The mission of the National Network for Oral Health Access (NNOHA) is to improve the oral health of underserved populations and contribute to overall health through leadership, advocacy, and support to oral health providers in safety-net systems.
Health Centers strive to deliver quality care that leads to positive patient outcomes. In 1990, the Institute of Medicine (IOM) defined quality of care as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”1 Because of the pivotal role health care quality plays in service delivery, Health Resources and Services Administration (HRSA) requires all Health Centers to regularly measure and improve the quality of care within their programs.2

This chapter explores two facets of an oral health quality program: quality assurance (QA) and quality improvement (QI). QA is a set of processes focused on the continual monitoring of health care delivery. QI builds on baseline data from QA processes to develop a data-driven plan focused on improvement in oral health care. Both QA and QI focus on measuring success by achieving goals over a period of time. While there are several models for quality improvement, this chapter focuses on two utilized by the HRSA/BPHC Health Disparities Collaboratives—the Chronic Care Model and the Model for Improvement.

This chapter also emphasizes the importance of staying up-to-date with electronic dental record (EDR) developments and emerging health concepts, such as patient-centered health homes,* population-based care, and care integration and collaboration, as they will influence both the definition of quality, as well as improvement efforts. Several resources, tools, and links are also provided for oral health programs to implement or enhance their QI programs.

* NNOHA recognizes the current national movement of patient-centered medical homes. However, while NNOHA supports the concept, this term’s focus on medical care is exclusive of other health care disciplines, such as oral health and behavioral health. As a result, NNOHA has chosen to advocate the more inclusive term “patient-centered health home” throughout this chapter.

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QUALITY

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1. INTRODUCTION

The current health care delivery system is experiencing major transformations. Clinicians must adapt to changes in payer and information systems, as well as rapid technological advances. The need to achieve and improve quality remains constant regardless of other change, and in fact quality is central to health care delivery system reform efforts. Oral health providers, especially those practicing in safety-net settings, such as Health Centers, are not exempt from these pressures. In fact, given their unique program focus, Health Centers are required to develop and incorporate methodologies demonstrating their ability to deliver quality health care.

The Institute of Medicine (IOM) defines health care quality as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” The IOM further describes the following six domains as essential standards for the provision of quality health care services:

- **SAFETY:** Avoid injuries to patients from care that is intended to help them.
- **EFFECTIVENESS:** Provide services based on scientific knowledge to all who can benefit, and refrain from providing services to those unlikely to benefit.
- **PATIENT-CENTEREDNESS:** Provide care that is respectful of and responsive to individual patient preferences, needs, and values, while ensuring that patient values guide all clinical decisions.
- **TIMELINESS:** Reduce waits and harmful delays for those who receive and give care.
- **EFFICIENCY:** Avoid waste of equipment, supplies, ideas, and energy.
- **EQUITY:** Provide consistent quality of care for all patients regardless of gender, ethnicity, geographic location, and socioeconomic status.

Developed specifically for oral health programs, this chapter provides an overview of quality in Health Center dental settings and focuses on both quality assurance (QA) and quality improvement (QI) concepts. The goal of the chapter is two-fold: 1) provide the proper tools to assist oral health teams in achieving positive oral health quality outcomes, including improved patient satisfaction; and 2) demonstrate a methodology to measure and improve quality through the effective and efficient use of resources.

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3 Institute of Medicine – “Crossing the Quality Chasm: The IOM Health Care Quality Initiative”
2. Learning Objectives

After reading this chapter, the reader should be able to:

- Understand the importance of quality;
- Distinguish between quality assurance (QA) and quality improvement (QI) systems;
- Recognize, define, and measure quality;
- Determine sample metrics to establish relevant benchmarks for a Health Center;
- Develop systematic QI goals; and
- Integrate continuous QA and QI practices into a Health Center.

3. Relevant Authorities

Quality improvement/quality assurance (QI/QA) activities are an integral part of a Health Center program. Additionally, the new Federal Tort Claim Act (FTCA) deeming application process requires the submission of the Health Center’s Board-approved QI/QA plan and QI/QA committee minutes to document quality of care activities.

BPHC outlines quality care as care that is evidence-based, appropriate, well coordinated, safe, and patient-centered. BPHC’s QI strategy focuses on five key activities: 1) develop and enhance care access points, 2) transform health care delivery system through use of PCMH model and/or HIT meaningful use, 3) recruit, develop, and maintain a skilled workforce, 4) integrate Health Centers into local health systems, and 5) align policies and programs where possible. BPHC also provides various resources for Health Centers to use in creating and maintaining effective QI/QA programs.

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Health Center Program Requirements

Health center has an ongoing Quality Improvement/Quality Assurance (QI/QA) program that includes clinical services and management, and that maintains the confidentiality of patient records.

THE QI/QA PROGRAM MUST INCLUDE:

- a clinical director whose focus of responsibility is to support the quality improvement/assurance program and the provision of high quality patient care; *

- periodic assessment of the appropriateness of the utilization of services and the quality of services provided or proposed to be provided to individuals served by the health center; and such assessments shall: *
  - be conducted by physicians or by other licensed health professionals under the supervision of physicians; *
  - be based on the systematic collection and evaluation of patient records; * and
  - identify and document the necessity for change in the provision of services by the health center and result in the institution of such change, where indicated. *

(Section 330(k)(3)(C) of the PHS Act, 45 CFR Part 74.25 (c)(2), (3) and 42 CFR Part 51c.303(c)(1-2))

4. Quality Assurance (QA)

The traditional approach to monitoring quality–often referred to as Quality Assurance (QA)–involves the development of a set of service standards, and the comparison of current services with the established standards. If standards are met, services are thought to be of adequate quality. If deficiencies are identified, plans of correction are developed to address the problem (WHO, 1994; WHO, 1997). In order to comply with HRSA regulations, Health Centers are required to establish a QA program that examines management practices and clinical care, including oral health services. QA programs are also beneficial to Health Centers, as they provide accountability to the Board of Directors, community members, and funding entities through cohesive organizational goals and shared performance results.

---


8 Bureau of Primary Health Care – “Authorizing Legislation.”
More specifically, QA programs ensure Health Center compliance with quality standards and provide quantifiable performance assessments. QA programs also assist Health Centers in examining aspects of patient care. Any metric that can contribute to answering the following questions can be considered an integral component of a QA program:

- How are we performing?
- Are we meeting our goals?
- How do we compare to our benchmarks (e.g., other Health Centers, local services)?
- Are we providing the highest possible quality services to our community?
- Are we focused on the patient experience from the first contact until case completion?
- Are we utilizing proper follow-up procedures?

The QA process in oral health settings is unique. Unlike medicine, dentistry does not routinely utilize diagnostic codes for billing. Despite advances in oral health technology, currently there are limited evidence-based standards to accurately assess patient risk, diagnose, or manage care for the most common oral diseases. Therefore, oral health QA processes must rely on additional methods to determine quality of care and appropriateness of services:

A. **Objective dental record peer reviews** utilize dental peers to examine and evaluate patient documentation against well-defined criteria. To conduct such reviews, a Health Center would randomly select a sample of patient dental records for review by either 1) dentists other than those who rendered the services, or 2) contracted expert reviewers. Regardless of the reviewer, NNOHA recommends that all Health Centers employ a peer-review process, as it is a relatively low-cost method to improve quality of care. Guidelines and criteria for establishing this process are outlined in A Comprehensive Quality Assurance System for Dentists. A sample dental record peer review form is provided in Appendix A.

