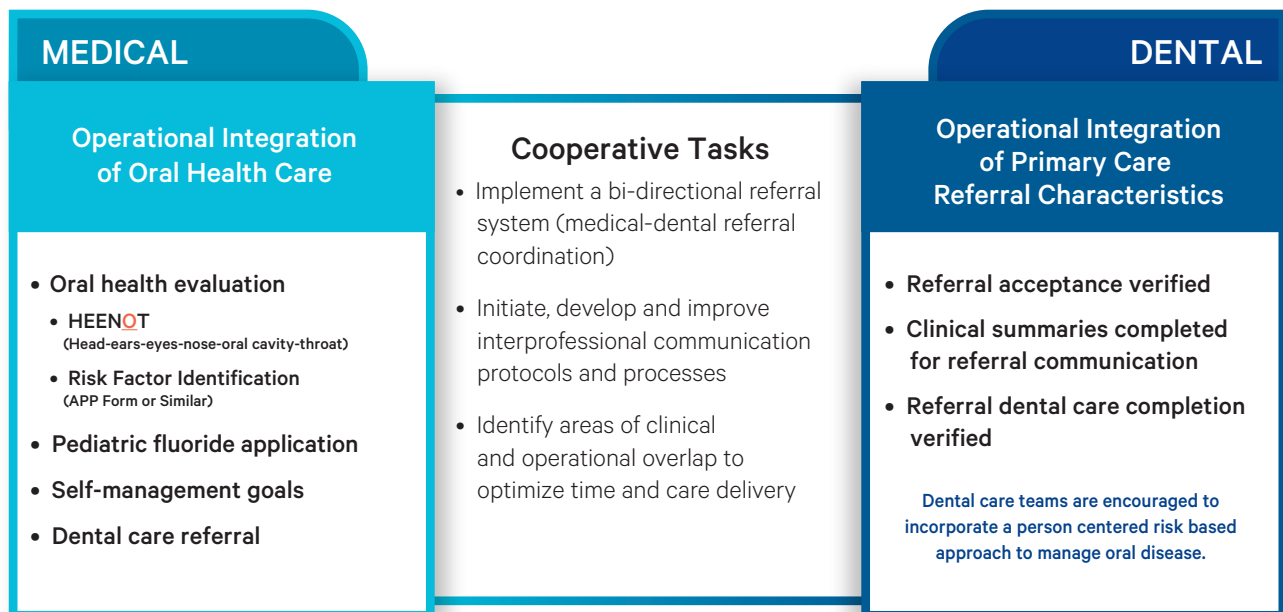# CREATING RURAL ORAL HEALTH NETWORKS: THE MORE CARE INITIATIVE

Medical Oral Expanded Care (MORE Care) is an initiative to help primary care partners develop effective and efficient oral health referral networks, integrate oral health preventive practice into primary care, and develop and test solutions to the challenges of interprofessional practice. As seen in **Figure 1**, MORE Care addresses health disparities through the integration of oral health into primary care practice and the development of dependable oral health referral networks with dental care team partners. Using a quality improvement framework to create robust sharing and learning, partners work with key stakeholders to create a practical model of interprofessional oral health care. The purpose of

MORE Care is to distill findings and organize key strategies from Phase 1 of the program, developed with the South Carolina Office of Rural Health and the Medical University of South Carolina (MUSC), and adapt them to rural populations in other states and regions. Currently, Phase 2 is focusing on prototyping the care design with partners at the Colorado Rural Health Center and the Pennsylvania Office of Rural Health. In South Carolina, the Initiative's process was augmented through an Oral Health Workforce Grant [#T12HP28882] administered by HRSA to support MUSC and its program, the Rural Oral Health Advancement in Delivery Systems (ROADS). Currently, twenty-one rural health clinics and fifteen dental care partners are involved in the MORE Care initiative.

Figure 1: MORE Care Overview

MEDICAL

Operational Integration of Oral Health Care

- **Oral health evaluation**
  - **HEENOT** (Head-ears-eyes-nose-oral cavity-throat)
  - **Risk Factor Identification** (APP Form or Similar)
- **Pediatric fluoride application**
- **Self-management goals**
- **Dental care referral**

Cooperative Tasks

- Implement a bi-directional referral system (medical-dental referral coordination)
- Initiate, develop and improve interprofessional communication protocols and processes
- Identify areas of clinical and operational overlap to optimize time and care delivery

DENTAL

Operational Integration of Primary Care Referral Characteristics

- **Referral acceptance verified**
- **Clinical summaries completed for referral communication**
- **Referral dental care completion verified**

Dental care teams are encouraged to incorporate a person centered risk based approach to manage oral disease.
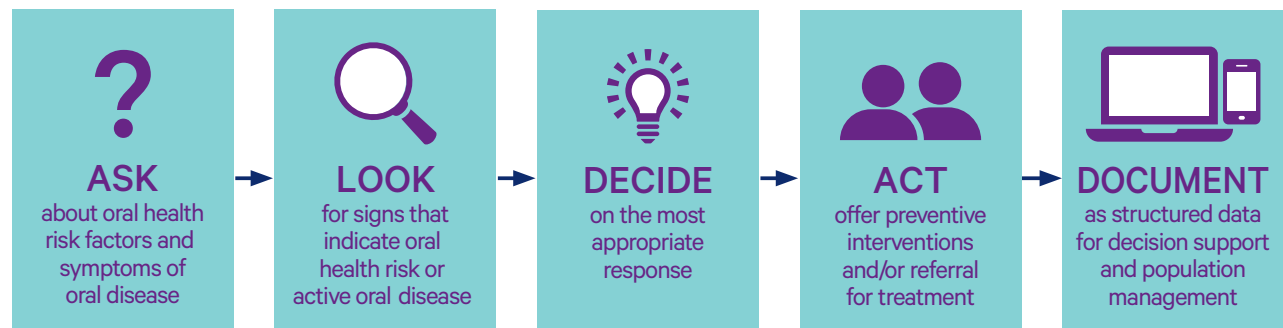
A LEARNING COLLABORATIVE

In an effort to address health disparities in rural communities of the United States, SORHs from South Carolina, Colorado, and Pennsylvania have partnered with the DentaQuest Institute (DQI) to undertake an initiative that assists and evaluates rural interprofessional oral health networks. To encourage adoption of oral disease prevention in primary care, the MORE Care process encourages care teams to adopt new approaches to care delivery and trains clinical staff with new skills that include oral health-specific motivational interviewing, the implementation of quality improvement practices, and measuring for impact. A modified Institute for Healthcare Improvement (IHI) Breakthrough Series Collaborative design was used to by Initiative leadership to guide SORHs, RHCs, and rural dental partners in the integration and coordination of oral health care (more information on this process is provided at page 20). In addition, MORE Care teams used the Qualis Health—Oral Health Delivery Framework to guide the judicious insertion of effective oral health screening and prevention activities into their busy primary care workflows [**Figure 2**].[52] A key objective of the MORE Care Initiative is for primary care teams to develop relationships and formalize referral networks with dental colleagues, leading to the creation of an interprofessional oral health network. Dental care teams are guided in facilitating the referral relationship to meet the needs of patients. Additionally, dental care teams are encouraged to adopt risk-based disease management practices for dental caries and periodontal disease management.[53] Cooperative tasks are then developed and shared between the teams to fortify a bi-directional referral system between dentistry and primary care medicine, improve interprofessional communication, and identify areas of overlap to optimize time and care delivery.

