SECTION 1

Introduction

Oral health is an essential component of comprehensive primary care. The delivery of preventive oral healthcare is consistent with the principles of whole-person care and should be standard practice within a patient-centered medical home (PCMH) or advanced primary care practice. The integration of oral health into primary care is not intended to displace dental care, but rather to expand the workforce addressing preventive oral health and improve patient health outcomes.

In the last 20 years, three major publications have brought the importance of oral health to policymakers' attention: *Oral Health in America: A Report of the Surgeon General*, released in 2000; *Advancing Oral Health in America,* released in 2011 by the Institute of Medicine; and *Integration of Oral Health and Primary Care Practice,* released in 2014 by the Health Resources and Services Administration (HRSA). This implementation guide builds upon, and is aligned with, this prior work. It offers guidance, resources, and tools to help primary care practices integrate oral health into the primary care setting and achieve the vision of addressing oral health as part of whole-person care. The guide follows *Oral Health: An Essential Component of Primary Care* (2015), which presented the Oral Health Delivery Framework (further described in this guide) and called for actions to support implementation. For more information on the development of the Oral Health Delivery Framework, refer to Section 3: The Oral Health Delivery Framework.

Recommendations made in this guide are based on the experiences of 19 primary care practices that tested the Oral Health Delivery Framework for 4–20 months and on input from a panel of experts in primary care and dentistry. More information on field-testing sites is included in Section 3: The Oral Health Delivery Framework; specific examples of their successes and challenges are profiled in case vignettes throughout this guide, and shared through in-depth case examples available in Section 9: Field-Testing Results and Case Examples.

"Oral health is integral to overall health." ***—Oral Health in America: A Report of the Surgeon General***

ALSO AVAILABLE

Oral Health: An Essential Component of Primary Care white paper

Benefits of Integrated Oral Healthcare for Patients

All patients can benefit from integrated care. The story below illustrates how a primary care intervention for a common oral health condition might have prevented unnecessary complications, pain, and suffering.

Ms. D's story

Ms. D is a 48-year-old female, diagnosed with diabetes seven years ago, who weighs 254 pounds. She lives with her husband and two children and has medical and dental insurance. She works as a clerk at her local grocery store. Her problem list includes obesity, diabetes, and smoking.

Since her diabetes diagnosis, she has regularly seen her primary care clinician but has struggled to keep her HbA1c level below 8. She has a "sweet tooth," and with a full-time job and two teenagers, she doesn't have much time for cooking meals at home. Ms. D has occasionally mentioned pain in her gums while eating over the last several years, but her clinician has focused instead on her blood pressure and glycemic control, being somewhat unsure about how to address Ms. D's oral complaints in the short amount of time they have together.

During a conversation about diet, the clinic's nurse suggests to Ms. D that she see a dentist. However, Ms. D does not have a relationship with a dentist and is uncertain who to contact or how to request an appointment. Ms. D is already taking time off work to attend her medical appointments and is concerned she will lose her job if she requests more time off.

Then, one weekend, Ms. D presents at the emergency department (ED) with severe pain in her jaw. Upon examination, the ED clinician finds she has a tooth abscess from advanced decay. The ED clinician gives her pain medication, prescribes antibiotics to treat the infection, and gives her a list of dentists to call on Monday morning. The pain subsides and she is able to schedule an appointment with a dentist 10 days later, at which point the tooth is extracted.

Ms. D returns to her primary care clinician for a regular diabetes care check-up, and tells her about the experience in the ED and what she was told about her teeth. Ms. D's clinician feels badly that things progressed to that point, and urges her to continue to see the dentist regularly for ongoing care. She feels frustrated at the limited options she has to offer her patient.

In a primary care practice integrated with oral health preventive care, Ms. D's clinician would examine her mouth at regular intervals to assess her oral health. She would give her patient clear recommendations on brushing and flossing, and would have referral agreements in place with multiple dentists. Given Ms. D's high risk for periodontal disease because of her diabetes, the primary care clinician would ensure that the patient was receiving regular dental care. When early signs of decay were first observed in the primary care office, the clinician would alert the patient and refer her to her dentist for diagnosis and treatment. The practice's referral coordinator would help Ms. D make an appointment if necessary, and ensure that Ms. D saw her dentist for early treatment that could prevent loss of the tooth and the avoidable ED visit.

Source: Modified from Hummel J, Phillips KE, Holt B, Hayes C. *Oral Health: An Essential Component of Primary Care.* Seattle, WA: Qualis Health; June 2015. Reprinted with permission.

Highlighted Impact Data and Field-Testing Lessons

- Among the 19 field-testing sites, over the course of 20 months, 13,771 patients were screened for oral health issues.
- 4,518 patients had fluoride varnish applied to their teeth.
- 1,255 patients without a regular dentist were referred to dental care.
- Through field-testing, 80 clinician care teams were reached, and began addressing oral health in their primary care practice.
- Implementation of the Oral Health Delivery Framework was feasible for a diverse group of primary care practices, though the level of implementation varied.
- Sites did not report a negative impact on patient flow efficiency once the initial phase of implementation had passed.
- Spread has been effective at sites that have engaged in it—spreading from 27 clinicians to 80 clinicians over 20 months.

