Dental Quality Improvement

Case 1. Sherry, a 25 year-old patient who had forgone dental treatment since she was 13, presents to your dental clinic for a routine restorative appointment. Your clinic has been backed up all morning due to 20 walk-ins, and Sherry is very anxious. When you seat Sherry in the dental chair, her anxiety causes her to ask more questions than normal and she tries to stall the dentist to avoid getting a shot. Once she calms down a bit, the dentist and assistant do the composite as quickly as they can, knowing that they are already an hour behind schedule. After she leaves the clinic, Sherry notices that the composite shade doesn’t really match her natural teeth and she wonders why the dentist didn’t do a better job. After Sherry leaves, the dentist and dental assistant discuss how difficult Sherry was as a patient and how she made them get so far behind schedule.

Case 2. Dr. Jones, who has been practicing at a tribal clinic for over 20 years, just attended a continuing education course sponsored by a dental vendor. In the course, he learns that a certain dental product yields superior quality compared to other filling materials. So he starts using the material exclusively in the clinic, despite the high costs of the product. Patients seem to like it and Dr. Jones likes the ease of placing the filling material. Six months later, several of his recall patients who had the product placed in their mouths present with recurrent caries. Dr. Jones begins to wonder if all the hype of this product really was worth the fact that now he has to re-do a bunch of fillings.

Case 3. Mr. Spotted Owl, a 69 year-old patient with a history of medical problems, comes to your clinic needing what appears to be a simple extraction. You update his medical history form, obtain informed consent, and tooth #8 is extracted with ease. You provide post-operative instructions, and then move on to another patient. A week later, your CHS clerk comes to the dental clinic to inform you that Mr. Spotted Owl has passed away. That’s all you are able to find out. However, someone in the clinic tells you that people in the community are saying “don’t go to Dr. Jones to get your tooth pulled because you could die.”

What do all of these cases have in common? 
Quality of care provided by the dental team is at the core of each case.

In the first case, at the very least Sherry is dissatisfied with the services provided by her dental team, and the composite shade may be a quality issue if it is true. In the second case, the failure to use scientific evidence became a quality issue. In the third case, it’s hard to tell whether the dentist or dental team contributed to Mr. Spotted Owl’s death, but in the very least there is a community perception of inferior quality.

This issue of the IHS Dental Explorer will explore why quality improvement matters and how dental programs can improve the quality of care provided to their patients.
WHY QUALITY IMPROVEMENT?

A Message from the IHS Chief Dental Officer

Health care in our country is now one of the most important issues. Fortunately, in the Indian Health Service, we have seen dramatic changes in services and quality of care over the past few decades.

As dental professionals, we all know what it takes to run a quality dental program. From our own experiences as patients and providers, we have experienced high quality and maybe even lower quality health services.

So what is “quality”? Quality is dependent on perspective. For our patients, quality in a dental clinic may mean that the staff spends time with them, there is an absence of pain, or the dental visit was quick. From a provider standpoint, quality may be how long restorations remained viable, how a patient’s oral health status improved, or whether our documentation in the patient record was adequate. From an administration standpoint, quality may be defined by the number of patient complaints received or by how much the dental program costs. The point is that quality of care is defined differently depending on your perspective.

But there are some troubling indicators of the current state of our profession. Dental malpractice claims continue to climb, access to care in some areas continues to decrease, and many dentists in the country are providing services that are less evidence-based than in the past.

That is why this latest movement within the IHS and tribal organizations to improve the quality of care is so important. Through a proven model developed by the Institute for Healthcare Improvement, healthcare facilities across Indian country are embarking on a systematic quality improvement process that embraces the aims of the 2001 Institute of Medicine Report “Crossing the Quality Chasm: A New Health System for the 21st Century”: care that is safe, efficient, patient-centered, effective, timely, and equitable.

It is now time for our dental programs to embrace these aims and do what so many of our medical counterparts are doing now—join the Innovations in Planned Care for the Indian Health System!

Christopher G. Halliday, DDS, MPH
Director, IHS Division of Oral Health
The figure above depicts the framework for the IHS Chronic Care Initiative/Innovations in Planned Care. The Chronic Care Model, developed by Ed Wagner at the MacColl Institute, reflects a modified version that is tailored for the American Indian and Alaska Native culture.

There is an emphasis on the effective relationship between family and community and the proactive care team because without this relationship, we cannot get to improved health and wellness. Community is integral to American Indian and Alaska Native cultures, so the Care Model demonstrates that the community is the entire circle. The values and culture of the community in which the healthcare organization resides encompasses all of the interactions of the healthcare organization, the care team, patients, and families.

The healthcare organization should adhere to the six aims of quality improvement—to create care that is safe, efficient, patient-centered, effective, timely, and equitable. Through these and effective relationships between the care team and the family and community, the result will be improved health and wellness for American Indian and Alaska Native individuals, families, and communities.
So how can DENTAL programs improve quality of care? One way is through using the Model for Improvement (MFI). Above is a visual representation of this model.

With quality improvement, there are three questions you must be able to answer:

- **What are we trying to accomplish?** You must understand where you’re headed or have an overall goal. This information can come from goals that you have already determined in a quality improvement plan or from IHS or organizational benchmarks that have been set.