A supplemental approach to record review is utilization of a peer review knowledge assessment interview. The Federal Bureau of Prisons has used this approach since 2004 and has found that it helps clinicians stay on top of the current medical knowledge necessary for the dental management of medically complex patients, and improves patient safety. A sample peer review knowledge assessment interview, based on the Federal Bureau of Prisons form, can be found in Appendix B. The knowledge-based topics can be revised to focus on the common conditions and needs of the specific populations served by individual Health Centers. Care must be taken to continuously review the knowledge base related to the selected criteria, so that the interview tool reflects current knowledge and standards.

---

B. **Objective information technology-track service use measures** can be obtained from electronic practice management, billing, or registry systems, such as an electronic dental record (EDR), the Patient Electronic Care System (PECS), or Microsoft Outlook. For example, the National Healthcare Effectiveness Data and Information Set (HEDIS) is a set of measures developed for insurance plans to grade performance, which includes a measure for oral health—the number of plan members who had a dental exam in the previous year. Another example of this type of measure is the treatment plan completion measure in which the number of patients who complete Phase I treatment within 12 months of their exam is tracked. HRSA’s HIV/AIDS Bureau includes this measure as one of its HAB HIV Performance Measures for Oral Health Services, available to the public at: http://hab.hrsa.gov/deliverhivaidscare/files/habpmsoralhealth.pdf.

C. **Subjective patient outcomes** can be assessed with validated patient surveys, such as the Oral Health Impact Profile (OHIP-14) (see Appendix C). These surveys measure a patient’s own perception of the effect of care on their oral health status. In order to maintain the validity of the survey, it should be administered as written. These surveys may be given in addition to the Health Center’s patient satisfaction survey, which is usually administered on an annual basis. One example of a validated patient satisfaction survey is the Consumer Assessment of Healthcare Providers and Systems (CAPHs) survey. Other oral health care surveys can be administered to patients by the entities that referred them to the Health Center (e.g., state and local agencies). These outside sources often achieve more credible results, as this patient feedback tends to be more objective than the feedback obtained from surveys administered directly by Health Centers.

5. **Quality Improvement (QI)**

Quality Improvement is a formal approach to the analysis of performance and systematic efforts to improve it. QI involves both prospective and retrospective reviews. It is aimed at improvement – measuring where you are, and figuring out specific practice changes to improve. It specifically attempts to avoid attributing blame, and to create systems to prevent errors from happening. Data is collected to establish a “baseline” for an aspect of the Health Center’s dental program, and the QI process focuses on developing methods to improve future outcomes of the oral health program derived from the baseline data.
An effective QI plan provides a roadmap for Health Centers, as well as satisfies external requirements for HRSA funding and third party accreditation. QI plans are essential to organizational development, as they directly align services to program goals, provide specific measurable milestones or targets, and identify timelines. A QI team should be comprised of staff members representative of all areas within the Health Center, including different clinical and administrative departments as well as both provider and support staff. The QI team should be led by a staff member who is experienced with the targeted issues. With respect to data collection, the QI plan designates key staff and outlines collection methods, frequency, and evaluation procedures.

Once baseline metrics are established, oral health programs can more effectively determine where quality improvement opportunities reside and set goals for the program. Improvement decisions are influenced by numerous variables in Health Centers, including resources, talent, motivation, Board priorities, and population needs. Because program goals vary, each Health Center must develop unique steps to achieve its desired improvements.

6. **Quality Improvement (QI) Tools**

This section provides a brief overview of two models utilized in QI activities, the Chronic Care Model and the Improvement Model. NNOHA presents them as important tools for developing a QI process, although they are best understood with more intensive study and training. Additional tools, including sample quality measures and a case study, are provided in this section as a resource for Health Centers who are developing QI processes.

14 Bureau of Primary Health Care. “Designing a Successful Quality Improvement Program: Teambuilding and Writing a QI Plan,” Slide #8,
http://www.hrsa.gov/publichealth/guidelines/qualityimprovement.html
A. Chronic Care Model

The Chronic Care Model (Figure 1) originated from a synthesis of scientific literature in the early 1990’s and became part of a national program of Robert Wood Johnson Foundation in 1998. The goal of the model is to help people with chronic illness through a coordinated program of quality improvement, research and dissemination. Participants are provided with proven tools and information to assist them in making changes within their system to both improve care and outcomes. The Health Resources and Services Administration’s Bureau for Primary Health Care also launched its ambitious program to reduce quality disparities among the clients of Community Health Centers in 1998, and selected the Chronic Care Model as the basis for the Health Disparities Collaboratives.\(^{15}\) The model is now being used as a framework for organizations to develop and implement the PCHH concept.

The model is built on the notion that positive interactions between a well-informed, empowered patient and a properly-equipped, proactive oral health team lead to improvements in health outcomes.\textsuperscript{16} The Chronic Care Model identifies the following six elements\textsuperscript{17} as essential to ensuring and improving the quality of care:

1. **Health Care Organization:** For an oral health QI program to succeed, it must have the full support of the organizational structure and senior leadership (e.g., CEO, Board of Directors, leadership committees).

2. **Community Resources and Policies:** Stronger links between the Health Center and community resources (e.g., outside health care providers, schools, health departments) may improve the effectiveness of the oral health program and its referral system.

3. **Self-Management Support:** Patients require support and appropriate information to better manage their health.

4. **Delivery System Design:** To truly integrate oral health care with medical and other health care services, a Health Center’s entire delivery system must to be coordinated. The use of a multidisciplinary team approach, ensures patients access and receive care efficiently, while also allowing providers to maintain current and centralized information.

5. **Decision Support:** Oral health programs utilize evidence-based guidelines and protocols in daily clinical practice.

6. **Clinical Information Systems:** To make appropriate clinical decisions, oral health providers need timely and clinically relevant information about each patient, as well as their total patient population. Oral health teams can obtain this information through Health Centers’ practice management systems, registries or independently created tracking models, such as those outlined at the end of this chapter.

NNOHA’s Oral Health Disparities Pilot demonstrated the Chronic Care Model could be used to manage the most common chronic oral diseases – dental caries and periodontal disease.\textsuperscript{18} The flexibility of the Chronic Care Model enables it to be successfully applied in various health care settings and target populations and for many chronic healthcare conditions. With consistent use, the model can result in healthier patients, more satisfied providers, and improved cost savings.\textsuperscript{19}

\textsuperscript{17} Institute for Healthcare Improvement – “Changes to Improve Chronic Care” http://www.ihi.org/knowledge/Pages/Changes/ChangestoImproveChronicCare.aspx
\textsuperscript{18} National Network for Oral Health Access – “Medical/Dental Partnerships”: http://www.nnoha.org/oralhealthcollab.html
\textsuperscript{19} Improving Chronic Illness Care – “The Chronic Care Model: Model Elements”: http://www.improvingchroniccare.org/index.php?p=Model_Elements&s=18
B. THE MODEL FOR IMPROVEMENT

The Model for Improvement enables an organization to approach quality improvement through rapid cycles of change and continual feedback on the effectiveness of those changes. When used in conjunction with the Chronic Care Model, the Model for Improvement can lead to positive, sustainable changes in the quality of health care. Additionally, Health Centers can apply this model in conjunction with other established improvement processes.