Figure 2: Qualis Health – Oral Health Delivery Framework

ASK about oral health risk factors and symptoms of oral disease

LOOK for signs that indicate oral health risk or active oral disease

DECIDE on the most appropriate response

ACT offer preventive interventions and/or referral for treatment

DOCUMENT as structured data for decision support and population management

Reproduced with permission from: Phillips KE, Hummel J. Oral Health in Primary Care A Framework for Action. Qualis Health.
www.safetynetmedicalhome.org/sites/default/files/Oral-Health-Delivery-Framework.pdf

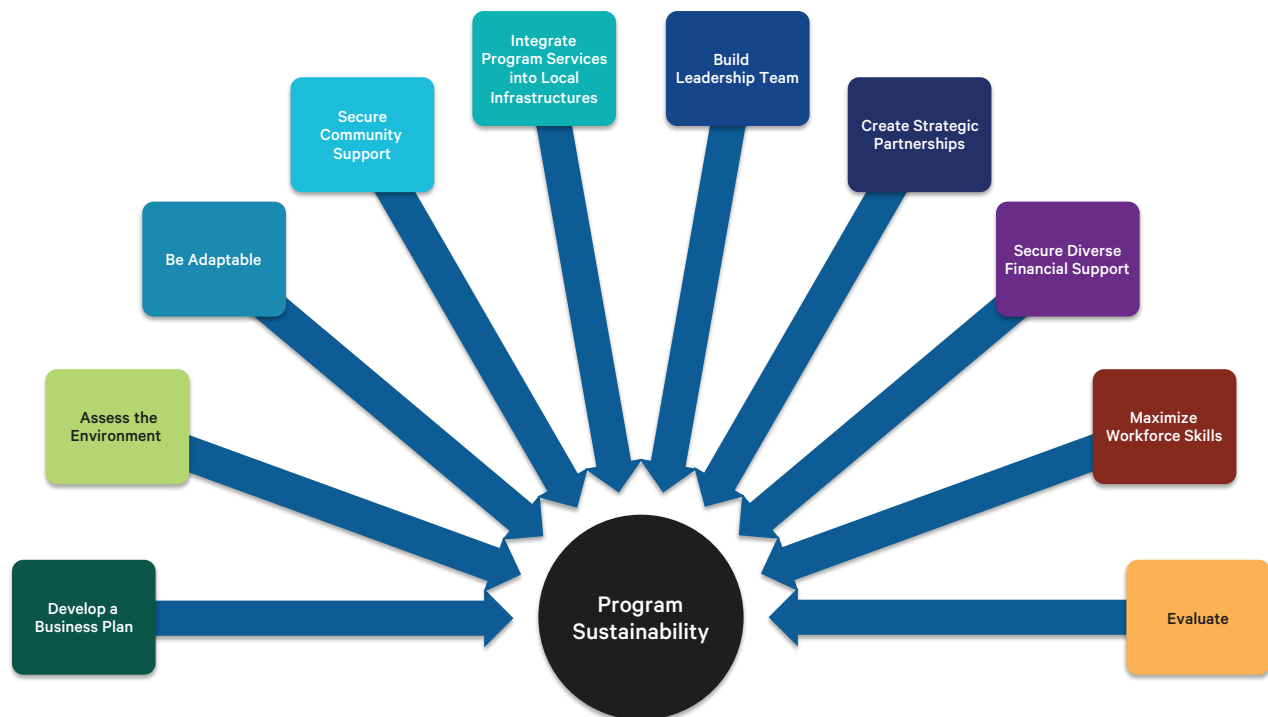# STATE OFFICES OF RURAL HEALTH AND MEDICAL ORAL EXPANDED CARE INITIATION

While much of the work involved in developing an IPOHN can begin at the clinic level, there are many activities that should be done at state and community levels to foster an environment conducive for widespread change. A SORH interested in supporting the integration and coordination of oral health care can begin to determine readiness of rural providers through strategic planning and network design. There are a wide range of areas of planning that lead to the success of any program and its sustainability including building a leadership team, developing a business plan, securing community support, integrating program services, creating strategic partnerships, and conducting qualitative and quantitative evaluation. Demonstrated with **Figure 3**, the forces that act on an IPOHN's success and sustainability are similar to findings of the National Maternal and Child Oral Health Resource Center's report on the integration of school based care.[54] The SORHs participating in MORE Care worked within this context providing coordination and planning, convening stakeholders, disseminating information, and delivering technical assistance.

Rural health leadership should focus on developing and supporting local oral health champions and key opinion leaders across all health care disciplines. In a recent strategic analysis, the Centers for Medicare and Medicaid Services (CMS) stressed the importance of working with state organizations and oral health coalitions to develop and recognize oral

Figure 3: Planning for a Sustainable IPOHN

Reproduced with permission from Lowe B, Barzel R, Holt K. 2016. Integrating Sustainable Oral Health Services into Primary Care in School-Based Health Centers: A Framework. Washington, DC: National Maternal and Child Oral Health Resource Center.
www.mchoralhealth.org/framework/docs/Integration-Framework.pdf

health leaders.[55] It also should also be noted that many rural primary care providers encounter difficulty in reimbursement for oral health services, especially for older children and adults. Many commercial health plans, and some Medicaid plans, are likely to only reimburse for fluoride varnish application until the age of six and require coding and billing procedures that are frequently unique to each individual plan. Guidance for effective management of coding and billing of oral health prevention and intervention for all populations, and effective understanding of Prospective Payment System (PPS) reimbursement and opportunities for renegotiation, is needed for medical care teams initiating IPP.

THE CHALLENGES AND OPPORTUNITIES OF THE MORE CARE INITATIVE

The initial challenges and opportunities during Phase 1 and Phase 2 of MORE Care were varied and, at times, complex. They involved state-, community-, and practice-level activities and allowed for the building of knowledge about the integration of oral health in primary care and the coordination of care with medical and dental network partners. As seen in **Table 2**, MORE Care partners identified five elements vital to creating a milieu conducive for the initiation of rural interprofessional oral health networks that include:

- **Create an improvement environment**— providing operational expertise to ensure a strong financial foundation and implementing quality improvement policies and protocols to improve or refine care standards.

- **Establish oral health proprietorship**— integrating and coordinating care among community partners to better understand, evaluate, and improve community-based oraL health.