- **How will we know that a change is an improvement?** In other words, how can we measure the change? If you make a change and have no way of measuring whether it impacted the problem, you may never know if you made an improvement.

- **What changes can we make that will result in improvement?** One of the key points in the MFI is that BIG changes over a SHORT period of time should be tested on a small scale. If a small change can accomplish the quality results that your clinic desires, then you will have saved valuable time and expense in testing only that small change, as opposed to doing many things all at once. What is meant by a small period of time is a day, a week, or a couple of weeks. If a change does not result in improvement, you will have found that out relatively quickly and won’t expend time and resources in trying it out for months or years. If a small change does result in improvement in a short time period, then you would want to extend the length of time to evaluate that change to see if it is sustainable.

These three questions can be answered through the Plan-Do-Study-Act (PDSA) cycle, as the figure to the left shows. What is important to remember is that all quality improvement should start with these three questions.
The Plan-Do-Study-Act (PDSA) cycle is the way to evaluate the three questions:

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

The “Plan” (P) is simply that—the plan for the change you are going to test. It consists of the following questions:

- What are we testing?
- Who are we testing the change on?
- When are we testing?
- Where are we testing?
- What do we expect to happen (prediction)? This is one of the most important parts of planning—making a predication about what will happen.
- What data do we need to collect?
- Who will collect the data?
- When will the data be collected?
- Where will the data be collected?

The “Do” (D) occurs when you carry out the change or test and collect data in order to later evaluate the change.

- What was actually tested?
- What happened?
- What problems did you have?

The “Study” (S) part of the PDSA cycle occurs after you have carried out the change and analyzed the data you have collected (again, measurement is a key ingredient in the MFI).

- What did you learn?
- How did the results compare to your predictions?
- Did the change result in improvement?

The “Act” (A) part of the PDSA cycle is what you decide to do based upon the results and analysis you conducted.

- What changes can be made before the next test cycle?
- What will the next test cycle be?
- Are we ready to implement the change?

The “Act” part of the PDSA cycle flows into the “Plan” part of the next PDSA cycle—what you decide in the Act part constitutes part of the Plan for the next cycle, resulting in continuous quality improvement.
Nationally, Innovations in Planned Care (IPC) has established over 40 indicators in which to measure quality of care in medical programs. These range from measures to assess glycemic control to childhood immunizations, and many of these mirror GPRA (Government Performance and Results Act) indicators.

For dental programs, a process is underway to establish national measures to assess dental quality of care. These measures may be similar to GPRA indicators, but may also include other things often considered as quality indicators in dental programs such as clinical efficiency standards and clinical chart review measurements.

While access to dental care hovers around 25% nationally in the IHS, many Areas and programs have less of a problem with access to care. Some sites have over 60% of their user population accessing dental services, and some Areas have an access to care proportion over 40%. Consequently, measures other than access to care should be considered and developed to assess quality of care in dental programs.

How can you assess the quality of care in your dental program? Where can you get information? One place to start looking for measures is in the IHS Clinical Efficiency Manual, located on the IHS Dental Portal (www.doh.ihs.gov).

Quality measures for dental programs can also be established through local priorities.

These can include such things as patient satisfaction surveys, broken appointment rates, clinical efficiency, collaborations between dental and medical departments, and CHS costs. One thing that is often reported by dental programs as “quality” is clinical productivity. Productivity in itself is NOT really quality. For example, if a clinic produced 10,000 services last year and this year produced 20,000 services, does that really mean that the clinic improved quality of services? It could also mean that the clinic did lower levels of services, had increased providers, or provided services that were not of the highest quality.

Why is it important to establish measures to assess quality of dental care? These measures can help show how a dental program progresses over time in reaching its quality improvement goals. When included as part of an overall quality improvement plan, these measures also help keep the dental clinic focused on this plan.

So the first step in getting a quality improvement program started at your clinic is to establish a well-written QUALITY IMPROVEMENT PLAN. This plan will provide direction to your dental program, and will serve as a basis for each of your quality improvement projects (PDSA cycles). Everyone in the dental program should be involved in developing a quality improvement plan, because everyone is concerned about the quality of care. Begin now by talking with one another about how you can develop a quality improvement plan in your clinic!
**ESTABLISHING A PLAN**

**Dental Quality Improvement Indicators to Consider**

- Access to care (as measured by the number of patients with a 0000 code divided by the user population) of 30% (or if your clinic is higher than 30%, 5% higher than where you’re at now)
- The proportion of patients aged 6-8 and 11-12 receiving at least one dental sealant will be at least 50%
- The proportion of patients aged 5-18 receiving at least two topical fluoride applications will be at least 50%
- Provider to population ratio of 1:1200 or better
- Full time equivalent (FTE) staff to population ratio of 1:500 or better
- Operatory to dentist ratio of 2:1 or better
- Dental assistant to dentist ratio of 2:1 or better
- 42 service minutes/5.3 RVUs per patient visit or more
- 19,592 service minutes/2,697 RVUs per FTE staff or more
- 29,589 service minutes/3,467 RVUs per operatory or more
- A broken appointment rate of 23% or lower
- 63% or higher proportion of patients treatment planned
- 48% or higher proportion of patients completing treatment
- 119 or more service minutes/10.9 RVUs per patient
- 792 or higher patient visits per operatory per year
- 8.68 or higher patient visits per dentist per day
- 80% or higher Level I-III services for the past year
- 4 or more services per patient visit
- Dentist chart review score of 80% or higher, and a score of 80% or higher on each of the 14 sections of the IHS Clinical Chart Review tool
- Dental hygienist chart review score of 80% or higher on a clinical chart review tool
- Scoring of 80% or higher on program reviews used by the Area Dental Officer or Dental Support Center
- Score of 90% or higher for dental assistants on the annual radiology competency evaluation

These are just suggested indicators; locally, you can establish additional measures
ESTABLISHING A PLAN

An EXAMPLE of a Quality Improvement Plan

Outcome Measures (voice of the customer or patient): How is the system performing? What is the result?

