



Quality Improvement in Dental Settings

A two-part training developed for personnel in oral healthcare settings and their community partners to improve service delivery and outcomes for low-income pregnant women, infants and young children

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Introduction

In 2015, HRSA funded Perinatal and Infant Oral Health Quality Improvement projects (aka PIOHQI) in 16 states (including California) to explore ways to reduce the prevalence of oral disease among high-risk populations—with a focus on low-income pregnant women and infants. Its four aims were to:

- 1) Increase pregnant women’s utilization of preventive oral health care;
- 2) Increase the percentage of children who have dental homes by age 1;
- 3) Reduce the prevalence of oral disease in pregnant women and infants, ultimately reducing dental caries throughout early childhood; and
- 4) Reduce oral healthcare expenditures.

The California Department of Public Health’s (CDPH) Office of Oral Health (OOH) was responsible for implementing state-level systems and policy changes through the following activities:

- Convening and hosting knowledge-sharing meetings with various stakeholders and programs serving perinatal and pediatric clients;
- Operationalizing best practices for data-sharing in collaboration with the California Department of Health Care Services’ Denti-Cal program;
- Integrating oral health into medical care delivery protocols for pregnant women and infants, including oral health assessment and referral to dental providers;
- Developing and piloting a statewide approach for improving the oral health of pregnant women and infants; and
- Participating and contributing to the PIOHQI National Learning Network hosted by HRSA.

CDPH OOH selected the Sonoma County Local Health Department’s Dental (LHD) to partner in piloting because:

- The LHD had an established dental health program within its public health department;
- The area was home to a robust healthcare delivery system;
- The community had the infrastructure to gather and use data; and
- The local public health jurisdiction had the capacity to scale-up successful interventions.

Sonoma County provided backbone support to a local Community of Practice (CoP) comprised of the county’s Federally Qualified Health Centers (FQHCs) plus one additional Los Angeles County FQHC. The CoP focused on integrating quality improvement methodologies into dental clinics’ routine activities and resulted in measurable improvements in oral health outcomes for pregnant women and infants. The quality improvement activities that members of the CoP conducted at their respective sites are at the crux of the content of this training program.

Quality Improvement (QI) in Dental Settings is a two-part training developed for personnel in oral healthcare settings and their partners in the broader public health and healthcare community. It aims to:

1. Introduce the value of QI in clinical dental settings, with a specific focus on providers serving pregnant women, infants and young children.
2. Demonstrate the practical application of basic QI tools to:
 - Build participants' skills and confidence in launching QI activities in their respective worksites; and
 - Promote a culture that embraces QI as the way of doing business.

This Guidebook provides simple step-by-step instructions for optimizing participants' experience during the webinars, gaining experience using QI tools, and accessing additional resources to support adoption of quality improvement methodologies in their respective worksites.

QI and its distinction from QA

Quality Improvement (QI) in the context of healthcare delivery “Consists of systematic and continuous actions that lead to measurable improvement in healthcare services and the health status of targeted patient groups” (HRSA, 2011).

By contrast, **Quality Assurance** (QA) activities focus on using data to compare results from healthcare activities against a pre-defined set of standards or quality indicators. The Healthcare Effectiveness Data and Information Set (HEDIS), Uniform Data System (UDS) performance measures, Occupational Safety and Health Administration (OSHA) regulations and the Health Insurance Portability and Accountability Act (HIPAA) requirements are standards to which all safety-net healthcare organizations must adhere.

An easy way to conceptualize the difference is:

- QA is *reactive*, going back on a *periodic* basis to check on performance *against a set of often external standards* (such as “The percentage of 6-9 year olds at moderate to high caries risk who received a dental sealant on a first permanent molar during a particular reporting period”).
- QI, on the other hand, is *proactive*, requiring *ongoing* examination of *processes* currently in place, with an eye toward making measurable improvements on the organization's internal baseline performance.

Finally, managers typically lead QA activities, while QI deliberately engages staff at all levels of the organization. The reason for the relatively non-hierarchical approach of QI is that frontline staff are the experts in how a process is performed and therefore can authentically describe “the way it is” and realistically offer insights on areas to adjust to achieve intended results that in the end best serve the customer.

Why focus on QI?