- **Develop dental referral networks**— producing a fairer market to offset oral health disparities between rural and urban health care system components and improve care coordination through warm handoffs and practitioner extension opportunities.

- **Facilitate health care model transitions**— providing leadership, expertise, and guidance by state-level organizations and stakeholders to help health care teams navigate changes in the health care environment.

- **Ensure access to health information technology**—developing health technology infrastructure to support interprofessional systems and building platforms for electronic health records/practice management systems (EHR/PMS).

Key Factors Impacting the Initiation of Interprofessional Oral Health Networks		
Key Factors:	**Challenges:**	**Opportunities:**
An Environment of Improvement	**Quality Improvement (QI):** QI practices are seen with less frequency in interdisciplinary rural health care, and the current QI methods being adopted by medicine are not being applied by dental care teams.	**Quality Improvement:** The growth of quality improvement education, protocols and policies has allowed care teams proprietorship to impact patient care, improve daily operations, and focus on quadruple aim goals. Patient-Centered Medical Home (PCMH)[h] recognition is rooted in performance improvement and can provide the foundational systems of care (i.e., team-based care, referral management) that support interprofessional oral health practice. PCMHs can lead to higher quality and lower costs, as well as improve patients' and providers' experience of care.
	Financial Foundation: Limitations with accurate financial projections have been proposed as a barrier to achieve sustainability in the rural healthcare environment. Incentives for quality improvement practice has been limited and when employed, inconsistent.	**Financial Foundation:** Rural practices, both primary care and dental, face financial challenges. Improvement coaches can assist care teams by providing expertise in operational performance to ensure a strong financial foundation. Provide assistance with care flow patterns, templates for oral health visits, and providing direction on billing and coding to maximize financial sustainability.
Oral Health Proprietorship and Support	The effect of the current fragmented rural health system results in a higher cost of care, greater risk of poor disease management[i], and dental provider teams becoming isolated.	Various medical, dental, public health, and industry organizations have proposed a position (or set of position tasks) dedicated to understanding, evaluating, and improving community-based oral health. Case management facilitation can be a function of this position, as well. Many states feature an oral health coalition that disseminates information related to best practices and oral health partnerships that can impact community health. They function as a collaborative of like-minded community and state leaders proposing solutions for improving oral health. A dependable and well-organized onsite oral health training service provides an organizational structure for education/training and creates a pathway to develop oral health champions.

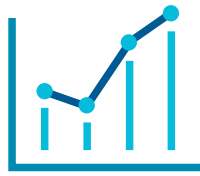h. **Patient centered medical home** – a care delivery model through which patient care is coordinated by primary care physicians to ensure that patients receive the necessary care when and where they need it, in a manner they understand

i. **Disease management** – a system of care administration that applies population health and risk-based stratification to more effectively stabilize and prevent disease of at-risk populations

Key Factors Impacting the Initiation of Interprofessional Oral Health Networks		
Key Factors:	**Challenges:**	**Opportunities:**
Dental Referral Networks	**Referral Process:** As the need for improved interprofessional communication grows, reports within dentistry and medicine reflect various issues impairing effective care coordination: provider time constraints, breakdown in care coordination/ management, communication failure, variation in education and training, and lack of adequate insurance coverage and a lack of access to providers for patients in need of care. Capacity of dental care is traditionally much smaller than capacity in medical care. **Referral Personnel:** The majority of Dental Health Professional Shortage Areas are located in non-metropolitan regions. Completing a transportation-friendly referral network can be difficult for primary care teams providing rural oral health.	**Referral Process:** Previous studies have demonstrated a link between a strong referral system and increased patient satisfaction, better health outcomes, and reduced cost of care. Warm handoff procedures and improved care coordination will be vital in reducing the practice chaos often seen with broken appointments. Hospital systems in rural environments have a more fluid infrastructure to initiate referral management between dental and medical care teams. They are more likely to incorporate warm handoffs which show more promise than other methods to improve appointment completion. Comparative models based on these concepts could be developed for wider dissemination and knowledge exchange. **Referral Personnel:** The use of practitioner extension methodology (community dental health coordinators, dental care team members embedded with medical and behavioral health teams, and virtual dental home or similar telehealth practices) has shown early promise. There is an opportunity for rural health system financial incentives to help produce a fairer market between rural and urban health care system components, such as state and federal loan repayment programs and oral health access grants. Future development to extend rural designation privileges to dental care teams would provide a financial sustainability tool via cost-based reimbursement.

Key Factors Impacting the Initiation of Interprofessional Oral Health Networks		
Key Factors:	**Challenges:**	**Opportunities:**
Facilitating Health Care Model Transitions	The current health care system is in a transition period with multiple care models emerging as well as disappearing.	State-level organizations and stakeholders can provide leadership, expertise, and guidance to help health care teams navigate changes in reimbursement structure; understand local, state, and federal requirements; address the increased needs of data and technology; and expand and enhance patient/care management. The advent and advancement of Medicare Access and CHIP Reauthorization Act (MACRA) and Accountable Care Organizations (ACOs) along with improved population and personal health care financial models will open the healthcare market to new models of care and facilitate changes for health consumers toward prevention-based care and the achievement of optimal health as opposed to stabilization of chronic disease.
Health Information Technology	With high costs and lack of operability, the current health information technology (HIT) environment stagnates IP oral health networks, especially in rural areas. Inadequately functioning EHRs and lack of software support are commonly reported reasons for increased cost and correlate to dissatisfaction with case management and care reporting.	Development of health technology infrastructure to support IP teams with a high functionality in IT operations and a means of ongoing training to provide the best tools for interprofessional practice. HIT report writer programs and third-party HIT management companies show early promise to connect multiple providers, through various electronic health records/practice management systems (EHR/PMS), to real-time practice and patient quality metrics. High costs will need to be addressed. Development of multiple IP networks working within a collaborative may result in a better platform for EHR/PMS enhancements or changes due to a larger licensee pool. As state health information exchanges (HIE) improve and expand, both primary care and dental care teams will have the ability to share patient information and payment structure, ensuring that the highest level of patient safety and continuity of care is realized.

An Environment of Improvement (Quality Improvement & Financial Foundation)

The aims of improvement measurement and design are to assist health care organizations/teams with quality-care delivery and provide patients an avenue to achieve their health goals.[56-57] Improvement methods thrive within a culture of trying and learning as well as a broad understanding of vision and aim. As demonstrated in **Figure 4**, quality improvement coaches can provide guidance for care teams and organizations adopting an improvement culture.