- Improve the quality of care as determined by a routine patient satisfaction survey conducted by the dental program, with the goal being to reach a benchmark of 95% patient satisfaction in the dental program.
- Increase the proportion of patients receiving care in the dental clinic to at least 40% of the user population.
- Increase the number of dental sealants to where the proportion of patients with or receiving at least 1 sealant is 50% of 6-8 year-olds and 75% of 11-12 year-olds.
- Increase the proportion of patients aged 5-18 years benefiting from the anti-caries effect of at least topical fluoride applications to 50% of the user population.
- Decrease the broken appointment rate to less than 23% each month.
- Decrease the time to the third next available appointment.
- Improve the proportion of patients receiving dental treatment plans to at least 60% of those patients that receive services at the clinic, and that of those receiving treatment plans, at least 70% complete treatment plans within a year.
- Increase clinical efficiency through the number of patient visits per day per dentist to 8.68.
- Increase chart review scores to an acceptable standard of 80% on all sections through development of internal chart reviews and through an annual external review.
- Improve quality through standardization of procedures and calibration of providers to ensure accurate and standardized diagnosis and treatment of patients.
- Improve the proportion of patients receiving care in the dental clinic to at least 40% of the user population.
- Increase the proportion of patients benefiting from the anti-caries effect of at least topical fluoride applications to 50% of the user population.

Process Measures (voice of the workings of the system): Are the parts/steps in the system performing as planned?

- Ensure safety of the patients through the 100% credentialing and privileging of dental providers.
- Provide training for all dental staff on the OSHA Bloodborne Pathogen Standard and Hazard Communication Standard.
- Ensure safety of patients and staff through monthly monitoring of hazardous chemicals and sterilization of dental equipment.
- Improve staff knowledge and buy-in of program objectives through the development of an Individual Development Plan, staff satisfaction survey, and staff ownership of key initiatives.

Balancing Measures (looking at a system from different directions/dimensions): Are changes designed to improve one part of the system causing new problems in other parts of the system?

- Increase collaborations between the dental, medical, and behavioral health programs through documented projects.
- Maintain a level of productivity equal to 89,200 service minutes/dentist per year and 8,000 services per year.
ESTABLISHING A PLAN

The Tree Diagram—another example

What are we trying to accomplish?

Aim Statement: Improve access to oral health care through clinic-based and community-based activities.

Objective 1: Improve dental clinic utilization.

Objective 2: Increase dental community-based activities.

How will we know that a change is an improvement?

Number of patient visits (0000 + 0190) will increase by “X”

Number of first patient visits (0000) will increase by “X”

Clinical efficiency indicators will improve by “X%”

Number of group encounters will increase to “X”

Number of participants at community health fairs to “X”

Number of dental services provided outside clinic to “X”

What changes can we make that will result in improvement?

Increase staffing in the dental clinic

Try different types of scheduling to improve efficiency

Run medical patient lists and contact pts. for appointments

Work with schools and WIC to identify eligible children

Survey patients to determine ways to improve services

Market clinic services in tribal newsletter

Provide fluoride varnishes at WIC, Head Start, schools

Start a school sealant program

Market community health fairs to include dental screenings

Provide oral health education at health fairs

Track patient education codes provided to groups

Create incentive program for family participation at fairs
The focus of the Community Workgroup is to mobilize community resources to meet the needs of patients. Within that broad goal, the workgroup has identified specific changes. For each of these changes, here are just a few examples of dental staff activities that could help the clinic or facility reach the IPC goals.

- **Encourage patients to participate in effective community programs**
  1. Make a resource guide and provide it to patients. Resources might be tobacco cessation services, weight loss programs, dental services not offered at your clinic
  2. Call patients after a referral to see if the services were helpful

- **Form IHS-Community partnerships**
  1. Inquire what oral health education is offered at schools, offer to supplement oral health education in classrooms
  2. Share evidence-based tools with community organizations
  3. Work with local health departments on common health projects such as Basic Oral Health Screening at schools

- **Advocate for policies to improve patient care and confidence**
  1. Work with local employers to support smoke-free workplace
  2. Support policies that promote healthy food choices in schools

- **Promote patient and community involvement in strategic planning**
  1. Post and disseminate mission and vision statements
  2. Post and disseminate quality measures and improvements
  3. Include CHR or patient on community HP/DP planning groups

- **Understand and fix community barriers to clinical services**
  1. Provide interpreters
  2. Work with CHRs or PHNs to help coordinate oral health services in home visits

The Community Workgroup, just one of many in the IPC project, was formed because community participation is critical to the success of any comprehensive health care system. Because oral health services are highly valued in our IHS communities, dental care and oral health community services are included in the IPC Community Workgroup. The workgroup is multidisciplinary including professionals from dentistry, Health Promotion/Disease Prevention, medical staff, community members, and administrators. The group meets twice every month to discuss specific ways to meet the IPC goals and objectives.