The Model for Improvement allows QI teams to evaluate whether the Health Center accomplished its goals, utilized resources effectively and efficiently, and performed activities to produce desired changes. The cornerstone of the model is the Plan-Do-Study-Act (PDSA) Cycle (Figure 2). PDSA is shorthand for using the scientific method to test a change by planning it, trying it, observing the results, and acting on what is learned. More information on the Model for Improvement and PDSA Cycle can be found in Appendix D.

C. SAMPLE QUALITY MEASURES

One of the most important steps in the improvement process is to establish measures for evaluation. Working towards improvement in the measures is what drives system change. Measures can be derived from national goals (i.e. Healthy People 2010), existing data sets (i.e. HEDIS, NQA), HRSA collaboratives or other metrics important to improving the oral health of the populations your Health Center serves.

---

4. ACT
What changes are to be made?
Next cycle?

3. STUDY
Complete the analysis of the data
Compare data to predictions
Summarize what was learned

2. DO
Carry out the plan
Document problems and unexpected observations
Begin analysis of the data

1. PLAN
Objective
Questions & Predictions (why)
Plan to carry out the cycle (who, what, where, when)

FIGURE 2: The PDSA Cycle*

* The Plan-Do-Study-Act (PDSA) cycle was originally developed by Walter A. Shewhart as the Plan-Do-Check-Act (PDCA) cycle. W. Edwards Deming modified Shewhart’s cycle to PDSA, replacing “Check” with “Study.” [See Deming WE. The New Economics for Industry, Government, and Education. Cambridge, MA: The MIT Press; 2000.]
Phase I Treatment is defined as prevention, maintenance and/or elimination of oral pathology that results from dental caries or periodontal disease. This includes: oral cancer prevention and early diagnosis; prevention education and services; emergency treatment; diagnostic services and treatment planning; restorative treatment; basic periodontal therapy (non-surgical); basic oral surgery that includes simple extractions and biopsy; non-surgical endodontic therapy; and space maintenance and tooth eruption guidance for transitional dentition. For more information, see “Chapter 1: Health Center Fundamentals” of the Operations Manual for Health Center Oral Health Programs (http://www.nnoha.org/practicemanagement/manual.html).

<table>
<thead>
<tr>
<th>Measure</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of patients who had at least one dental visit during the measurement year</td>
<td>HEDIS®, NNOHA proposed Meaningful Use Clinical Quality Metric (CQM)</td>
</tr>
<tr>
<td>The percentage of children 2-21 years of age who had at least one dental visit during the measurement year</td>
<td>National Quality Forum measure #1388</td>
</tr>
<tr>
<td>Percentage of children age 1-17 years have had tooth decay or cavities in the past 6 months</td>
<td>National Quality Forum measure #1335</td>
</tr>
<tr>
<td>Percentage of patients who had a periodontal exam at least once during the measurement year</td>
<td>NNOHA proposed Meaningful Use CQM</td>
</tr>
<tr>
<td>Oral Cancer Risk Assessment &amp; Counseling – Percentage of all patients who receive soft tissue screening, oral cancer exam and counseling</td>
<td>NNOHA proposed Meaningful Use CQM</td>
</tr>
<tr>
<td>Percentage of patients for whom a Phase I&lt;sup&gt;21&lt;/sup&gt; treatment plan is completed within 12-months of the exam visit</td>
<td>NNOHA proposed Meaningful Use CQM</td>
</tr>
<tr>
<td>Percentage of children who received preventive dental care during the previous 12 months</td>
<td>National Quality Forum measure #1334 Healthy People 2020</td>
</tr>
<tr>
<td>Percentage of children with at least one topical fluoride treatment or fluoride varnish treatment during the measurement year</td>
<td>Healthy People 2020, NNOHA proposed Meaningful Use CQM</td>
</tr>
<tr>
<td>Percentage of children ages 6 to 21 years who received at least a single sealant treatment during the measurement year</td>
<td>Healthy People 2020, NNOHA proposed Meaningful Use CQM</td>
</tr>
<tr>
<td>Percentage of children who received primary caries prevention intervention as part of well/ill child care as offered by primary care medical providers</td>
<td>National Quality Forum measure #1419</td>
</tr>
</tbody>
</table>

<sup>21</sup> Phase I Treatment is defined as prevention, maintenance and/or elimination of oral pathology that results from dental caries or periodontal disease. This includes: oral cancer prevention and early diagnosis; prevention education and services; emergency treatment; diagnostic services and treatment planning; restorative treatment; basic periodontal therapy (non-surgical); basic oral surgery that includes simple extractions and biopsy; non-surgical endodontic therapy; and space maintenance and tooth eruption guidance for transitional dentition. For more information, see “Chapter 1: Health Center Fundamentals” of the Operations Manual for Health Center Oral Health Programs (http://www.nnoha.org/practicemanagement/manual.html).
D. CASE STUDY

The following case study is an example for oral health programs implementing a QI process. The case study describes how the Quality Team developed baseline metrics to select target measures for improvement, utilized the Model for Improvement to enhance quality measures, and examined the results. Although this example only focuses on a single quality metric (treatment plan completion rate), effective QI programs should address all unsatisfactory metrics:

The Community Health Center dental clinic realized they had a problem. The schedule was booked out months in advance. The same day new appointment schedules were opened, they were booked. If patients didn’t have speed dial, they didn’t get an appointment. By the time most patients would have been due for their recall appointments; their initial treatment plans hadn’t been completed. No-show rates were high and production charges were low. Patient and staff satisfaction scores both showed room for improvement.

Soon after this, the entire Health Center including the dental clinic, participated in several weeks of quality improvement training. Each department formed its own quality team and was charged with selecting an area in which they wished to improve. The dental clinic elected to work on treatment plan completion.

DEVELOP A BASELINE:

The oral health quality team first established baseline clinical and management metrics in the dental clinic, including the sample metric, treatment plan completion rate (TPCR). The team identified all patients who presented for a comprehensive (ADA code 0150) and/or periodic recall (ADA code 0120) oral exam during January 2010 (denominator).