The MORE Care Initiative enlisted a modified Institute for Healthcare Improvement (IHI) Breakthrough Series (BTS) framework to guide state partners and clinics in organizing improvement strategies and processes. However, not every RHC or RHS will need to use this process to achieve IPOHN success as it is the adoption and implementation of quality improvement processes that leads to purposeful clinical and operational change. The BTS is designed to close the gap from current procedures to a more useful and ideal operational design. As seen in **Figure 5**, the BTS is an ongoing progression of topic selection (interprofessional oral health network), faculty/expert recruitment, recruitment of participating clinical sites, a series of learning sessions that bring together multidisciplinary care teams, action periods (periods designed to test and implement favorable changes to achieve goals

and understanding), and the use of the model for improvement.[58] Modifications to the BTS framework enlisted for the MORE Care Initiative include reducing out-of-office time required of providers and staff by streamlining learning sessions and action period calls; applying one-on-one technical assistance for primary and dental care teams; and using ancillary meetings to foster IPP relationships and understanding of medical and dental practice operations.

The model for improvement is a tool to produce local/practice-level health care change.[57-59] It identifies key aspects of improvement implementation that include the creation of measurable aims, improvement of data and information followed over time, identification of crucial change(s) that result in improvement, and a succession of testing cycles that allow care teams and organizations a method to assess change ideas. Care teams initiate the process by asking three questions:

- [Aims] What are we trying to accomplish?;

- [Measures] How will we know that a change is an improvement?;

- [Changes] What changes can we make that will result in improvement?

Using a cyclical system for change assessment and activation, care teams employ a "Plan-Do-Study-Act" format to make the change(s) part of daily operational workflow and assessment (**Figure 6**).
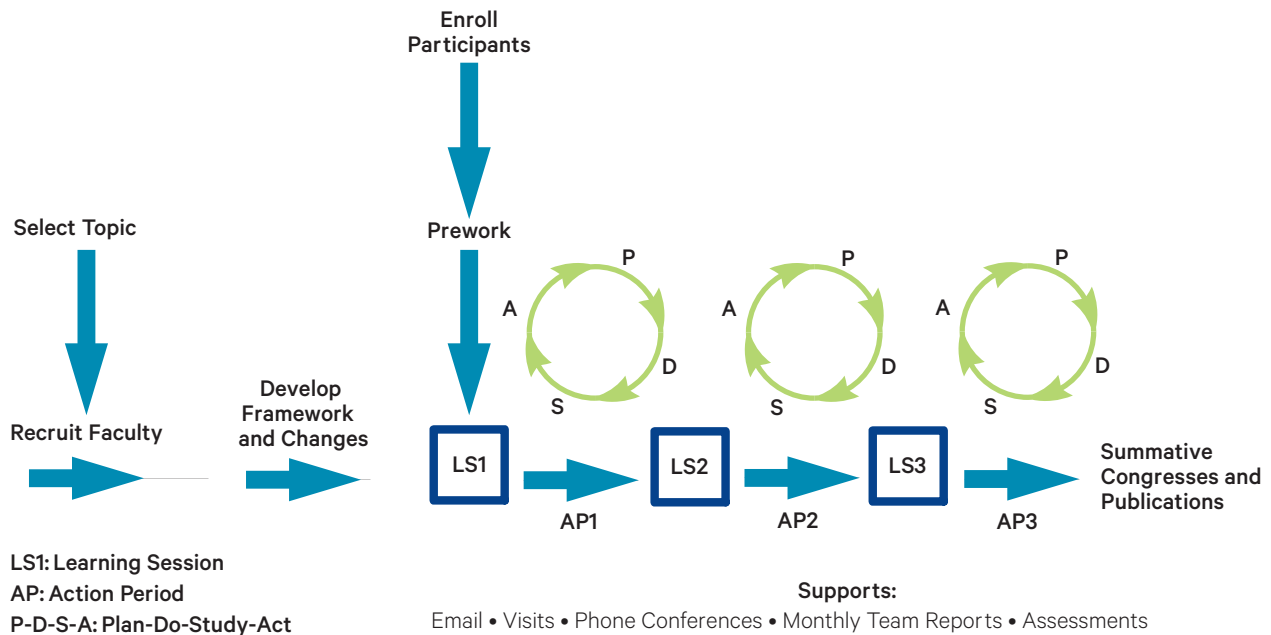
Innovative Idea

ORAL HEALTH PROPRIETORSHIP

As a means to guide RHCs in the improvement process, the South Carolina Office of Rural Health added internal positions that included quality improvement coaches (QICs) to help rural practices with quality improvement skill development, improvement strategy implementation and evaluation, and data collection and reporting. The QICs worked with each of the RHCs during regular check-in calls, site visits, and data exchange, as a means to determine opportunities and challenges that occurred within each of the action periods. All six South Carolina RHCs have achieved National Committee for Quality Assurance (NCQA) Patient Centered Medical Home (PCMH) recognition and plan to use the MORE Care Initiative processes to complete the performance improvement work required for renewal of their NCQA PCMH recognition. The Colorado Rural Health Center (CRHC) has invested in an Improvement Coach position and the Pennsylvania Office of Rural Health incorporated the IHI training into tasks prescribed for their oral health leadership position, due to the success of the South Carolina Office of Rural Health model. IHI offers training and educational opportunities so organizations can expand improvement leadership and expertise *(www.ihi.org)*.

Figure 5: The Institute for Healthcare Improvement Breakthrough Series Framework

Enroll Participants

Select Topic

Prework

Recruit Faculty

Develop Framework and Changes

P-D-S-A: Plan-Do-Study-Act

LS1   LS2   LS3

AP1   AP2   AP3

Summative Congresses and Publications

LS1: Learning Session
AP: Action Period
P-D-S-A: Plan-Do-Study-Act

Supports:
Email • Visits • Phone Conferences • Monthly Team Reports • Assessments

The Institute for Healthcare Improvement (IHI) has not endorsed or directly participated in the development and implementation of MORE Care, and IHI has not reviewed or given consultation on any of the materials used during the Initiative process.
www.ihi.org/resources/Pages/IHIWhitePapers/TheBreakthroughSeriesIHIsCollaborativeModelforAchievingBreakthroughImprovement.aspx

Figure 6: The "Plan-Do-Study-Act" Cycle of Change

"WHAT'S NEXT":
Adapt the test? Adopt the idea?
Abandon the idea altogether?

Decide next steps

"WHAT'S HAPPENING NOW?
WHAT WILL HAPPEN IF WE TRY
SOMETHING DIFFERENT"

Include an objective,
prediction, and a clear plan

Act **Plan**

"DID IT WORK?"

Analyze data, compare results
to prediction, summarize
what was learned

Study **Do**

"LET'S TRY IT!"

