

Elevating oral health interprofessional practice among pediatricians through a statewide quality improvement learning collaborative

Joni Nelson, PhD,MS¹, Mindi Spencer, PhD, MA², Christine Blake, PhD, RD², Justin Moore, PhD, MS, FACSM³, Amy Martin, DrPH, MPH¹

Background and Purpose

Because of persistent effects of early childhood caries and impacts of dental health professional shortages areas, the integration of oral health in primary care settings is a public health priority. According to the 2011-2012 National Health and Nutrition Examination Survey, approximately 23% of children aged 2 to 5 years experienced tooth decay. In comparison with non-Hispanic white children aged 2 to 8 years, Hispanic and non-Hispanic black children experienced higher rates of untreated tooth decay in their primary teeth. Oftentimes, oral health is overlooked as an integral component of overall health, which can perpetuate the devastating effects of oral diseases. In this study, we explored oral health interprofessional practice (OHIP) as an integrative pathway to reduce oral health disparities. We conducted a formative evaluation of how 15 pediatric primary care practices implemented the adoption of OHIP in their clinical settings. OHIP can include performing oral health risk assessments, describing the importance of fluoride in the drinking water, implementing fluoride varnish application, and referring patients to a dental home.

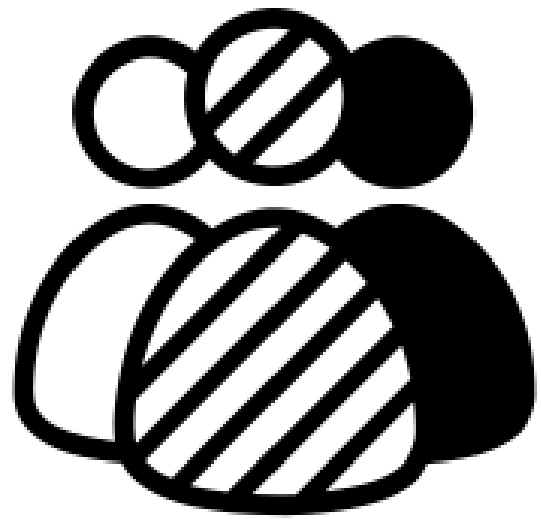
Methods

- Study design:** Using an ecological framework, we conducted a qualitative process evaluation to measure the factors that inhibited and facilitated OHIP adoption into pediatric settings.
- Participants and setting:** A total of 15 Children's Health Insurance Program Reauthorization Act pediatric practices located in 13 South Carolina counties participated in this study. The practices were a heterogeneous mix that varied in size, location, and occupational staff. Business models included federally qualified health centers, rural health clinics, academic practices, independent practices, and hospital-owned practices. QTIP participants included pediatricians, nurses, medical assistants, health information technology staff, and office receptionists. An iterative and criterion sampling approach was employed for the recruitment of participants.
- Data Collection and analysis:** Document review analysis and qualitative interviews were conducted with pediatric practices to contextualize challenges and facilitators to OHIP adoption. Areas of interests for the semi-structured interview guide were documenting success with adoption of OHIP, challenges experienced by QTIP participants, and best practices for OHIP in primary care settings. Interviews were conducted with 22 QTIP participants to assess their perceptions regarding OHIP adoption. Each interview was audio-recorded (30-60 min). Qualitative interviews were analyzed using the constant comparative method. We sought corroboration of interview perspectives by conducting a document review analysis, which involved the review of approximately 263 documents. The initial document coding was based on 4 aspects of process evaluation: reach, dose received, dose delivered, and fidelity of the QTIP demonstration program related to OHIP. All data collected were analyzed using MAXQDAplus, which is a qualitative data analysis software.

Summary of abbreviated questions asked in the QTIP Participant interviews	
Question Aim	QTIP Participant Interview Questions
Knowledge and experience related to their role in oral health interprofessionalism in their practice	What is preventive oral health? What does it mean to you?
Perceived capacity to implement QTIP oral health quality improvement areas, i.e. a) performing oral health risk assessments between 12-36 months, (b) describing the importance of fluoride in the drinking water, (c) applying fluoride varnish (FV) to high risk patients between 12-36 months and (d) referring patients to a dental home.	In what ways did your practice integrate preventive oral health services within your clinical setting for your patients?
Barriers for oral health interprofessional practice in pediatric primary care settings as described by the QTIP participant	What are some of the challenges to oral health interprofessional practice in primary care settings?
Opportunities to overcome barriers for oral health interprofessional practice within a pediatric primary care setting as described by the QTIP participant	Tell me how oral health can be best included within a well-child visit