Next, the team randomly selected 50 patient charts during the same timeframe and identified patients who had completed Phase I treatment22 within the subsequent 12 months (numerator).23 For each patient, the following data elements were collected: patient name, visit date, examining provider, ADA code 0150 and/or 0120. The final equation to calculate treatment plan completion rate (TPCR) was:

\[
\frac{\text{# of patients who completed Phase I treatment by January 2011}}{\text{# of patients seen during January 2010}} \times 100\%
\]

22 For definition, see footnote #21.
23 Tracking patient charts through an electronic dental record (EDR) system is optimal. However, those without an EDR may collect smaller sample sizes over regular intervals to obtain adequate information for QI processes.
**UTILIZE THE IMPROVEMENT MODEL:**

The initial chart audit revealed a baseline 12-month Treatment Plan Completion Rate (TPCR) of 26 percent. The quality team set a goal of increasing the TPCR from 26 to 50 percent and began by implementing principles of the Model for Improvement, namely the Plan-Do-Study-Act (PDSA) cycle.

First, the team gathered information about factors contributing to the low TPCR. Patient satisfaction surveys, used to obtain information about barriers to treatment completion, revealed that patients found it difficult to schedule an appointment. Phone calls to ‘no-show’ patients divulged that many failed to keep their appointments because they were scheduled too far in advance. From these investigations, the team discovered there were insufficient appointment times available for patients to appropriately complete their treatment plans. Fundamentally speaking, supply did not match demand.

The team approached balancing the equation from both sides by increasing appointment supply, while also controlling demand. Supply was increased by 1) improving the dentist-to-dental assistant ratio, and 2) optimizing the scheduling system. The team conducted a PDSA cycle and found that increasing the ratio of dentists to dental assistants from 1:1.5 to 1:2 allowed them to schedule 25 percent more restorative appointments per provider. Next, the team focused on optimizing the scheduling system to ensure that the manageable number of patients were in active treatment at any given time. After performing a PDSA cycle, the team tested opening schedules one month at a time, with the goal of providing appointments for every patient who needed restorative care within a month.

Finally, to manage demand, the daily number of scheduled new patients was reduced from five to one per provider. Previous analyses had revealed that new patients required an average of 5.3 appointments to successfully complete Phase I treatment. As such, the team was able to reduce the number of new patients receiving treatment at one time with the ultimate goal of improving treatment compliance with subsequent appointments for all patients. Additionally, these adjustments created an opportunity for the clinic to work down the backlog of patients with unmet restorative needs.

**EXAMINE THE RESULTS:**

Over the next few months, the clinic observed a dramatic increase in overall production. Additionally, the number of ‘no-show’ appointments decreased, as all new exam patients left the clinic with their next appointment scheduled within a month. These improvements were a result of increasing supply through improving the dentist-to-dental assistant ratio and optimizing the scheduling system, allowing the clinic to increase the number of daily appointment slots.

In the longer-term, nearly two years later, the clinic gradually increased the TPCR from 26 to 70 percent. Since the changes were implemented in a sustainable fashion, the TPCR has remained at 70 percent for more than three years. Additionally, the QI team observed an increase in both patient and staff satisfaction scores, indicating the scheduling changes were well received. It is important to note, however, that the improvements achieved in this case study may not function the same for every Health Center. Therefore, it is vital for each Health Center to find solutions that work for each setting through testing innovative changes that may result in quality improvements.
SAMPLE PROJECT-SPECIFIC QI PLAN

Project Goal: By the end of 2011, increase the number of patients completing Phase I treatment within 12 months of initiating a treatment plan from XX% to YY%.

Project Team Leader: Dr. Green or Ms. Brown (QI Director)

Project Team: Dr. Blue, Ms. White (Dental Assistant), Ms. Red (Dental Hygienist), Ms. Black (Administrative Assistant)

Baseline: To be determined

Project Timeline: One year (include tasks, completion dates, and staff assigned to task)

First Team Meeting: 2-3pm on December 10, 2010

2011 PROJECT TIMELINE AND TASK ASSIGNMENT

<table>
<thead>
<tr>
<th>TASK</th>
<th>MONTH</th>
<th>RESPONSIBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate data collection</td>
<td>January</td>
<td>Red and Black</td>
</tr>
<tr>
<td>Compile results</td>
<td>February</td>
<td>White and Red</td>
</tr>
<tr>
<td>Analyze data</td>
<td>March</td>
<td>White</td>
</tr>
<tr>
<td>Present results at staff meeting</td>
<td>March</td>
<td>Group</td>
</tr>
<tr>
<td>Develop improvement plan</td>
<td>April</td>
<td>Green, Blue and White</td>
</tr>
<tr>
<td>Implement plan on pilot basis</td>
<td>May-September</td>
<td>Group</td>
</tr>
<tr>
<td>Evaluate plan/collect &amp; analyze data</td>
<td>September</td>
<td>Red, Black and White</td>
</tr>
</tbody>
</table>
7. Third Party Quality Recognition

Many references are available to assist Health Centers with developing or improving their QA/QI programs, including formal resources and review systems supported by government agencies and other organizations. Several are briefly described, such as The Joint Commission. Information about additional partners for the QA/QI process is included in Appendix E.

A. The Joint Commission (TJC)

Formerly known as JCAHO, The Joint Commission (TJC) sets standards for health care organizations, conducts on-site reviews, and accredits those who meet the criteria for continual quality improvement. TJC’s mission is “to continuously improve health care for the public, in collaboration with other stakeholders, by evaluating health care organizations and inspiring them to excel in providing safe and effective care of the highest quality and value.”

Although Health Centers are not required to meet TJC standards, HRSA widely promotes accreditation. Through the Accreditation Initiative Update, described in Program Assistance Letter (PAL) 2009-12, Health Centers are encouraged to participate in the accreditation process, which includes survey-related education, technical assistance, and training.

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B. Accreditation Association For Ambulatory Health Care (AAAHC)

AAAHC accredits organizations in a wide variety of ambulatory health care settings, including ambulatory and surgery centers, community health centers, medical and dental group practices, medical home, and managed care organizations, as well as Indian and student health centers, among others. All recognized accrediting agencies require certain levels of QA/QI activities, ongoing program evaluation, peer review, and adherence to safety standards. While the accreditation process requires considerable effort, it also provides comprehensive, step-by-step procedures to develop a quality improvement program: http://www.aaahc.org/.

C. NCQA Patient-Centered Medical Home Recognition

Patient-Centered Medical (Health) Home concept is at the core of health care delivery transformation. HRSA actively endorses this concept, citing its many benefits, including improved quality of care, decreased costs, and enhanced integration of care. In Program Assistance Letter 2011-11, HRSA encouraged Health Centers to apply for National Committee for Quality Assurance (NCQA) Patient-Centered Medical Home accreditation and offered technical assistance to Health Centers seeking such accreditation. The integration of health care delivery plays a key role in health care reform at both the federal and state levels. Thus, it is essential for dental providers to understand and embrace the concept during the QI process.

26 Helpful resources on the medical and dental home concepts include:
   • American Academy of Pediatric Dentistry: www.aapd.org/

27 HRSA offers a number of online resources related to PCMHs, including http://www.hrsa.gov/healthit/toolbox/Childrenstoolbox/BuildingMedicalHome/whyimportant.html

8. Future Influences on Quality

Research and Technology

New areas of research and discoveries will shape both the clinical practices that constitute quality care as well as the way quality of care is measured in the future. Increased use of information technology (IT) will allow data to be routinely collected and aggregated, enabling more targeted disease management and preventive care. These advances, in turn, will lead to more definitive outcome measurements that ultimately result in higher quality of care for individual patients, as well as communities. Therefore, it is imperative that more effective diagnostic tools and evidenced-based clinical treatment standards are developed to improve the Health Center’s ability to collect data and assess quality metrics.