Carry out plan and
record observations

The Associates in Process Improvement (API) has not endorsed or directly participated in the development or implementation of MORE Care, and API has not reviewed or given consultation on any of the materials used during the Initiative process.
www.ihi.org/resources/Pages/HowtoImprove/default.aspx

Oral Health Proprietorship and Support

There is a fragmented structure to rural health care that can be exacerbated when oral health systems are involved.[60-61] Rural areas are prone to small numbers of independent provider care teams and rural patients often endure significant travel to regional medical and dental care centers.[61] In addition, poor community health strategic planning is often observed and rarely involves necessary stakeholders from both the state and local levels.[62] The effect of the current system results in a higher cost of care, greater risk of poor disease management, and dental provider teams becoming isolated, as well as, enlisting business models that maintain a silo-type nature of operation. Within the rural oral health environment, these occurrences result in a lack of ownership in which the patient's medical and dental support structure becomes limited and/or remains unaware of avenues for better health. This limited scope of planning can result in a lack of power to enact change, further isolate provider teams, or shift cost to other entities or the individual person. Therefore, a need for centralized leadership and organization exists to establish integration and coordination of care among community partners [**Figure 7**]. Multiple organizations have proposed a position (or a set of position tasks) dedicated to understanding, evaluating, and improving community-based oral health. These personnel operate at both state and local levels, working to improve care fragmentation and assist in cooperative agreements to create local care access and implementation of quality and value-based care by sharing resources, knowledge, and infrastructure.[62]

In addition to oral health proprietorship, the need for supportive oral health education and training is a significant component to IPOHN initiation. The Smiles for Life curriculum was the education platform administered to aid MORE Care teams in achieving a knowledge base. Smiles for Life: A National Oral Health Curriculum was originally developed in 2005 by the Society of Teachers of Family Medicine Group on Oral Health. It consists of eight modules and is based, in part, on materials developed by regional consortia of family physicians, dentists, and educators. The curriculum is available at www.smilesforlifeoralhealth.org and provides a didactic online training platform for care teams to review. Individuals completing the online course requirements receive a certification of completion and continuing education credit, which is kept on file for future verification. As demonstrated in **Figure 9**, MORE Care teams reported additional advantages with on-site oral health training.

Innovative Idea

ORAL HEALTH PROPRIETORSHIP

As a means to address the size and geography of the state as well as directly address health care fragmentation, the Pennsylvania SORH created the Dental Delivery Systems Coordinator (DDSC) position, which provides a level of leadership and representation of rural oral health systems. By dedicating one staff personnel with clinical background to the rural oral health system, the Pennsylvania SORH has seen significant benefit for rural practices. The Pennsylvania DDSC is a registered dental hygienist, with public health licensure, positioned to serve as a leading oral health surrogate for isolated care teams and provide leadership and direction for rural oral health policy and community/state-wide partnerships (**Figure 8**). With clinical knowledge and experience, the DDSC provides oral health training to primary care providers and serves as a consistent point of contact for the IPOHNs. With experience in providing preventive oral health services, the DDSC understands the challenges faced by dental clinics in rural settings.

Figure 8: State Level IPOHN Leadership: The Pennsylvania Dental Delivery Systems Coordinator

HEALTH CARE SYSTEM

- Provides interprofessional health care team education and training
- Provides quality improvement expertise
- Connects like-minded providers and health care systems

POLICY

- Serves as state liaison for rural health teams
- Functions as a rural oral health expert
- Works to develop and enhance oral health infrasructure

COMMUNITY AND POPULATION HEALTH

- Serves as a community organizer
- Monitors patient care pathways and access of care
- Works with outreach professionals in rural communities to improve local care systems

Innovative Idea

ONSITE ORAL HEALTH TRAINING

MORE Care partners experienced significant benefits with additional on-site training after the completion of the Smiles for Life course. In South Carolina, the MUSC College of Dentistry provided registered dental hygiene personnel with on-site training at the RHCs. Post-training evaluation by the primary care teams revealed positive impact with comfort to use acquired skills and oral health knowledge creation. The Colorado Department of Public Health and Environment's Cavity Free at Three (CF3) program offers didactic and hands-on training targeting medical and dental providers to increase oral health services to young children and pregnant patients (*www.cavityfreeatthree.org*). The program has good geographic distribution of CF3 trainers due to the effective utilization of an initial train-the-trainer dissemination design. This allows for localized distribution of trainers who also serve as local oral health advocates. The Pennsylvania Chapter of the American Academy of Pediatrics' Healthy Teeth, Healthy Children (HTHC) program delivers in-office oral health risk assessment, fluoride varnish application training, and ongoing technical support to primary care clinicians and their staff (*www.healthyteethhealthychildren.org*).

HTHC collaborates with prenatal and state and local education programs to coach staff and families on the importance of dental care as a part of overall physical health and provides expertise and materials to positively affect oral health literacy. The South Carolina Office of Rural Health, Colorado Rural Health Center, and the Pennsylvania Office of Rural Health recommend yearly on-site oral health training for rural medical care sites to address updates in care standards and assist with RHC provider/staff promotion and turnover.

Dental-Care Referral Networks (Process and Personnel)

The Referral Process: In recent years, referral completion has become a point of emphasis within the health care system.[17, 63] Previous studies have demonstrated a link between a strong referral system and increased patient satisfaction, better health outcomes, and improvement in cost of care.[17, 64-65] As the need for improved interprofessional communication grows, reports within dentistry and medicine reflect significant issues impairing care coordination.[63] Obstacles to a comprehensive interprofessional referral process include provider time constraints, difficulty in maintaining continuity of care (resulting in repeated diagnostic procedures and testing), communication failure, lack of EHR/PMS interoperability, low oral health literacy, un- and underinsured patients, and transportation and child-care limitations.[7-8, 17, 63-68]

While few analyses of the current clinical IPP referral system are available, there is merit from publications that are accessible. The American Dental Association Health Policy Institute reported that a significant disconnect exists between medical and dental care referral systems.[69] Physicians who participated in the analysis stated an overall displeasure with the current process. The common dissatisfaction factors reported by physicians include difficulties in obtaining patient appointments and limited patient access and coverage (especially for Medicare and Medicaid patients), overall poor communication, and the physicians' inability to use electronic systems for referral initiation and completion. In an analysis of electronic care management, Gandhi et al. reported that when primary care teams used an electronic referral tool, the receipt of timely patient information between the referral partners was three times higher compared to incidents when teams did not use an electronic tool.[70] An analysis of an FQHC medical-to-dental referral system found that patients were surprised by the high level of IPP provider communication and preferred the IPP process to previous care experiences.[17] Additionally, medical providers stated that they felt more empowered to address oral health needs with a dental care referral network in place. Among the MORE Care clinical teams, hospital-owned or affiliated RHCs were more likely than independent RHCs to have some type of dental referral system available to patients.

Availability of Referral Personnel:
Because rural communities are most likely to be designated as health profession shortage areas, addressing dental provider shortages in rural areas is vital to an equitable health care market. Several independent-practice dentists participating in MORE Care received federal or state rural practice incentives to help with repayment of student loan debt. They stated that their main reason to provide care in rural communities was a sense of "giving back" and providing access to care in places they grew up or where they live. This is similar to the findings of the National Network for Oral Health Access report that dental providers at community health centers were likely to have received loan repayment and chose that environment because of a personal mission to underserved communitites.[71]

Evidence of loan repayment programs resulting in the recruitment of mission-driven dental providers was observed with the MORE Care dental teams. It appears these programs may assist in offsetting some of the disparity between the cost of dental education and what dentists can consistently earn in a rural health care market. In addition, future development to extend rural designation privileges to dental care teams may provide some rural oral health providers a financial sustainability tool via cost-based reimbursement. Currently designated RHC medical care teams have the advantage of enhanced Medicaid and Medicare reimbursement rates. The financial benefits with designation are not universal and can be attributed to payer mix, patient populations being served, and the scope of practice being employed. Dental business models employing population health methodology and achieving Triple or Quadruple Aim goals may see more advantage within this payment model.