The Change Concepts for Practice Transformation: A Framework for the Patient-Centered Medical Home

"Change concepts" are general ideas used to stimulate specific, actionable steps that lead to improvement.

The Safety Net Medical Home Initiative (SNMHI) was a five-year demonstration project to help primary care safety net sites become high-performing patient-centered medical homes (PCMH) and achieve benchmark levels of quality, efficiency, and patient experience. The project also established a framework for PCMH transformation to help guide practices through the transformation process. The framework includes eight change concepts in four stages:

- Laying the Foundation: Engaged Leadership and Quality Improvement Strategy.
- Building Relationships: Empanelment and Continuous and Team-Based Healing Relationships.
- Changing Care Delivery: Organized, Evidence-Based Care and Patient-Centered Interactions.
- Reducing Barriers to Care: Enhanced Access and Care Coordination.

The Change Concepts for Practice Transformation were extensively tested by the 65 practices that participated in the Safety Net Medical Home Initiative and have since been used by other collaboratives and practices nationwide. They were derived from reviews of the literature and discussions with leaders in primary care and quality improvement. They are supported by a comprehensive library of training materials that provide detailed descriptions and real examples of transformation strategies. These resources are free and publicly available. To learn more, see Change Concepts for Practice Transformation.

Care integration programs, like oral health and behavioral health, involve all four of the higher-level change concepts. The decision to place care integration and population management for specific clinical topics under the Organized, Evidence-Based Care Change Concept was made with the understanding that key changes for Patient-Centered Interactions, Enhanced Access, and Care Coordination are also heavily involved.

Message to readers

Practices beginning the PCMH transformation journey often have questions about where and how to begin. We recommend that practices start with a self-assessment to understand their current level of alignment with the most current Patient-Centered Medical Home standards and identify opportunities for improvement. The SNMHI's self-assessment, the Patient-Centered Medical Home Assessment (PCMH-A), is an interactive, self-scoring PDF that can be downloaded, completed, saved, and shared.

Readers are encouraged to download additional Organized, Evidence-Based Care materials available from the Safety Net Medical Home Initiative:

- Organized, Evidence-Based Care Executive Summary provides a concise description of the change concept, its role in PCMH transformation, and key implementation activities and actions.
- Organized, Evidence-Based Care Implementation Guide introduces the Chronic Care Model and examines the connections between it and the PCMH, then focuses on critical aspects of organized, evidence-based care including planned care, decision support, and care management.
- The Organized, Evidence-Based Care supplement Improving Care for Complex Patients: The Role of the RN Care Manager provides practical recommendations about providing care management services to high-risk patients.
- The Organized, Evidence-Based Care supplement Behavioral Health Integration provides a practical guide and flexible model for primary care practices to follow to integrate behavioral health services into their practice.
- Webinars provide additional examples, tips, and success stories and highlight the best practices of SNMHI sites and other leading practices.

Organized, Evidence-Based Care

The eight Change Concepts represent the critical dimensions of PCMH transformation. Each Change Concept is supported by a series of key changes, which provide a practice with more specific ideas for improvement.

Organized, evidence-based care (OEBC) is care that is based on scientific evidence and planned and delivered so that the team optimizes the health of their entire panel of patients. OEBC in a PCMH consists of designing each visit to meet a patient's preventive and chronic illness needs, using planned interactions, and ensuring appropriate follow-up care. Evidence-based guidelines are embedded into daily clinical practice as well as shared with patients and their family/caregiver. High-risk patients are identified to ensure they are receiving appropriate care management services.

The key changes for OEBC are:

- Use planned care according to patient need.
- Identify high-risk patients, and ensure they are receiving appropriate care management services.
- Use point-of-care reminders based on clinical guidelines.
- Enable planned interactions with patients by making up-to-date information available to clinicians and the care team at the time of the visit.

Similar to the issues that surround behavioral health and the role of the PCMH, oral health problems are common, significantly impact patient health and quality of life, and are often co-morbid with other physical health problems.[1–5] If patients' behavioral health or oral problems go un- or under-treated, it may be more challenging to address their other physical health problems. For these reasons, behavioral healthcare and oral healthcare are critical components of OEBC.

Health Information Technology

Oral Health Integration in the Age of Health Information Technology

The integration of oral health into primary care practice is interwoven with health information technology (HIT), and yet it is important to remember that this is about oral health, not about HIT. Because HIT is related to each aspect of integrating oral health in primary care, each section of this implementation guide contains specific HIT guidance in a special call-out box at the end. The exception is Section 7: Using Data for Quality Improvement, where, because of the topic, HIT is woven throughout the section. The importance of HIT in care integration lies in the fact that HIT brings to bear powerful tools for clinical decision support and measuring the way care is delivered. In this way, HIT opens a door to viewing oral health integration through the lens of population health.

For those practices with limited HIT resources, the message is that oral health integration does not require HIT. Important activities for primary care teams include understanding behaviors that place patients at risk for oral disease, routinely looking in patients' mouths, recognizing signs of oral disease, and referring to a dentist when necessary. It is important to acknowledge that HIT is a useful tool for managing information, creating efficiencies in workflows, and facilitating care coordination activities, but lack of HIT resources should not be a barrier to addressing oral health in the primary care setting.