Quality improvement matters in the context of perinatal, infant and young children's oral health for the following reasons:

1. Access to high-quality oral healthcare is essential to reducing the prevalence of oral disease among high-risk populations and narrowing the disparity gap (Source: CA State Maternal Infant Health Assessment [MIHA], 2020).
 - Pregnant women enrolled in Medi-Cal, regardless of race and ethnicity, are less likely to successfully complete a dental visit during pregnancy than their counterparts with private insurance or compared to California's overall population.
 - Women who live below the federal poverty level or have Medi-Cal coverage or have only (or less than) a high-school education or who are Black or Latina have a higher prevalence of dental problems during their pregnancy than the state average.
2. Pregnancy and infancy offer unique QI opportunities in the clinical environment
 - It capitalizes on a prime time when women tend to focus more on their own health to promote the health of their baby.
 - Evolving reimbursement policies have yielded some degree of increased Medicaid coverage for oral healthcare services while pregnant.
3. Safety-net medical and dental clinics are uniquely poised to test QI interventions
 - These organizations are not only mission-driven and committed to improving the lives of underserved people, they benefit from a range of public and private resources (e.g., Centers for Medicare & Medicaid Services, HRSA, non-profit organizations, volunteers). In addition, they are required to report quality metrics to local, state, and federal entities, including third-party payors. Such accountability demands that they have systems in place to support data collection and analysis, all of which facilitate QI and practice-transformation work (AHRQ, 2018).
 - There's considerable opportunity to improve screening, oral health education, referrals and care-coordination between OB-GYNs, pediatricians and dental providers. These conditions are enhanced when medical and dental clinics are collocated (as found in many FQHCs) and when they use off-the-shelf or adapted technology tools to support multidisciplinary case management.

In summary, increased healthcare touchpoints for pregnant women during prenatal visits and infants during well-child visits present opportunities to inform women of the importance of maintaining their oral health, the safety of dental care during pregnancy and the benefits of getting their baby off to a good start.

California's PIOHQI project and partnering FQHCs that participated in the Community-of-Practice (CoP) demonstrated the positive impact of focusing efforts to improve engagement of pregnant women as reflected in the state's recent Maternal Infant Health Assessment (MIHA) report (2020). The percentage of pregnant women in Sonoma County with Medi-Cal coverage who had a dental visit during pregnancy was the highest reported in the state (73.3%), ten percentage points greater than Marin County with the state's next highest rate (62.1%), and more than double California's overall rate (34.7%).

How do I begin?

By participating in this two-part training, you are off to a great start!

The ***Quality Improvement in Dental Settings*** training:

1. Presents concepts, tools and practical exercises for you to gain a basic understanding of QI and its application toward improving oral healthcare service delivery to pregnant women, infants and young children; and
2. Offers concrete steps—with case examples from California's PIOHQI project—for Local Oral Health Program (LOHP) members to form a local Community of Practice (CoP), build their respective organization's QI team, and access additional resources to support an evolving QI culture.

Get ready to participate in the training

1. Familiarize yourself with the learning objectives for each lesson.

Lesson 1: An Overview of Quality Improvement in Dental Settings

After completing this training, you will be able to:

- Explain why quality improvement in dental and medical care is essential, with a special focus on improving access and services for pregnant women, infants and young children
- Distinguish the difference between quality improvement and quality assurance
- Identify the key elements of an effective quality improvement team
- Recognize the stages of change and how to manage change so that your quality improvement projects are successful
- Explain the three foundational questions to the Model for Improvement so that you can plan your Plan-Do-Study-Act cycles at the core of QI
- Describe the principles of Lean methodologies
- Create a community-of-practice with local safety-net dental providers to learn from one another, share best practices and provide support

Lesson 2: Applying Quality Improvement Methodologies in Dental Settings

After completing this training, you will be able to:

- Develop SMARTIE quality improvement goals—SMARTIE stands for: Specific, Measurable, Achievable, Relevant, Time-bound, Inclusive, and Equitable
 - Create process maps using Lean methodology
 - Critically analyze process maps to identify improvement opportunities
 - Test small process changes using a plan-do-study-act cycle
 - Identify, develop, and interpret data metrics to determine if a small change resulted in an improvement
 - Explain how others have successfully applied a quality-improvement approach to achieve measurable improvements
 - Ultimately, after completing this training, you will be able to share the QI approach, tools, and resources with your dental teams
2. Register for each lesson via the link:
[An Overview of Quality Improvement in Dental Settings Webinar Series Part 1 \(10/13/20\)](#)
[Applying Quality Improvement Methodologies in Dental Settings Webinar Series Part 2 \(10/20/20\)](#)
 3. Download and printout the reference materials for each lesson (provided to all registrants prior to the webinar):
 - a. QI Overview: A brief introduction that explains QI, the Model for Improvement, and Lean.
 - b. Plan-Do-Study-Act (PDSA) Test Worksheet: A worksheet to help you plan, implement, study, and interpret the effectiveness of each small test-of-change that you implement.
 - c. How to Develop a Process Map Template: An overview of the 10-step process to successfully develop a process map.
 - d. How to Interpret Data Template: A workbook to help you 1) transform your raw data into run charts; and 2) determine if the change you make in your QI project results in an improvement.
 4. Make sure your hardware and software are ready for the webinars:
 - a. Install Zoom
 - b. Confirm the functionality of your computer's audio and video settings
 5. Find a quiet place to join the 2-hour lessons and login.
 6. Complete and submit the program evaluation/learning assessment and request for Continuing Dental Education credits.