New methodologies continue to be proposed that extend the impact and access of oral health practitioners. For underserved areas and populations, these approaches can offer access to care pathways that were previously incomplete while allowing for an improved referral system and better coordination of care. As demonstrated in **Figure 10**, the use of practitioner extension methodology (community dental health coordinators, dental care team members embedded with medical and behavioral health teams, and virtual dental home or other telehealth practices) have shown promise in aiding Triple or Quadruple Aim efforts and extending the reach of oral health care.[72-78]

Innovative Idea

CARE COORDINATION & PRACTITIONER EXTENSION

The coordination of care is a vital component of interprofessional practice. Ensuring that patients have avenues to oral health care pathways can be a difficult process, especially in rural communities. This leads health systems, care teams, and organizations to propose solutions that aid the patient and help close the loop on needed care. In the context of care coordination and management, each methodology introduces possible pathways of patient navigation in a fragmented rural health environment and may provide an enhanced patient care process if used concurrently. Further and future study of these programs in additional settings should help create professional consensus.

Cole Memorial in Pennsylvania has initiated the use of a Public Health Dental Hygiene Practitioner (PHDHP) as a pediatric medical team member. Pennsylvania created the PHDHP in December 2009.[72] The additional PHDHP licensure allows for practice without the supervision of a dentist in select practice sites, including RHCs. Dental hygienists in underserved environments have been reported to positively affect outcomes by offering preventive services and care coordination for needed dental care.[73-74] At Cole Memorial, the PHDHP works in a co-located operatory within the pediatric practice and travels to another RHC site within the health system four times per month. The PHDHP works closely with the medical providers in both clinics to assist in coordinating oral health care for pediatric patients. The medical care teams consistently process through an oral health visit with an intraoral evaluation, risk assessment, and the setting of oral health self-management goals with the PHDHP providing additional on-site prevention and intervention for high risk patients. The PHDHP refers each patient to a dentist following each dental hygiene visit, with a goal of having a dental home established by the age of one. Any suspected decay or suspicious areas are noted on the referral form and significant oral disease or emergency care status is prioritized. The goal for urgent or emergent referrals is for immediate treatment of infection and a next-available-appointment status during scheduling with the oral health care team. The existence of a dependable dental care referral system empowers medical care teams to work with the PHDHP to close the gap on needed dental care. A copy of the referral is also given to the pediatric care manager who can follow up with the patient's family regarding definitive treatment. In addition to oral health education within the medical office, the PHDHP also offers education outreach at local schools and health fairs.

In Colorado, Virtual Dental Home (VDH) legislation was recently passed that opens the doors for practitioner extension and improved access to care. VDH is a community-based care delivery system using telehealth to link specialty trained hygienists in the community with participating dentists.[75] Practitioners use a store-and-forward [j] format to capture an individual's oral health record for review by dentists. A specially trained advanced practice practitioner collects the electronic dental records (health history, intra- and extra- oral pictures, radiographs, and tooth charting) using portable or mobile equipment.[76] The information is uploaded to a secure internet system where the supervising dentist can evaluate the record, create a treatment plan, and provide care guidance. A characteristic of an appropriately functioning system will allow for a patient with an urgent or emergent situation to receive timely care. A six-year report on the University of Pacific, Arthur Dugoni School of Dentistry's

j. **store-and-forward** – "Services where patient health care data and digital images (such as radiological images) are captured, packaged as a case file and transferred via telecommunication services to a clinician who then responds with a diagnosis and therapeutic recommendations (asynchronous telecommunication)." *www.cchpca.org/store-and-forward*

VDH program found that a majority of children participating in the program can have oral health needs met by dental hygiene providers via VDH, no adverse outcomes were reported, and the system delivered more prevention and early intervention at less cost per patient.[77] With recent funding from the DentaQuest Foundation, The University of Colorado School of Dental Medicine is investigating the creation of a replicable and sustainable business model that will allow private dental practices to extend oral health services to underserved individuals at non-traditional settings using telehealth technology in Colorado.

Opportunities in Pennsylvania and Colorado to employ Community Dental Health Coordinators (CDHCs) as oral health leaders and care coordinators are increasing. CDHCs are members of the dental care team (often dental assistants or hygienists) who work in underserved communities to improve access and oral health. Following a formal training program, they provide a limited range of preventive care, serve as referral coordinators assisting patients in making and keeping dental care appointments, and lead oral health initiatives in their communities. The core competencies associated with CDHC training include developing and implementing community-based oral health prevention and promotion programs, prioritizing population and patient groups, providing individual prevention services based on approved plans, collecting health data, and providing administrative support. In analysis of the CDHC pilot project, the American Dental Association reported increases in the total number of procedures by the entire dental care team, growth in the total value of care performed, and a greatly reduced broken appointment/no-show rate by diabetic patients reporting for dental care.[78]

Facilitating health care model transitions

Halfon and colleagues proposed three eras of health and health care [**Table 3**].[79] In the authors' timeline, the current health care system is in a transition period from a tertiary care driven system into a primary care system that directs risk stratified stabilization of disease and a stronger focus on disease prevention and healthy behaviors. According to the American Academy of Family Physicians, "Risk-stratified care management (RSCM) is the process of assigning a health risk status to a patient, and using the patient's risk status to direct and improve care. The goal of RSCM is to help patients achieve the best health and quality of life possible by preventing chronic disease, stabilizing current chronic conditions, and preventing acceleration to higher-risk categories and higher associated costs."[80] The advent and advancement of MACRA and ACOs, along with improved population and personal health care financial models, will open the health care market to new models of care and facilitate changes for consumers toward prevention-based care and the advancement of health as opposed to stabilization of chronic disease.

As the drive from service-[k] to outcome-[l] based care unfolds, business and clinical operations will need to develop and implement 3.0 era care characteristics or maintain a 2.0 era system by securing dependable patient panels who continue to participate in service based models. See **Table 3** for the characteristics of 2.0 and 3.0 systems of care. Care teams and organizations will require leadership, expertise, and guidance to help navigate changes in reimbursement structure and marketplace; understand local, state and federal requirements; address the increased use of data and technology; and expand and enhance patient/care management.[79, 81-85] As 3.0 era participants incorporate Triple or Quadruple Aim goals, strategic planning and policy assistance should be aimed at building infrastructure, expanding education and training programs, clearly defining reimbursement mechanisms, increasing efficiency of person-centered workflow, and fostering leadership.