It may be hard to envision how the dental clinic fits into the IPC model. Dental care is very focused, delivered by a distinct set of providers, is usually isolated in the dental clinic, and is limited to a specific area of the body. So how can dental services and dental providers mesh into community services and the comprehensive health care system? These are the precise questions the Community Workgroup addresses. Every facility may have slightly different priorities and resources. Dental staff should become familiar with local IPC activities to determine what is already happening and how you can help.

By M. Catherine Hollister, RDH, MSPH, PhD
WHO CAN HELP AT THE AREA?

**Improvement Support Teams**

Improvement Support Teams (ISTs) are specialized teams in each Area that have undergone extensive training to provide support to health programs involved in the Innovations in Planned Care. These teams are comprised of IHS and tribal professionals who may be clinicians, data coordinators, or leadership. Area ISTs and contact persons are as follows:

- Aberdeen—Janelle Trottier; Janelle.Trottier@ihs.gov
- Alaska—Charles Fagerstrom; CE Fagerstrom@anmc.org
- Albuquerque—Kurt Riley; Kurt.Riley@ihs.gov
- Bemidji—Steve Rith-Najarian; stephen.rithnajarian@ihs.gov
- Billings—Susan Fredericks; Susan.Fredericks@ihs.gov
- California—David Sprenger; David.Sprenger@ihs.gov
- Nashville—Tim Ricks; Tim.Ricks@ihs.gov
- Navajo—Doug Peter; Douglas.Peter@ihs.gov
- Oklahoma City—John Farris; John.Farris@ihs.gov
- Phoenix—Roy Teramoto; Roy.Teramoto@ihs.gov
- Portland—Clark Marquart; Clark.Marquart@ihs.gov
- Tucson—John Kittredge; John.Kittredge@ihs.gov
- Cherokee Nation—Teresa Chaudoin; teresa-chaudoin@cherokee.org
- PIMC—Marie Russell; Marie.Russell@ihs.gov
- HQE—Cathy Stuekeman; Cathy.Stueckemann@ihs.gov
- National IST Support—Bruce Finke; Bruce.Finke@ihs.gov

**Area Dental Officers**

Beginning in September 2009, Area Dental Officers began learning more about the Model for Improvement and Innovations in Planned Care so that they can provide support to dental programs in the future. Some of the ADOs are working directly with their Area Improvement Support Teams to improve their support in quality improvement.

- Aberdeen—Dr. Mitch Bernstein; 605-226-7206; Mitchell.Bernstein@ihs.gov
- Alaska—Dr. George Bird; 907-452-8251 ext. 3081; George.Bird@tananachiefs.org
- Albuquerque—Dr. Patrick Sewell; 575-759-7225; Robert.Sewell@ihs.gov
- Bemidji—Dr. Linda Jackson; 218-983-6285; Linda.Jackson@ihs.gov
- Billings—Dr. Rick Troyer; 406-638-3470; Richard.Troyer@ihs.gov
- California—Dr. Steve Riggio; 916-930-3927 ext. 322; Steve.Riggio@ihs.gov
- Nashville—Dr. Tim Ricks; 615-467-1508; Tim.Ricks@ihs.gov
- Navajo—Dr. Mike Cadieux; 928-871-1344; Michael.Cadieux@ihs.gov
- Oklahoma City—Dr. Bob Smith; 405-951-3735; Bob.Smith@ihs.gov
- Phoenix—Dr. Dan Huber; 602-364-5190; Daniel.Huber@ihs.gov
- Portland—Dr. Woody Crow; 503-326-2016; Woody.Crow@ihs.gov
- Tucson—Dr. Sid Temlock; 520-295-2575; Sidney.Temlock@ihs.gov
### WHO CAN HELP LOCALLY?

**Innovations in Planned Care I—Participating Sites**

In the Fall of 2006, 14 IHS, Tribal, and Urban programs volunteered to become “IPC-I” pilot sites. Each of these sites has an improvement team that has undergone intensive training by the Institute for Healthcare Improvement. These sites are:

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In the Fall of 2008, the second round of sites (“IPC-II”) began training on quality improvement. These sites are listed below.

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**Innovations in Planned Care II—Participating Sites**

*WHO CAN HELP LOCALLY?*

*Innovations in Planned Care I—Participating Sites*

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**IDEAS FOR IMPROVEMENT**

**Utilizing Group Visits in Community Settings**

Group visits are a great way to enhance education, access and efficiency. They can be used to improve prevention and chronic disease management and allow the patient to spend more time with a provider or care team.

Using a multidisciplinary team to address the “mind” as well as the “body” allows teams to increase quality care and decrease costs. Group visits help facilities leverage existing resources, increase patient-physician interaction and create an environment of learning and fun.