Questions?

Send inquiries to DentalInfo@sonoma-county.org

Resources

American Dental Association

The American Dental Association hosts the Dental Quality Alliance (DQA), which was established to develop performance measures for oral health care. The DQA hosts a variety of resources related to dental quality measures, educational resources, and improvement resources.

<https://www.ada.org/en/science-research/dental-quality-alliance>

Association of State and Territorial Dental Directors

The Association of State and Territorial Dental Directors links to a variety of evidence-based quality improvement resources.

<https://www.astdd.org/evaluation-and-quality-improvement/>

California Department of Public Health

The California Department of Public Health provides a variety of resources that highlight why dental QI is important and efforts to improve oral health outcomes for pregnant women, infants and young children through the PIOHQI Project.

<https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/Pages/OralHealthProgram/OralHealthProgram.aspx>

California Oral Health Technical Assistance Center (COHTAC)

The California Oral Health Technical Assistance Center (COHTAC) provides support and resources to help local oral health programs achieve their goals. It's comprised of a group of UCSF faculty, researchers, and staff with expertise in oral health. We work in partnership with the California Department of Public Health's Office of Oral Health Program and the UCSF Dental Public Health Postgraduate Program to create a healthier California through evidence-based strategies.

<https://oralhealthsupport.ucsf.edu>

Centers for Medicare and Medicaid Services

The Centers for Medicare and Medicaid Services issued a report for improving oral health care delivery in Medicaid and CHIP. The report is a toolkit to help state's achieve the CMS Oral Health Initiative through QI.

<https://www.medicaid.gov/sites/default/files/2019-12/oral-health-quality-improvement-toolkit-for-states.pdf>

Health Resources and Services Administration

The Health Resources and Services Administration published a report in 2011 explaining what QI is, why it's important, the role of organizational leadership, how to prepare for change, the Model for Improvement, and other topics critical to QI.

<https://www.hrsa.gov/sites/default/files/quality/toolbox/508pdfs/qualityimprovement.pdf>

Institute for Healthcare Improvement

The Institute for Healthcare Improvement hosts a variety of resources, tools, and trainings.

Free Resources are available: <http://www.ihl.org/resources/Pages/HowtoImprove/default.aspx>

Free Tools are available: <http://www.ihl.org/resources/Pages/Tools/default.aspx>

The Dental QI Training, developed in collaboration with the Dental Quality Alliance, was the first QI training exclusively for dental professionals:

<http://www.ihl.org/education/IHIOpenSchool/Courses/Pages/Dental-Quality-Alliance-DQA.aspx>

The Certificate in Quality Improvement courses:

<http://www.ihl.org/education/IHIOpenSchool/Courses/Pages/OpenSchoolCertificates.aspx>

National Association of County and City Health Officials

The National Association of County & City Health Officials has a compendium of Quality Improvement Training Resources. They also have tools to help assess QI maturity, develop a QI plan, provide QI training and resources to staff, prioritize and select QI projects and implement QI projects.

<http://qiroadmap.org/wp-content/uploads/2013/01/QIRoadmap.pdf>

<https://www.naccho.org/programs/public-health-infrastructure/performance-improvement/quality-improvement>

National Network for Oral Health Access

The National Network for Oral Health Access developed an operations manual for oral health programs; chapter six focuses on quality. Topics addressed in the toolkit include model for improvement, PDSA cycles, sample quality measures, case studies and more.

<https://www.nnoha.org/nnoha-content/uploads/2013/08/OpManualChapter6.pdf>

Population Health Improvement Partners

The Population Health Improvement Partners has eLearning modules (videos), tools and templates to learn about and apply improvement concepts to your work.

<https://improvepartners.org/toolbox/toolbox-details/qi-videos-tools/>

Prosci

AKDAR (Awareness, Desire, Knowledge, Ability, Reinforce) is a change-management model that provides a framework for guiding individual and organizational change. As quality improvement inevitably demands a change in organizational culture and processes, AKDAR helps to “pave the way” for successful change. Costs vary.

<https://www.prosci.com/>

Public Health Foundation

The Public Health Foundation provides QI tools, training, and resources.

QI Quick Guide:

[http://www.phf.org/focusareas/qualityimprovement/QIQuickGuide/Pages/Welcome to the Guide to Quality Improvement.aspx](http://www.phf.org/focusareas/qualityimprovement/QIQuickGuide/Pages/Welcome_to_the_Guide_to_Quality_Improvement.aspx)

QI Tools:

[http://www.phf.org/programs/QItools/Pages/Quality Improvement Tools to Advance Public Health Performance.aspx](http://www.phf.org/programs/QItools/Pages/Quality_Improvement_Tools_to_Advance_Public_Health_Performance.aspx)