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k. **Service based care** – affiliated with a fee-for-service or surgical intervention model of care usually focusing on encounter or procedures-provided transactions.

l. **Outcome based care** – affiliated with incentivized global payment structures usually focusing on improving patient health outcomes and population health transactions.

Table 3: Characteristics of the 1.0, 2.0, And 3.0 Eras of Health and Health Care

Three Eras of Health and Healthcare – Three Operating Systems			
	First Era–1.0: Medical care and public health services (1850s to 1950s)	**Second Era–2.0:** Health care system (1950s to present day)	**Third Era–3.0:** Health system (2000 going forward)
Definition of health	Absence of acute disease	Reduction of chronic disease	Creating capacities to achieve goals, satisfy needs, fortify reserves
Goals of health system	Improve life expectancy	Reduce disability	Optimize health
Model of health and disease causation	Biomedical	Biophysical	Life-course health development
Primary focus of services	Diagnose and treat acute conditions	Prevent and manage chronic diseases	Promote and optimize health of individuals and populations
Organizational operation model	Clinics and offices linked to hospitals	Accountable care organizations and medical homes	Community-accountable health development systems
Dominant payment mechanisms	Indemnity insurance; fee-for-service	Prepaid health benefits, capitation	Health trusts and management of balanced portfolio of financing vehicles
Role of health and health care provider/ organization	To protect from harm, cure the sick, and heal the ill	To prevent and control risk, manage chronic disease and improve quality of care	To optimize health and well being
Role of individual and community	Inexperienced patient	Activated partner in care	Co-designers of health

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http://content.healthaffairs.org/content/33/11/2003.abstract

Health Information Technology

Deficiencies and disparities with EHRs and PMS have resulted in considerable barriers for effective interprofessional practice. The average cost of quality measure reporting was last stated at $40,069 per physician per year.[86] Inadequately functioning EHRs and lack of software support are commonly reported reasons for increased cost and correlate to dissatisfaction with case management and care reporting. Interprofessional networks will need improved EHRs and PMS systems that can effectively assist in the formalization of a bi-directional referral process and effective care coordination.

As MORE Care teams advanced through creating IPOHNs, the current EHR/PMS programs were found to be an impediment to health care system transformation success and sustainability. Within open HIT systems[m], EHRs and PMS do not offer the functionality that result in adequate patient care

m. **Open HIT systems** – a multifaceted HIT system usually associated with network partners using different EHR/PMS programs, care teams located separately across a geographic region, a lack of effective communication between network partners, and/or comprised of multidisciplinary care teams and multiple operational models

communication between multi-disciplinary teams. There also is a lack of interoperability between different HIT programs/vendors. While some closed HIT systems[n] can be upgraded to incorporate oral health measures and reporting mechanisms, it is often cost prohibitive for rural health clinics and dentists providing care in rural communities. MORE Care RHCs affiliated with or parts of a hospital system were more likely to incorporate oral health measures into their EHR programs. They also were most likely to have internal IT support compared to independent clinics. The limitations with clinical data reporting, the cost of HIT, poor IT infrastructure, and lack of technical support stagnates interprofessional initiatives, especially in the rural environment. As demonstrated in **Figure 11**, CRHC is taking steps to help rural care teams navigate the difficult HIT environment.

Multiple solutions to the current lack of HIT interoperability are needed in order to ensure a level of health equity. Report writing tools (RWT)

show promise, especially in multi-disciplinary health networks with unrelated EHRs and PMS. The RWT are devices programmed to capture, analyze, and report on data flagged for analysis [**Figure 12**]. While report writer programs show promise in reducing the total FTE and costs associated with quality improvement, more evaluation and observed implementation is needed to determine the opportunities, challenges, and best practices with available data processing tools. It should also be noted that several health information exchanges are using this data flow process and the use of report writers in HIT continues to grow.[88] As the need for quality metrics and reporting spreads, business models will continue to appear and develop. The health system also is observing the growth of third party organizations that provide population health, coordination of care, customizable reporting mechanism solutions, as well as, delivering ongoing HIT support.

Figure 11: Health Information Technology
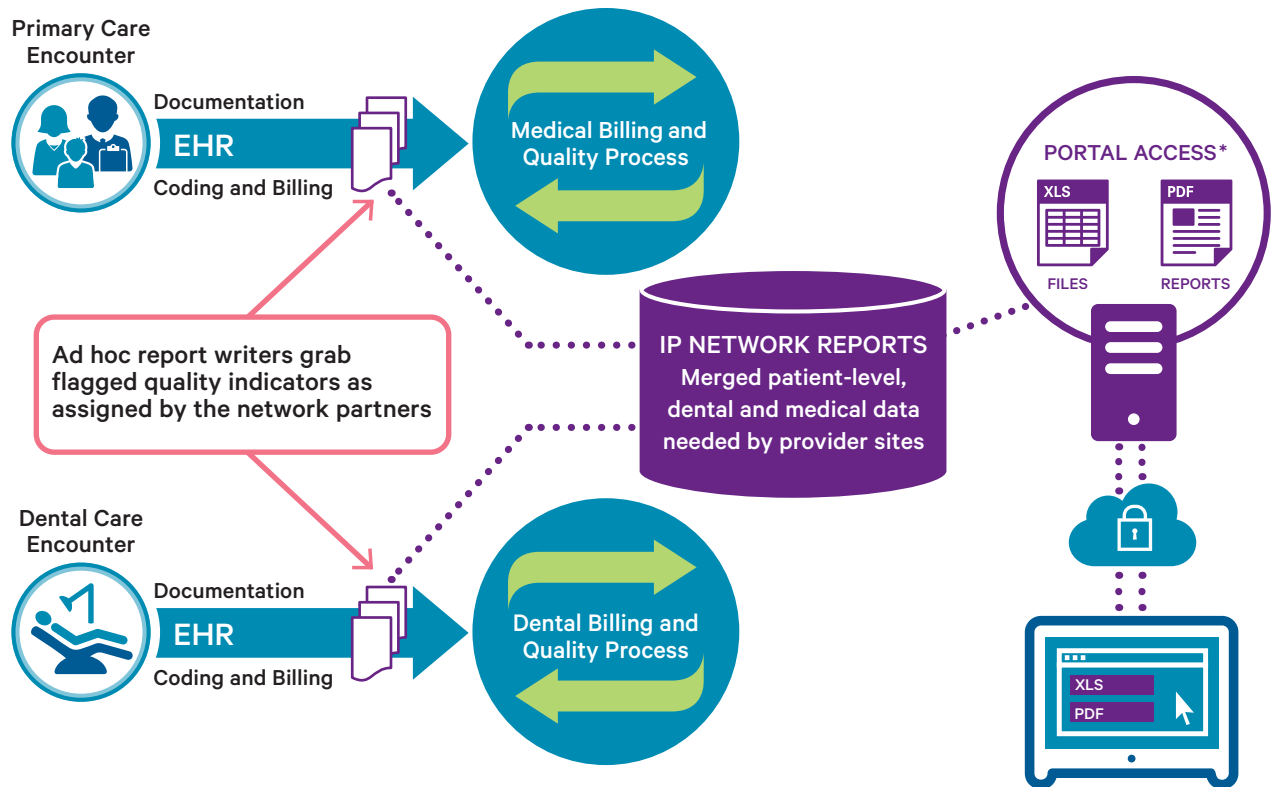
Innovative Idea

HEALTH INFORMATION TECHNOLOGY

The Colorado Rural Health Center (CRHC) has taken steps to evaluate and improve the current HIT issues seen within the Colorado rural health system. The CRHC houses an IT Department that facilitates regulatory HIT information exchange for rural health clinic partners, participates in projects and initiatives that result in innovative protocols, and is in the early stages of infrastructure building for rural health communities. The department also has used a sophisticated report writer to normalize data that are disparate or disjointed (as seen with provider networks using multiple EHRs and PMS).