Health Center providers and administrators are encouraged to closely monitor both clinical and technology advancements and incorporate them into their practices. For oral health programs, the transition to electronic dental records (EDR) presents an opportunity to more efficiently and effectively assess patient care. Although implementing an EDR is a long-term process, it can facilitate quality improvements, through easily accessible patient records, and enhanced system wide performance tracking once established. Despite considerable efforts required to establish an EDR, the benefits to the patient, provider, and community continue to propel the future of patient care towards electronic record keeping.

HRSA has developed a resource website for health centers and other safety net providers who are seeking to implement health IT that focuses on pediatric oral health: http://www.hrsa.gov/healthit/toolbox/ChildrensToolbox/PediatricOralHealthIT/index.html
9. **Summary**

Defined by the Institute of Medicine’s six essential domains, quality health care is safe, effective, patient-centered, timely, efficient, and equitable. This chapter was designed to provide information on the fundamentals of quality assurance (QA) and quality improvement (QI) processes. In addition to discussing the importance of quality measurements, the chapter outlined several established improvement methodologies, as well as provided information on quality resources for Health Centers and potential future influences on quality. Although success in achieving quality oral health programs requires considerable effort, it is attainable through small changes over time and staff commitment to ensuring the best possible patient care.

10. **Frequently Asked Questions**

**How can dental department measures link to medical measures?**

**A:** First, it is imperative for the oral health program to be represented within the Health Center Quality Team to ensure it is incorporated into the Health Center’s larger QI framework. Although several oral health metrics should be included in the overall Health Center quality measures (e.g., oral health education, preventive health behaviors), oral health clinical and management metrics should be specifically developed for the dental clinic setting.

Collectively working towards common quality measures can be an effective strategy to unite all programs within a Health Center. To further link dental and medical quality measures, consider finding target dental populations within medical populations. For instance, increasing the percentage of children ages 12-24 months receiving medical care at the Health Center who have also had a dental visit within the last year could be an outcome measure for an infant oral health program. Additionally, increasing the percentage of pregnant or diabetic medical patients who are also dental patients is an outcome measure both medical and dental programs could share.

**What is a good target number for treatment plan completion?**

**A:** QI is about improving baseline data through small, calculated changes. Because each Health Center faces different challenges, the amount of improvement is variable and depends on the initial baseline number. In general, a 10 to 15 percent increase in the number of completed treatment plans (over baseline data or on an annual basis) can be considered acceptable improvement. While some national efforts have specific targets or benchmarks associated with them (i.e. HEDIS, HP 2020), emphasis should be placed on continual metric improvement rather than on just reaching a specific number. Focus efforts on establishing baseline data, setting goals, and aiming for steady improvement until your Health Center finds its plateau for the metric.

29 Institute of Medicine – “Crossing the Quality Chasm: The IOM Health Care Quality Initiative.”
Q: Is there a way to use electronic health record (EHR) codes to monitor QI?

A: In most cases, the EHR must be customized to accomplish QI monitoring. Most systems allow for the development of 'dummy codes' to track measures such as treatment plan completion. Sites without an established EHR can track QI measures with internal coding systems.

Q: How can I use diagnostic codes in my practice to track quality?

A: Some QA/QI programs are using ICD-9 codes (which will change to ICD-10 codes on Oct. 1, 2013) to track whether or not certain procedures are performed based on particular diagnoses. An example of this would be tracking the number of children ages 0-5 with a diagnosis of 521.01 - Dental caries limited to enamel- that also received a fluoride varnish application at the same visit. Although these codes may not perfectly measure all quality metrics within current systems, diagnostic codes could be an important quality tool in the future.

Q: How can I keep staff motivated to continuously improve quality?

A: QI does not just happen. It requires considerable planning, communication, and commitment. NNOHA recommends establishing regular team meetings and instituting goals aligned with QI plans. It is important for staff, patients, and the Health Center Board to be aware of continuous improvements. Consider publishing quality measures on the Health Center's website, newsletters, and wall postings to ensure they are constantly visible. Don't forget to take time to celebrate improvements.
11. Links

HRSA Links

- BPHC Technical Assistance – Quality:
  http://bphc.hrsa.gov/technicalassistance/tatopics/qualitymanagementimprovement/index.html#Quality

- Health Center Operations –
  Health Center Accreditation: http://bphc.hrsa.gov/policiesregulations/accreditation.html

- Health Center Operations –

- Health Center Patient Satisfaction Survey:

- PAL 2011-01 – HRSA Patient-Centered Medical/Health Home Initiative:
  http://bphc.hrsa.gov/policiesregulations/policies/pal201101.html

- Quality Improvement & Risk Management Training:
  http://www.hrsa.gov/publichealth/guidelines/qualityimprovement.html

- Quality Improvement: http://www.hrsa.gov/quality/

- The Provider’s Guide to Quality and Culture:
  http://erc.msh.org/mainpage.cfm?file=1.0.htm&module=provider&language=English
  (Joint project of Management Sciences for Health, U.S. Department of Health and Human Services, HRSA and BPHC)

Other Links

- AHRQ Effective Health Care:
  http://effectivehealthcare.ahrq.gov/

- American Academy of Pediatric Dentistry:
  http://www.aapd.org

- American Academy of Pediatric Dentistry/Dental Home:
  http://www.aapd.org/dentalhome/
- American Dental Association Evidence-Based Dentistry Site:
  http://ebd.ada.org/

- Association of Maternal & Child Health Programs:
  http://www.amchp.org

- Healthy People 2020:
  www.healthypeople.gov

- Institute for Healthcare Improvement/Chronic Care Model:
  http://www.ihi.org/IHI/Topics/ChronicConditions/

- National Association for Community Health Centers/Clinical Quality:
  http://nachc.org/clinicalquality.cfm

- National Maternal and Child Oral Health Resource Center, Georgetown University:
  http://www.mchoralhealth.org

- National Quality Forum:
  http://www.qualityforum.org/

- NNOHA Website:
  http://www.nnoha.org/

- Oral Health Disparities Collaborative Implementation Manual:
  http://www.nnoha.org/oralhealthcollab.html

- State Primary Care Associations:
  http://bphc.hrsa.gov/technicalassistance/partnerlinks/associations.html

- Worksheet for Assuring a QI/QA Plan meets HRSA Quality Requirements:
  http://tinyurl.com/HRSA-QIReq
12. Quality Worksheet

True or False? Health Centers are required to have an ongoing quality assurance/quality improvement program.