Patients enjoy group visits because they feel more important and valued. Even in the group setting, they visit with the physician on a one-to-one basis and discuss personal health issues. Providers are able to give necessary services by “max packing” (providing multiple services) visits and offering other services to patients as needed.

By Kristina Rogers, Nashville Area GPRA Coordinator

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**Encouraging Self-Management**

You’ve heard it many times... “if only our patient would brush their teeth and follow our advice” their oral health status would improve. Unfortunately, much of our success in dentistry depends heavily on patient behavior and self-management.

The Chronic Care Initiative/Innovations in Planned Care emphasizes the patient’s central control in managing his/her health. Models of community care such as community treatment and group interventions based on principles of motivational interviewing, encourage patients to manage their own healthcare. Principles of motivational interviewing include expressing empathy, supporting self-efficacy, rolling with resistance and developing discrepancies.

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<td>1. <strong>ASSESS</strong> patient’s &amp; family’s motivation, beliefs, behavior, and knowledge</td>
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<td>2. <strong>ADVISE</strong> patients/families by providing specific information about health risks and benefits of change</td>
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<td>3. <strong>AGREE</strong> on collaboratively set goals based on patient’s/family’s conviction and their confidence in their ability to change the behavior</td>
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<td>4. <strong>ASSIST</strong> patients/families by identifying personal barriers, strategies, and social/environmental support</td>
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<td>5. <strong>ARRANGE</strong> a specific follow-up plan</td>
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IDEAS FOR IMPROVEMENT

Creating a Clinic-Wide Improvement Team

As previously mentioned, 38 healthcare facilities across Indian country have begun the Innovations in Planned Care. Central to the quality improvement work in these sites is the creation of an “Improvement Team,” a multidisciplinary team that frequently meets to discuss ongoing PDSAs as well as keep focus of overall quality goals for the organization.

Dental teams are encouraged to participate in these teams if they exist at your clinic. However, and there have already been a few cases of this occurring, if your healthcare facility does not have an improvement team, dental can help create one that will include physicians, nurses, behavioral health, pharmacists, and other clinical and non-clinical professionals in the facility. The goal of such a team would be to provide support to one another in quality improvement, and, more importantly, provide ideas for different ways of looking at problems and possible solutions.

Engaging Leadership in Quality Improvement

Leadership buy-in of your clinic’s quality improvement program is extremely important. Without buy-in, leadership may not fully understand why you’re spending time doing data analyses and may not understand how what you’re trying may improve oral health services at your facility.

So how do you engage leadership and when do you do this? Below are some ideas about how and when:

♦ Develop a written QI plan (see pages 7 and 8 for examples) and share this with your health director, service unit director, clinical director, tribal council, or other leadership before you begin QI activities.

♦ Get leadership involved in reviewing such tools as patient satisfaction surveys.

♦ Provide regular updates on QI activities and PDSA cycles to leadership, including who on your staff is involved and what they are doing.

♦ Hold team (either dental or clinic-wide) meetings and invite leadership.

♦ Develop articles for your tribal newsletter or posters for your walls that show positive results of your QI activities.
The following is a real example from a small clinic that used the Model for Improvement.

**What were they trying to accomplish?**
Clinic X is a small facility in that is staffed by part-time providers. They recognized a problem where documentation in the dental record was not the best, often requiring patients to be called back into the clinic for re-examination or follow-up just to complete the dental record.

**How would they know that a change was an improvement?**
The service unit relied on the IHS Dental Indirect Review of Clinical Services (chart review) to assess documentation of the dental record. This review tool consists of 14 sections, with the minimally acceptable score in each section being 80%.

**What changes did they make that resulted in improvement?**
The first test was actually to gather baseline data. This occurred in September 2008.

The second PDSA cycle was run in early May 2009 for a week to see if a newly developed chart checklist that the receptionist was using would work. This cycle was run for one week on one dentist (small scale).

The third PDSA cycle was run in early June 2009 for several weeks to see if the chart checklist used by the dental receptionist would have the same success on several dentists as it did the first time.

**What happened?** Before the Model for Improvement was used, the average chart review score was 66%. After the checklist was developed and used on one dentist, the chart review score increased to 98%. When the checklist was tried on multiple dentists, the score still remained high—96.5%. Now, two months later, still using the checklist, the score remains acceptable—93% - showing that this change is sustainable and is improvement.
The following is a real example from a clinic that will remain anonymous that used the Model for Improvement.

What were they trying to accomplish?
Clinic X is a small dental clinic with a single dentist. In their written quality improvement plan, one of their objectives was to increase the proportion of patients that were treatment planned. At their most recent dental program review, only 23.1% of their patients had been treatment planned (0150/0000 codes) - the IHS Clinical Efficiency Standard is 46%.

How would they know that a change was an improvement?
The service unit relied on the Clinical Efficiency Indicator for proportion of patients treatment planned—code 0150 divided by 0000 codes in a given time period.

What changes did they make that resulted in improvement?
The change the clinic decided was to conduct comprehensive exams on all patients presenting as walk-ins to the clinic. The staff thought this was relatively easy since they normally had less than 10 walk-in patients per day, and exams could be done fairly quickly.

The clinic ran two month-long cycles to evaluate whether the change was working. There was really no difference in the two cycles. The dentist just wanted to see if the change could result in sustained improvement when they ran the second cycle.