The design of the CRHC HIT structure facilitated timely quality indicator reports and real-time information on chronic disease and hospital readmissions.[87] CRHC staff display the data and use the technology to inform the improvement process with medical care partners. CRHC Improvement Coaches then assist with system and process change using real-time data.

n. **Closed HIT systems** – a single or interface based HIT program used within one care site or care system and all users must be part of a single organization, network or business entity. All users share a common IT platform.

Figure 12: Open system data flow of two unrelated health record systems using a report writer program

Primary Care Encounter

Documentation

EHR

Coding and Billing

Medical Billing and Quality Process

Ad hoc report writers grab flagged quality indicators as assigned by the network partners

Dental Care Encounter

Documentation

EHR

Coding and Billing

Dental Billing and Quality Process

IP NETWORK REPORTS
Merged patient-level, dental and medical data needed by provider sites

PORTAL ACCESS*

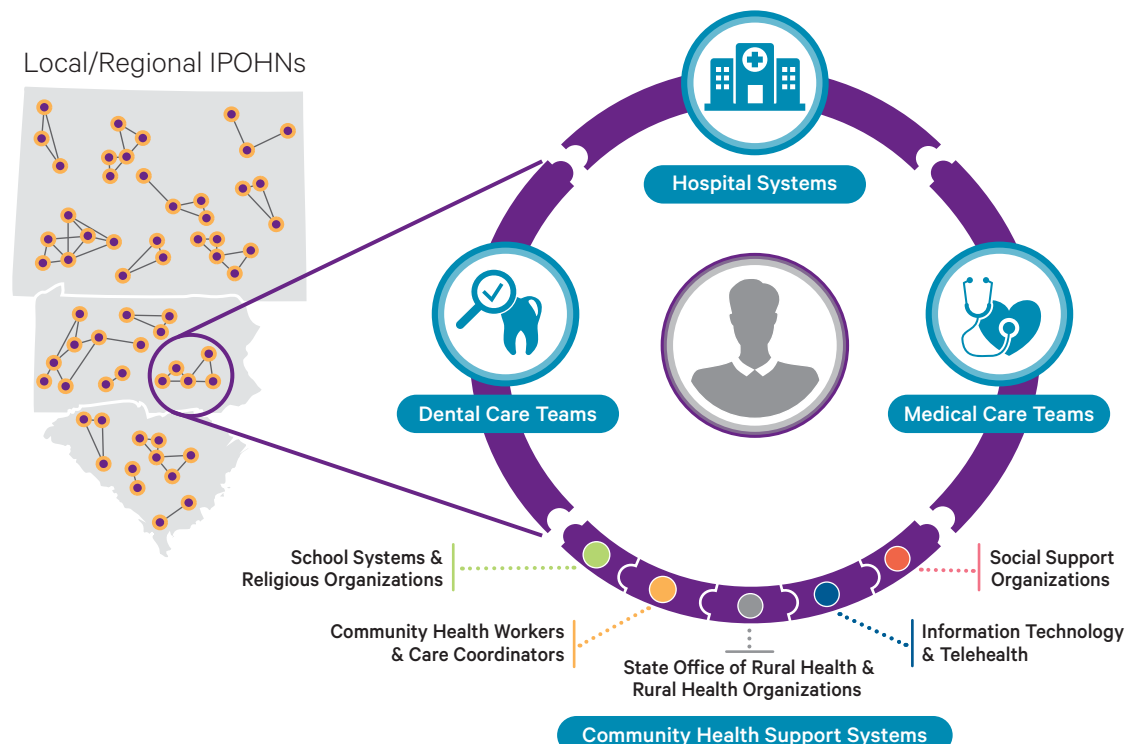XLS — FILES

PDF — REPORTS

XLS

PDF

*Portal access: User opens secure browser connection using a Secure Sockets Layer (SSL – an encrypted link between user and server); user selects the application favorite from controller WebTop page; controller establishes a connection (log in through SSL); user is connected to server for information query; information is formatted for delivery; user receives content from the server in the native application format.

FUTURE COORDINATION AND COLLABORATION

Enhancing and upgrading IPOHNs requires investment, ownership, and coordination. Oral health can serve as a link with chronic disease management that is amenable to team-based care, coordination across health care fields and reallocation of resources from expensive treatment to more economical prevention. Understanding the large variations seen between rural geography, population density, area demographics, and infrastructure needs requires both time and ardor. As observed during MORE Care's Phase 1 and 2 cohorts, the most advantageous design to rural IPOHN initiation appears to be with individual IPP oral health care collaboratives specific to a geographic region [**Figure 13**]. These networks work together to solve local problems, develop population-specific care processes, and coordinate with state-level organizations to bring together regional partners based on community need. Constructive change requires communities to create plans, such as a Community Health Needs Assessment, incorporating public health, primary care, oral health, and relevant stakeholder organizations in order to effectively address population needs.[89-90] At a practice activity level, it was advantageous for MORE Care sites to integrate workflows that addressed oral health as not "one more thing to do," but as part of a primary care team's differential diagnosis and process for identifying the signs and symptoms of upper gastrointestinal system disease within the oral cavity (dental caries, periodontal disease, and cancer). In addition, the MORE Care improvement process platform created an environment that provided input on performance, action planning guidance, and allowed for the exchange of innovation and best practices among individual care networks. The MORE Care teams worked with community and state partners to demonstrate that interprofessional oral health integration and coordination is viable and will lead to a positive impact for patients and communities.

Figure 13: Local and state level organization for IPOHN initiation demonstrating the community partners needed to develop a care pathway with the four key partners: hospital systems, dental and medical care teams, and community support systems.

Local/Regional IPOHNs

Hospital Systems

Dental Care Teams

Medical Care Teams

School Systems &
Religious Organizations

Social Support
Organizations

Community Health Workers
& Care Coordinators

Information Technology
& Telehealth

State Office of Rural Health &
Rural Health Organizations

Community Health Support Systems

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