TRUE  FALSE

Select one measure from the Sample Quality Measures that could be tracked at your site:
___________________________________________________________________________________________
___________________________________________________________________________________________
___________________________________________________________________________________________

List three things this measure might change:
___________________________________________________________________________________________
___________________________________________________________________________________________
___________________________________________________________________________________________

Describe one small-scale PDSA cycle that could be done to affect this change?
___________________________________________________________________________________________
___________________________________________________________________________________________
___________________________________________________________________________________________

Identify one partner you have not utilized in the past who could help you improve your quality program:
___________________________________________________________________________________________
___________________________________________________________________________________________
___________________________________________________________________________________________

My Dental Department is fully engaged in the overall Quality Improvement plans at my Health Center:

TRUE  FALSE
Appendix A: Sample Peer Review Form  (Courtesy of Terry Reilly HC, Nampa, ID)

**DENTAL PROVIDER PERFORMANCE REVIEW FROM**

Quarterly Chart Review  
Date of Review: ____________________________
Reviewing Dentist: ____________________________
Quarter Reviewed: ____________________________
Dentist Reviewed: ____________________________

<table>
<thead>
<tr>
<th>GENERAL CHART INFORMATION</th>
<th>CHART ONE</th>
<th>CHART TWO</th>
<th>CHART THREE</th>
<th>CHART FOUR</th>
<th>CHART FIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patient Information complete?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. General Consent complete?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Medical History complete?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Medical History update complete?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Are Allergies and Medical conditions documented?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Indicators discussed: caries risk, diabetes, smoking, etc.?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: ____________________________

<table>
<thead>
<tr>
<th>CLINICAL EXAM DATA</th>
<th>CHART ONE</th>
<th>CHART TWO</th>
<th>CHART THREE</th>
<th>CHART FOUR</th>
<th>CHART FIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Soft tissue findings noted?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Occlusal findings noted—carries, missing teeth, dental needs?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Peridontal findings/Classification noted?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: ____________________________

<table>
<thead>
<tr>
<th>RADIOGRAPHS</th>
<th>CHART ONE</th>
<th>CHART TWO</th>
<th>CHART THREE</th>
<th>CHART FOUR</th>
<th>CHART FIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Appropriate Survey, type of X-rays taken?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Adequate Film coverage, all apices covered?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Any image defect: cone cuts, retakes needed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Number of X-rays taken documented?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: ____________________________
### Problems / Diagnosis

<table>
<thead>
<tr>
<th>PROBLEMS / DIAGNOSIS</th>
<th>CHART ONE</th>
<th>CHART TWO</th>
<th>CHART THREE</th>
<th>CHART FOUR</th>
<th>CHART FIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Appropriate testing done?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Diagnosis documented?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Appropriate consultations made, if needed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Referrals made if needed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Findings documented on treatment plan?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: _______________________________________________________

### Treatment Plan / Dental Record

<table>
<thead>
<tr>
<th>TREATMENT PLAN / DENTAL RECORD</th>
<th>CHART ONE</th>
<th>CHART TWO</th>
<th>CHART THREE</th>
<th>CHART FOUR</th>
<th>CHART FIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does Treatment Plan follow appropriate sequence?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Record is complete and appropriate for treatment rendered?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Follow up appointment is indicated in clinical record?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Documentation is complete, tooth area, anesthetic, procedure and/or materials, signed with Doctor's and Assistant's names, etc.?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: _______________________________________________________

Director's Comments: _____________________________________________

Dental Director: ________________________________________________

Signature: _____________________________________________________ Date: ______________________
## STAFF DENTAL OFFICER (SDO) PEER REVIEW

Site: _____________________________________________________________________________________________

Staff Dental: ____________________________________________________________________________________

Date of Review: ___________________________________________________________________________________

Reviewing CDO: ___________________________________________________________________________________

### SECTION 2-KNOWLEDGE SKILLS RELATED TO DIRECT PATIENT CARE

<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>Antibiotic Prophylaxis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Management Strategies for Medically Compromised Patients</td>
<td>Discuss the types of patients that need dental prophylaxis.</td>
</tr>
<tr>
<td></td>
<td>Is the SDO knowledgeable about who should be pre-medicated (The response should be consistent with the AHA guidelines)</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No □ Knew most indications</td>
</tr>
<tr>
<td></td>
<td>Does the SDO know the current guidelines as they relate to prosthetic joints?</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td></td>
<td>Does the dentist know the current prophylactic regimen for patients requiring pre-medication?</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td></td>
<td>Does the SDO know the alternative regimen for patients allergic to Amoxicillin?</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td></td>
<td>*If the dentist cannot answer the above questions can the SDO go to a reference for the information?</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

Comments: ______________________________________________________________________________________

<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>Hepatitis B and C:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Management Strategies for Medically Compromised Patients</td>
<td>Discuss concerns the SDO has in regard to providing dental care to patients with Hepatitis.</td>
</tr>
<tr>
<td></td>
<td>Is the SDO aware of problems associated with end stage liver disease?</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td></td>
<td>Ask the SDO what type of labs would be ordered for patients with documented liver disease.</td>
</tr>
<tr>
<td></td>
<td>Is the SDO aware that these labs should be ordered prior to performing dental surgery or exodontia?</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td></td>
<td>Does the SDO consult with the Clinical Director or staff physician regarding care for these patients?</td>
</tr>
<tr>
<td></td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

Comments: ______________________________________________________________________________________
<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>Bleeding Disorders and Patients on Anticoagulants:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Management Strategies for Medically Compromised Patients</td>
<td>Discuss various bleeding disorders to include Factor VIII, IX, and X disorders. Also discuss medications and medical conditions that can cause prolonged bleeding or are associated with prolonged bleeding.</td>
</tr>
</tbody>
</table>

Is the SDO knowledgeable about illnesses that can contribute to prolonged bleeding?
- Yes
- No

Ask the dentist what medications can cause prolonged bleeding. Was the SDO familiar with some of these?
- Yes
- No

Ask what the normal platelet range is. Did the SDO know the range?
- Yes
- No

Ask the SDO what is an acceptable INR range for patients requiring dental surgery.
- Yes
- No

Was the SDO familiar with the INR value?
- Yes
- No

Comments: ______________________________________________________________________________________

<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>Diabetes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Management Strategies for Medically Compromised Patients</td>
<td>Ask the dentist the following questions:</td>
</tr>
</tbody>
</table>

What is the relationship between periodontal disease and diabetes?

What considerations should be given to patients with diabetes?

Is the dentist knowledgeable about Diabetes and the relationship to Oral Health?
- Yes
- No

Comments: ______________________________________________________________________________________

<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>Hypertension:</th>
</tr>
</thead>
</table>
| Dental Management Strategies for Medically Compromised Patients | Ask the SDO when is a patient borderline for hypertension (HTN). Did the dentist know this?
- Yes
- No

Ask the dentist to identify problems associated with hypertension and the administration of local anesthetics. Was the Dentist able to discuss and identify potential problems?
- Yes
- No
- Somewhat Familiar

Ask the dentist how he/she goes about treating a patient with hypertension.