What happened? Before the Model for Improvement was used, the proportion of patients coming to Clinic X that had treatment plans had slowly declined to 23%. After the first PDSA cycle (1 month), 50% of patients presenting to the clinic had exams/treatment plans (46% is the IHS Standard). After the second PDSA cycle (1 month), 100% of patients had been treatment planned—showing that this small change was significant and an improvement.
What happened? At baseline, dental staff followed the written hand hygiene protocols only 40% of the time. After educating staff about the importance of hand hygiene in the prevention of hospital-acquired infections (both patient and staff), a second PDSA showed significant improvement—dental staff followed the protocols 79% of the time. The next step for Clinic Y is to see if this change -routine reminders- results in sustainable improvement.

What were they trying to accomplish?
Clinic Y is a multi-provider hospital that is accredited by the Joint Commission. One of the National Patient Safety Goals (7) is to “reduce the risk of health care associated infections.” Clinic Y wanted to ensure that their dental providers were following recommended hand hygiene protocols (hand washing before and after patients).

How would they know that a change was an improvement?
By having a dental staff person monitor hand washing after patient encounters, they were able to track the number of patients treated and the percentage of time hand hygiene protocols were followed.

What changes did they make that resulted in improvement?
Because the dental clinic did not fully know the extent of the problem, the first cycle was designed to gather baseline data. Staff were not told of the project.

Once baseline data was obtained and analyzed, the clinic realized that hand washing was sometimes overlooked by staff, so the dental chief decided to provide education to all dental staff at a regular meeting. This education to reinforce hand hygiene protocols was the change tested in a second cycle. Both cycles were for only one day because of the large number of patients the clinic sees on a daily basis.
QI EXAMPLES

Disinfection of Equipment—Using the PDSA to confirm quality

The following is a real example from a hospital where the PDSA was used to confirm quality rather than to test a change.

⇒ What were they trying to accomplish?
Two dentists at Clinic Z reported to the dental program manager that they perceived that dental chairs were not being disinfected properly. They thought that perhaps the dental assistants were wiping down the chair too quickly. So the Program Manager wanted to evaluate this perceived problem.

⇒ How would they know that a change was an improvement?
Using the PDSA, the Program Manager observed each of the clinic’s multiple chairs and recorded the disinfection time (the time between spraying the chair with a disinfectant and the dental assistant wiping down the chair).

⇒ What changes did they make that resulted in improvement?
No change was made. The purpose of the PDSA cycle was to gather baseline data. The Program Manager even predicted that the dental assistants would wait the minimum time period to wipe down the chairs only 40% of the time.

After outstanding results after the first one-week cycle, the Program Manager asked a second dental staff member to observe for a week just to make sure that the data was correct. See below for the results of these PDSA cycles. The first cycle occurred in early May 2009 and the second in early June 2009.

What happened? After the first one-week cycle was completed, the Dental Program Manager was amazed that the dental assistants always waited the minimum amount of time between spraying down chairs with disinfectant and wiping them down. This was confirmed in a second PDSA completed by a different provider. So this project shows that the PDSA can also be used to confirm quality, not just to test a change that will improve quality.


**QI EXAMPLES**

*Improving Chart Documentation Scores—an Area Approach*

The following is a real example from an Area with multiple IHS and tribal dental programs.

**What were they trying to accomplish?**

Area X noticed that during regular program reviews, several dental programs/service units were below the IHS standard of 80% on the indirect clinical reviews (chart reviews). Despite education provided by e-mail and phone by the ADO, chart review scores continued to stay low at four service units.

**How would they know that a change was an improvement?**

Chart reviews are measured through an IHS form called the Clinical Chart Review, consisting of 14 sections with multiple components in each section. The overall score is weighted by the number of data points in each section and is not necessarily an average score from the 14 sections.

**What changes did they make that resulted in improvement?**

In September 2008, Area X asked four clinics to begin internal chart reviews. Each of these clinics/service units had multiple providers to carry out the internal chart reviews. The internal chart reviews were conducted quarterly by in-house dental providers using the IHS Clinical Chart Review tool.

After at least three of the internal chart reviews, the Area Dental Officer revisited the dental program to conduct a new chart review on random charts. Below are the results of this approach.

- **Pre-PDSA**
  - Clinic 1: 78
  - Clinic 2: 57
  - Clinic 3: 83
  - Clinic 4: 64
  - Average, all 4 clinics: 64

- **Post-PDSA**
  - Clinic 1: 87
  - Clinic 2: 81
  - Clinic 3: 93
  - Clinic 4: 92
  - Average, all 4 clinics: 86

**What happened?** As a result of the one change—implementing an internal chart review process at four clinics—each of the four clinics showed a significant improvement in Area-led annual chart review scores, with improvement ranging from 9% to 28%. As a result, all four clinics now meet the IHS standard of 80% on the clinical chart review. This type of PDSA could be done at service units or programs with multiple providers.
The following is a real example from a clinic that is staffed by a part-time dentist, full-time dental hygienist, and no dental assistant.

What were they trying to accomplish?
Clinic B had never met their Area proportionate GPRA goal for dental sealants, despite having a dental hygienist committed to sealants. Many things had been tried in the past to increase efficiency and productivity. They wanted to increase sealants this year.