Results

① FACILITATORS FOR OHIP IN PEDIATRIC PRIMARY CARE



- All QTIP participants described the significance of OHIP adoption to be a team-based effort with shared duties, including all staff and clinical professionals within a primary care setting
- 21 QTIP participants described team-based communication as positive influences OHIP adoption including:
 - In-person monthly meetings
 - Daily huddles
 - Mass emails
 - Prompt reminders within practice EMRs

Overcoming barriers and revealing best practices for OHIP in pediatric primary care through learning collaboratives (n=22).

- ✓ Receive oral health prevention and patient education materials
- ✓ Receive fluoride varnish application training and oral health screening techniques
- ✓ Receive technical assistance on their Plan-Do-Study-Act (PDSA) quality improvement cycles for carrying out preventive oral health procedures
- ✓ Receive training on EMR technology
- ✓ Share best practices for dental referral mechanisms

② BARRIERS FOR OHIP IN PEDIATRIC PRIMARY CARE

- 16 QTIP participants described the following barriers:
 - Limited resources and funding for supplies
 - High turnover rate in staff
 - Dental provider cooperation with serving children three or younger
- 15 QTIP participants described practice and/or provider buy-in, which was the resistance from clinical providers and staff to adopt OHIP
- 9 QTIP participants described challenges related to parent behaviors that influenced the oral health outcomes of their pediatric patients:
 - Socioeconomic status and health literacy level
 - Multiple parental handouts and too much information during the visit
 - At-home oral health practices
 - Overlooked importance of oral health

“A challenge for us, getting our parents to take oral health seriously and getting their kids to their dental appointments--.”

“But you know that is also another issue. We don't have a lot of dentists who take kids that are, one or younger, or three or younger.”

12 Key Recommendations to adopt OHIP

- Educational resources for patients and parents
- Active dental referral network
- Pediatric practice buy-in
- Provider incentives
- Parent incentives
- Oral health interprofessional education and training
- Oral health interprofessional adoption structure
- Paired integration
- Parent buy-in
- Value of oral health interprofessional adoption
- Technology
- Fluoride varnish supplies

Policy & Practice Implications

- Care coordination among dental delivery and primary care systems remains a challenge to closing the gap on oral health disparities, but through QTIP's additional improvement areas, children were exposed to an opportunity to receive preventive oral health services they may have otherwise missed.
- Future investigations must measure the clinical manifestations of interprofessional practices as evidence of population health improvement.
- Federal funding should be made available to explore the potential care and cost-efficiencies of OHIP for medical health outcomes. In collaboration with federal funding, the process of evaluation can contribute to better understanding of these efficiencies and support the integration of oral health into broader health practices and delivery reforms.

Limitations

- Oral health was not the primary focus of the QTIP demonstration grant and represented only one of 24 key priorities.
- Pediatric practices other than the participating pediatric practices within QTIP may be involved with OHIP, but because they were not a part of the QTIP demonstration grant, they were not included within the sample.
- Any changes related to OHIP in each practice might not be solely dependent on its participation within the QTIP demonstration project, considering that each QTIP practice received an incentive for participation.
- Self-reported data may reflect socially desirable responses and personal biases.

Discussion

- QTIP enacted a systems-level approach to closing gaps in preventive oral care for children that improved quality and inherently ameliorated existing determinants to accessing preventive oral care, such as FV application and oral health risk assessment in the primary care setting.
- This is one of the few studies to reveal the process, content, structure, and delivery of preventive oral health in primary care settings. QTIP, in an attempt to improve children's health, has also developed a natural fit for improving oral health equity within the pediatric primary care settings.
- To continue the adoption of OHIP, a concentration on the benefits of elevating oral health equity for the most high-risk populations, specifically poor rural children, will be essential to future adoption in other primary care settings in South Carolina.

- Medical University of South Carolina, College of Dental Medicine;
- University of South Carolina, Arnold School of Public Health;
- Wake Forest School of Medicine, Wake Forest Baptist Medical Center.

The study was submitted for approval by the Institutional Review Board at the University of South Carolina.