Based on the response provided, did the dentist have a good working knowledge of HTN as it relates to dental care?
- Yes
- No
- Somewhat Familiar

Has the dentist reviewed the BOP’s HTN guidelines?
- Yes
- No

**If yes can the dentist define Pre Hypertension and discuss the implications?
- Yes
- No
- Somewhat Familiar

Comments: _______________________________________________________________________________________
<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>Oral Cancer:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Management Strategies for Medically</td>
<td>Ask the dentist to discuss the risk factors associated with Oral Cancer.</td>
</tr>
<tr>
<td>Compromised Patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Was the dentist familiar with the risk factors?</td>
</tr>
<tr>
<td></td>
<td>□ Yes  □ No  □ Somewhat Familiar</td>
</tr>
<tr>
<td></td>
<td>Ask the dentist to demonstrate or describe the proper way of performing an</td>
</tr>
<tr>
<td></td>
<td>oral cancer exam. Was the dentist able to perform an exam and explain what</td>
</tr>
<tr>
<td></td>
<td>he/she is looking for?</td>
</tr>
<tr>
<td></td>
<td>□ Yes  □ No  □ Somewhat Familiar</td>
</tr>
<tr>
<td></td>
<td>Ask the dentist: What complications are associated with radiotherapy?</td>
</tr>
<tr>
<td></td>
<td>Was the dentist conversant regarding complications?</td>
</tr>
<tr>
<td></td>
<td>□ Yes  □ No  □ Somewhat Familiar</td>
</tr>
<tr>
<td></td>
<td>Ask the dentist: What type of post-operative care is routinely provided to</td>
</tr>
<tr>
<td></td>
<td>patients who have undergone radiotherapy (in maxillofacial complex)?</td>
</tr>
<tr>
<td></td>
<td>Was the dentist knowledgeable about special care?</td>
</tr>
<tr>
<td></td>
<td>□ Yes  □ No  □ Somewhat Familiar</td>
</tr>
<tr>
<td></td>
<td>Ask the dentist: What past medical history would suggest the patient</td>
</tr>
<tr>
<td></td>
<td>received bisphosphonate therapy? What complications are associated with</td>
</tr>
<tr>
<td></td>
<td>dental treatment after bisphosphonate therapy?</td>
</tr>
<tr>
<td></td>
<td>Was the dentist conversant regarding complications?</td>
</tr>
<tr>
<td></td>
<td>□ Yes  □ No</td>
</tr>
<tr>
<td>Comments: ________________________________________</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge Base</th>
<th>HIV Disease:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Management Strategies for Medically</td>
<td>Ask the dentist to discuss HIV disease and the potential complications.</td>
</tr>
<tr>
<td>Compromised Patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Was the dentist familiar with the oral manifestations?</td>
</tr>
<tr>
<td></td>
<td>□ Yes  □ No  □ Somewhat Familiar</td>
</tr>
<tr>
<td></td>
<td>Ask the SDO how she or he would manage a patient with a CD4 count of 200</td>
</tr>
<tr>
<td></td>
<td>cells/mm³?</td>
</tr>
<tr>
<td></td>
<td>Was the dentist familiar with CD4 values?</td>
</tr>
<tr>
<td></td>
<td>□ Yes  □ No  □ Somewhat Familiar</td>
</tr>
<tr>
<td>Comments: ________________________________________</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix C: The Oral Health Impact Profile (OHIP-14)\(^{30}\)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Functional limitation</strong></td>
<td>Have you had trouble pronouncing any words because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td></td>
<td>Have you felt that your sense of taste has worsened because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td><strong>Physical pain</strong></td>
<td>Have you had painful aching in your mouth? Have you found it uncomfortable to eat any foods because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td><strong>Psychological discomfort</strong></td>
<td>Have you been self-conscious because of your teeth, mouth or dentures?</td>
</tr>
<tr>
<td></td>
<td>Have you felt tense because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td><strong>Physical disability</strong></td>
<td>Has your diet been unsatisfactory because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td></td>
<td>Have you had to interrupt meals because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td><strong>Psychological disability</strong></td>
<td>Have you found it difficult to relax because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td></td>
<td>Have you been a bit embarrassed because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td><strong>Social disability</strong></td>
<td>Have you been a bit irritable with other people because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td></td>
<td>Have you had difficulty doing your usual jobs because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td><strong>Handicap</strong></td>
<td>Have you felt that life in general was less satisfying because of problems with your teeth, mouth or dentures?</td>
</tr>
<tr>
<td></td>
<td>Have you been totally unable to function because of problems with your teeth, mouth or dentures?</td>
</tr>
</tbody>
</table>

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Appendix D: The Model for Improvement

THE MODEL FOR IMPROVEMENT IS BASED ON THREE FUNDAMENTAL QUESTIONS:

1  What are we trying to accomplish?

This question is meant to establish an AIM STATEMENT for improvement that focuses the organization’s effort. It helps to focus on specific actions or elements of the Care Model, and to define which patients and providers will participate. The AIM STATEMENT should be time-specific, measurable, and as concise as possible – sometimes it takes a few trials of testing an AIM before it becomes truly focused.

2  How will we know that a change is an improvement?

Measures and definitions are necessary to answer this question. Data is needed to assess and understand the impact of changes designed to meet an AIM. When shared AIMS and data are used, learning is further enhanced because it can be shared with other organizations in the Collaborative. In this way, superior performance and best practices are more quickly identified and disseminated through benchmarking.

3  What changes can we make that will result in an improvement?

Testing and learning for the testing is necessary to conclude that a result is an improvement. The PDSA Cycle (PDSA stands for Plan, Do, Study, Act) is a trial-and-learning method to discover effective and efficient ways to change a process. The “study” part of the cycle is the key to learning what change leads to improvement. “Study” compels the team to learn from the data collected, to look at effects on other part of the system and on patients and staff, and under different conditions, such as different practice teams or different sites. Most importantly, the “study” phase is an ideal time to think through how the Chronic Disease Model helps to generate new ideas and approaches to positive change. PDSA cycles are short and quick. Typically, they need only hours, days or at most, a few weeks to complete.
**Monitoring Progress**

Measurement is essential to be convinced that changes are leading to improvement.

**Why Do We Test Instead of Just Implementing a Change?**

- **To build support** that the change will result in improvement in your environment
- **To better predict** the improvement resulting from a change
- **To learn how** to adapt a change to the conditions within your local environment
- **To determine the costs** and side-effects of the change
- **To minimize resistance** to the change upon implementation

**Testing on a Small Scale:**

- Ask others who are knowledgeable to review the change and comment on its feasibility
- Test the change with team members who are developing it before introducing it to others
- Test the change side-by-side with the existing system to illustrate improvements
- Conduct the test in one facility, with one provider, with one patient
- Test the change over a short period of time
- Test the change on a small group of volunteers
- Try to develop a plan to simulate the change if possible
PLAN: After studying the assessments. What are the priorities you want to improve? Elements, such as, cost, increases in FTE, employee satisfaction, stresses to the current system, and the timelines to implement are determined. This is a vital step and needs to be thought out carefully and remember to include the ED and CFO in the planning when necessary.

DO: Put the plan into motion. Monitor the impact on staff, patients and the system to see if changes need to be made.

STUDY: After a reasonable period, revisit the impact of the improvement initiative to ensure the results are what were desired.