What changes did they make that resulted in improvement?
In July 2008, Clinic B began one simple change—making sure that they applied sealants to every eligible patient at the examination appointment. After trying this for a month period, they realized that clinical productivity increased, and the time placing sealants on exam patients really did not take away from the time needed to provide other basic dental services. In fact, placing sealants was more of an efficiency improvement, in that they recognized “down time” in the examination process that could be filled by doing sealants. As a result of this month-long change, Clinic B made sealants at the exam a permanent systems change, and the results below are impressive.

What happened? As a result of the one change—doing all sealants at the examination appointment, Clinic B had a significant success in the number of dental sealants placed, an increase of 606% over the previous year! More importantly, Clinic B met their proportionate dental sealant GPRA goal for the first time ever.
The following is a real example from a dental program with over 15,000 active users.

⇒ What were they trying to accomplish?
Clinic C is a multi-provider clinic that had consistently met its proportionate GPRA goals for the past seven years. However, realizing that GPRA goals were really just a minimum standard, the dental clinic set out to greatly improve GPRA goals, including the number of patients receiving topical fluorides.

⇒ How would they know that a change was an improvement?
The number of patients receiving topical fluorides is measured by the number of patients with a 1203, 1204, or 1206 code, or a V07.31 (medical fluoride varnish code).

⇒ What changes did they make that resulted in improvement?
In the Fall of 2008, Clinic C became an IPC-II site. As part of the atmosphere of quality improvement, the dental clinic set out to improve the number of patients receiving fluoride varnish.

The one and only change made was that the clinic’s three hygienists were told of the benefits of fluoride varnish and were encouraged (not mandated) to apply fluoride varnish on all of their patients (recall, prophy, perio), with a concentration on applying fluoride varnish on children. After just a couple of weeks, Clinic C realized that this could be a permanent change because it was so effective. See the results below for what effect this one change had on the clinic’s GPRA goal.

What happened? As stated previously, Clinic C had consistently met their proportionate topical fluoride GPRA goal each year. However, realizing that GPRA is just a minimum standard, the clinic made one change—educating hygienists about fluoride to encourage them to apply varnish during appointments. As a result, Clinic C had a 29% improvement in the number of patients receiving topical fluoride applications for the GPRA Year.
**FREQUENTLY ASKED QUESTIONS**

*What do you want to know about the Model for Improvement?*

<table>
<thead>
<tr>
<th>Can this Model for Improvement and PDSAs really work for dental?</th>
<th>Isn’t all of this heavily dependent on staffing? I mean, if we don’t have staff how can we have time to do quality improvement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes! Already, dental programs from across the country are using the rapid-cycle PDSAs to improve the quality of care that they provide.</td>
<td>Access to care is dependent on staffing obviously. But many of the other things you can do in improving quality—see the multiple examples in this newsletter—are NOT dependent on staffing.</td>
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<table>
<thead>
<tr>
<th>What are the purposes of the Plan-Do-Study-Act (PDSA) cycles?</th>
<th>Why should I care about the Model for Improvement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDSA cycles can be used to gather baseline data to develop a change, can be used to test a change, and can be used to implement a change.</td>
<td>The Model for Improvement is a way to organize your dental quality improvement program. It is being used throughout IHS and tribal programs now. Finally, we all come to work every day hopefully to provide quality oral health care to our patients, and the MFI helps us do that.</td>
</tr>
</tbody>
</table>

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<tr>
<th>What is meant by a “small scale” PDSA?</th>
<th>Can our dental program just work independently from the rest of the clinic? Why is it important to work with our medical department?</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you test a change on a small scale, perhaps with just a few patients or in just a few days, and the change does not result in improvement, you really will have not wasted much time and effort to show that. That is why small scale changes are important—to save valuable time and energy. If a small scale change does work, you can always expand it to a larger scale later on, but always start with a small change on a small scale.</td>
<td>It is important for us to learn from one another. One of the key aspects of the Model for Improvement is to create a larger learning community. Why reinvent the wheel if you have the opportunity to learn from other dental and medical programs?</td>
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<tr>
<th>What is MY role in quality improvement?</th>
<th>How is the Model for Improvement and rapid-cycle PDSAs any different from what we’re doing now in our dental clinic?</th>
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</thead>
<tbody>
<tr>
<td>Every dental staff has a role in quality improvement. In many programs, quality improvement is led by dental assistants. Each dental team member can contribute their own knowledge and experience in advocating changes that will improve the program—that’s part of our job!</td>
<td>It probably isn’t that much different if you’re already doing quality improvement. The PDSA is the logical way we approach all problems now; all the MFI does is help you document the changes you make to improve quality of care.</td>
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<tr>
<th>Where do I start in helping set quality goals for my dental program?</th>
<th>Where can I learn more about the Model for Improvement, the IHS Chronic Care Initiative, and Innovations in Planned Care?</th>
</tr>
</thead>
<tbody>
<tr>
<td>See page 6 of this newsletter for advise on setting quality benchmarks. There are national benchmarks set by the IPC Workgroup concerning access to care, and you can also use GPRA goals or modifications of GPRA goals such as the proportion of patients in certain age groups receiving sealants and fluoride. Another place you can get benchmarks are through the IHS Clinical Efficiency standards. Ask your ADO or Dental Support Center for help in establishing local benchmarks.</td>
<td>Start by going to <a href="http://www.ihi.org">http://www.ihi.org</a> to learn more about the MFI. Then contact your ADO, IST, or one of the IPC sites for more learning.</td>
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# STEPS TO SUCCESS

**What YOU can do to start a Quality Improvement Program**

## QUALITY IMPROVEMENT BEGINS WITH YOU

If you’ve read the preceding 22 pages of information, at this point you’re either thinking that: (1) you already know this information, but want to share it with others; (2) this is great, new information and you are ready to learn more; or (3) this is a lot of information and while you like the ideas, you don’t really know where to begin. So here’s a way of organizing and starting a quality improvement program in your dental clinic now:

1. **GET INVOLVED NOW.**
   
   Quality improvement begins with you! Why wait? Go ahead and think of what quality issues interest you and talk with your dental colleagues.

2. **LEARN MORE ABOUT QUALITY IMPROVEMENT**

   You don’t want to try quality improvement activities until you’re comfortable with all of the things that the MFI teaches. Learn more from your Area Dental Officer, Dental Support Center, Improvement Support Team, or one of the sites that are already doing something. Or better yet, go and read for yourself at ihi.org.

3. **HELP YOUR DENTAL CLINIC SET UP A QUALITY IMPROVEMENT PLAN, OR MODIFY WHAT YOU ALREADY HAVE**

   Quality improvement begins with you! Even if you’re not in charge of your dental program, you can nevertheless offer ideas to your program manager to help set up a quality improvement plan and quality goals for your clinic.

4. **PRIORITIZE YOUR GOALS**

   Most dental clinics have multiple things that they need to improve. Don’t worry about changing everything at once. Prioritize what is important to you and focus on one project at a time until you get more comfortable with the PDSA.

5. **THINK OF ONE SMALL CHANGE THAT YOU CAN TEST TO IMPROVE QUALITY**

   One small change...One of the problems most dental programs face when trying to do the PDSA is that they want to make a major change that they know will result in improvement. Start by making a small change. For example, your clinic may be sending out postcards to patients to remind them of appointments 2 weeks ahead of time. Try changing it to 1 week ahead of time and see if that makes a difference in no-show rates. Just one small change...

6. **TRY DOING A RAPID-CYCLE PDSA**

   Now you’re ready—you have some QI goal and have decided to test a small change. The next step is to get a blank PDSA form (from your Improvement Support Team or Area Dental Officer) and start documenting the Plan-Do-Study-Act.

7. **HAVE A DEBRIEFING AFTER YOU DO THE PDSA**

   Once you have done a PDSA, what do you do with it? The answer is simple—talk with those involved and decide whether you’re ready to implement the change, want to try another cycle, or want to try another change. That is an important part of the “Act” part of the PDSA.

8. **SHARE YOUR RESULTS—GOOD OR BAD—WITH OTHERS**

   Create a larger learning community—share your PDSA with your dental and medical staff to show how it works. Share and learn from other dental programs in your service unit and Area.

9. **DON’T STOP—TRY ANOTHER PDSA**

   Don’t let it stop. Even if your first PDSA was not the success you had hoped for, keep trying. Stay positive. The PDSA is a proven success, but it is meant to be continuous! Don’t let your QI program stop with 1 PDSA.
CONTINUING EDUCATION

**Answer this quiz and you could get 1 hour of CE credit!**

1. Which of the following is NOT one of the aims of quality improvement, according to the Chronic Care Model?
   - A. Patient-Centered Care
   - B. Clinical Productivity
   - C. Safe Patient Care
   - D. Efficient Patient Care

2. Identifying a way to measure improvement is the basis for which quality improvement question?
   - A. What are we trying to accomplish?
   - B. How will we know that a change is an improvement?
   - C. What changes can we make that will result in improvement?

3. A prediction is made in which part of the PDSA cycle?
   - A. Plan (P)
   - B. Do (D)
   - C. Study (S)
   - D. Act (A)

4. According to the national benchmark, when should the “third next available appointment” be for our programs (what is the goal)?
   - A. 30 days
   - B. 14 days
   - C. 3 days
   - D. 0 days

5. Which of the following are specialized teams in each Area whose main job it is to support programs in quality improvement?
   - A. Area Dental Officers
   - B. Dental Support Centers
   - C. Improvement Support Teams (ISTs)

6. The primary role for quality improvement in dental programs rests with:
   - A. The Area Dental Officer
   - B. The Chief Dentist
   - C. The Chief Dental Assistant
   - D. All dental staff—improvement is everyone’s business!

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**CE Credit**

*How did you do? To obtain CDE credit:*

1. Go to [http://www.doh.ihs.gov](http://www.doh.ihs.gov)
2. Log in using your username and password.
3. Click on the “CDE” tab.
4. Click on the “Catalog” tab.
5. Scroll down and click on DE0024.
6. Scroll down the screen to “Additional Information” and “click here to take the test.”

If you have any difficulty, please send an email to MaryBeth.Kinney@comcast.net or call 602-364-7747 and leave a detailed message.

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**Newsletter Survey**

*We want to hear your feedback!*

*How did you like this newsletter? Let us know by taking the newsletter survey at:*