ACT: Make necessary changes in the plan and cycle through again. What other improvements can be made? Revisit your assessments and add other metrics you might want to improve.

---

## SAMPLE PDSA SHEET

**CENTER:**

Date: _________________________  Initiated by: ___________________  Cycle Number: _____________________

**CARE MODEL COMPONENT:**

<table>
<thead>
<tr>
<th>OrgHC</th>
<th>Comm</th>
<th>DelSysD</th>
<th>DecSupp</th>
<th>SelfMgt</th>
<th>CIS</th>
</tr>
</thead>
</table>

### PLAN: the change, prediction(s) and data collection

<table>
<thead>
<tr>
<th>What change are we testing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is testing the change?</td>
</tr>
<tr>
<td>When are we testing?</td>
</tr>
<tr>
<td>Where are we testing?</td>
</tr>
<tr>
<td>PREDICTION: What do we expect to happen?</td>
</tr>
</tbody>
</table>

### DATA COLLECTION:

<table>
<thead>
<tr>
<th>What data do we need to collect?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who will collect the data?</td>
</tr>
<tr>
<td>When will data be collected?</td>
</tr>
<tr>
<td>Where will data be collected?</td>
</tr>
</tbody>
</table>

### DO: carry out the change/test, collect data, and begin analysis

<table>
<thead>
<tr>
<th>What was actually tested?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What happened?</td>
</tr>
<tr>
<td>Unexpected Observations:</td>
</tr>
<tr>
<td>Problems:</td>
</tr>
</tbody>
</table>

### STUDY: complete analysis of data

**Summarize what was learned and compare to prediction.**

### ACT:

<table>
<thead>
<tr>
<th>What adjustments to the change or method of test should we make before the next cycle?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are we ready to implement the change we tested?</td>
</tr>
<tr>
<td>What will the next test cycle be? (use back of form to elaborate)</td>
</tr>
</tbody>
</table>

---

Appendix E: Additional Partners/Resources in Developing a QA/QI Plan

■ **Indian Health Service (IHS)** is an Agency within the Department of Health and Human Services (HHS) that is responsible for providing federal health services to American Indians and Alaskan Natives. IHS provides a comprehensive health service delivery system for approximately 1.9 million American Indians and Alaskan Natives who belong to 562 federally-recognized tribes in 35 States. The website includes reporting measures on quality, with some related to oral health: http://www.ihs.gov/qualityofcare/index.cfm?module=quality.

■ **Department of Veterans Affairs, Veterans Health Administration (VHA)** is a federal department whose mission is to serve America’s Veterans and their families with dignity and compassion. The department aims to be Veterans’ principal advocate to ensure they receive medical care, benefits, social support, and lasting memorials promoting the health, welfare, and dignity of all veterans in recognition of their service to this Nation: http://www.va.gov/health/.

■ **Center for Quality Management in Public Health (CQMPH)** provides information about HIV/AIDS and hepatitis C: http://www.publichealth.va.gov/quality/index.asp

■ **Managed Care Organizations (MCOs)** offer health care in a system designed to control costs through managed programs, such as an HMO or PPO, where physicians accept constraints on charges for medical care and the patient’s choice of physician is limited. Many States have MCO directories, usually linked from the State’s Department of Health website (e.g., www.health.state.ny.us/health_care/managed_care/mcplans.htm).

Other MCO resources include:

- Continuous Quality Improvement and Managed Care: http://sph2.umdnj.edu/omcweb/1996/ira18.html

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33 “Indian Health Service Introduction”—http://www.ihs.gov/index.cfm?module=ihsIntro

Contacting Health Center Colleagues can be a reliable method to obtain information from Health Center programs that have established QI programs. Health Centers implementing or enhancing their current QI program should ask their colleagues for recommendations on programs, measures, successes, and challenges. Other resources and recommendations of model programs can be found at national conferences, such as the National Primary Oral Health Conference, and organizations, such as HRSA, National Association of Community Health Centers (NACHC), and NNOHA.

Paid Technical Assistance Providers specialize in providing guidance to Health Center oral health programs. Many organizations have experienced positive results when working with them. NNOHA recommends that any Health Center considering contracting with paid technical assistance providers, ensure the provider they choose is familiar with the Health Center environment, its mission, and relevant regulations. NNOHA has successfully partnered with DentaQuest Institute’s Safety Net Solutions program: http://www.dentaquestinstitute.org/safetynet.
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Thank you to Unity Health Care for generous contribution of some photos used in this publication.

The National Network for Oral Health Access (NNOHA) is a nationwide network of dental providers in safety-net settings. These providers understand that oral disease can affect a person’s speech, appearance, health, and quality of life and that inadequate access to oral health services is a significant problem for low-income individuals. The members of NNOHA are committed to improving the overall health of the country’s underserved individuals through increased access to oral health services.

For more information on NNOHA, visit www.nnoha.org, send an Email to info@nnoha.org, or call 303-957-0635
2012 MEMBERSHIP APPLICATION

For year October 1, 2011 through September 30, 2012

Applicant Contact Information

Name: 
Title: 
Organization: 
Name of Health Center: (if different from Organization name) 
Address: 
City: State: Zip Code: 
Phone: Fax: 
E-mail: 

NNOHA Membership Category:

☐ INDIVIDUAL MEMBER (dues $50) ☐ ORGANIZATIONAL MEMBER (dues $350)
☐ DENTAL HYGIENIST / DENTAL ASSISTANT (dues $30) ☐ ASSOCIATION MEMBER (dues $150)

If you are applying as an Organizational Member, please attach a list of the names, titles, and E-mail addresses of the employees you wish to include in the membership.

If you are applying as an Association Member, please contact NNOHA staff for the criteria for discounted membership.

For more details on the different types of memberships, please visit www.nnoha.org/membership.html and click on Membership Levels.

Referred by: (name of NNOHA Member)

Paying by (select one):

☐ Check (made payable to NNOHA) ☐ Bill Me
☐ Credit Card – Card Number: 
Security Code: Expiration Date: 
Signature

☐ Check here If you are interested in receiving information on the current NNOHA committees and opportunities to get involved.
☐ Check here if you would like to learn more about the Association of Public Health Dentistry.

Please complete this form and mail it to:
NNOHA, PMB 329, 3700 Quebec Street, Unit 100, Denver, CO 80207-1639

FOR MORE INFORMATION, CONTACT: Jennifer Hein • adminsupport@nnoha.org • Phone: 303-957-0635 / Fax: 866-316-4995
What Is NNOHA?

The National Network for Oral Health Access (NNOHA) is a nationwide network of dental providers who care for patients in safety-net systems. The members of NNOHA recognize the importance of oral health as part of overall health and are committed to improving the health of the country’s underserved individuals. NNOHA was founded in 1991 by a group of Health Center Dental Directors who recognized the need for peer-to-peer networking and collaboration to effectively run Health Center oral health programs.

NNOHA’s VISION

Individuals and communities are aware of the importance of oral health to overall health, engage in recommended oral health practices, and receive affordable, high quality oral health services.

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