SECTION 2

The Case for Change: Delivering Preventive Oral Health Services in the Primary Care Setting

Introduction

There are many reasons to integrate oral health preventive services, such as applying fluoride varnish and offering patient and family education on oral health, into a primary care setting. Building on the work published in the white paper Oral Health: An Essential Component of Primary Care, the case for change and importance of oral health are reviewed. This section concludes with a fictional case example that presents a vision for the future of oral health integration, including:

- Describing the structure and function of a successful oral health integration program.
- Reviewing challenges and opportunities.
- Discussing the key ingredients for success.

"I've always felt that your teeth and your mouth can affect your whole body. Poor oral health has been linked to heart disease, poor diet, missing work, missing school. I've always felt it should be part of medical care."

— Practice Manager in an urban federally qualified health center

The Burden of Oral Disease

Oral health is essential for healthy development and healthy aging, yet nationwide there is an unacceptably high burden of oral disease. Tooth decay (dental caries) is the most common chronic disease of childhood.[2] Tooth decay has significant negative impacts on school attendance and academic achievement and places young children at risk for repeated exposure to general anesthesia with resulting lifelong implications for overall health.[6,7] Over one-quarter of adults have untreated dental caries[8] and more than 35 percent have moderate to severe periodontal disease, which can result in pain, tooth loss, and systemic infection.[9] The emerging pattern of evidence suggests that periodontal disease acts as an accelerator for diabetes and cardiovascular disease complications. In pregnant women, periodontal disease is associated with an increased risk for preterm labor, low birth weight, and spreading cariogenic bacteria to infants during the first months of life.[10–16] Disparities in oral health are significant, with the greatest impact on the most vulnerable populations.[17, 18] While oral complications are often discounted or minimized, research and experience demonstrate that a person's oral health impacts their overall health and quality of life.

"I could see how the lack of oral care resources was impacting our patients negatively. Even though a visit was supposed to be about hypertension, we had to keep talking about their oral pain issues. We thought if we could get their oral health under better control, we'd be better able to address their health issues."

—Wendy Hughes, ARNP,
Grand Coulee Medical Center

Oral disease is also a growing cost concern. The total cost of dental care in the U.S. exceeded $111 billion in 2013, with much of this expense for restorative interventions that could have been avoided with adequate prevention and/or early detection and intervention.[19] In 2013, $2.1 billion was spent on emergency department services for oral complaints— further highlighting the opportunities for prevention, early detection, and coordinated care.[20, 21] Although the generalizability has yet to be determined, analyses of large insurance data sets suggest potential for significant savings in total healthcare costs resulting from treatment of periodontal disease in patients with chronic conditions such as diabetes and heart disease.[1]

For more information on the burden of oral disease, refer to Oral Health: An Essential Component of Primary Care (2015).

"We're reaching out to the community dental offices to figure out a workflow so we can get a consult to them and they can send it back to us. We've connected with a couple of community dentists who feel excited about working with us. They like that now they have someone to reach out to if they need medical support (like if a patient needs a blood pressure before oral surgery)."

— Practice Manager in an urban federally qualified health center

Incorporating Oral Health in Routine Medical Care

Integrating oral health into primary care addresses a currently unmet need. It is becoming clear that in order for accountable care organizations to successfully manage clinical outcomes, population health, and total cost to achieve the Triple Aim, whole-person care, including oral health, must be part of the strategic plan. This guide provides information and tools to address oral health in an algorithm-driven manner, ensuring that the work is done in a way that minimizes the impact on the primary care team.

Incorporating preventive oral healthcare in routine primary care has many advantages. The first is access for patients. Primary care teams have frequent and predictable contact with the patients at highest risk for oral disease. High-priority populations include children, pregnant women, women of childbearing years, and adults with chronic diseases such as diabetes, end-stage renal disease, cancer, and/or HIV/AIDS. This implementation guide frequently references patients with diabetes, pregnant women, and children because these were the populations selected by the practices that chose to field-test implementation of the Oral Health Delivery Framework (Framework). However, among these populations, many of the risk factors for oral disease and the disease processes themselves are largely the same. Lessons learned from one high-risk population are likely to apply to others, including frail elderly, adults and children with special needs, migrant agricultural workers, and people experiencing homelessness.

Prevention and early detection are foundational to effective primary care. Primary care teams provide risk assessment, screening, and case finding for every other body system (e.g., skin, heart/lungs). They also routinely arrange for specialty care, and help patients and families navigate the broader healthcare system. Primary care teams in "patient-centered" and other advanced practice settings are trained to engage patients in goal setting and self-care—the very skills most patients will need to reduce their risks for oral disease by changing their diet or hygiene habits.

Oral health integration can serve as an opportunity for primary care teams to develop, refine, or enhance workflows and processes that will benefit other aspects of patient-centered care. The techniques and overall integration approach recommended for oral health integration will be familiar to practices engaged in other practice transformation work. Care integration programs frequently share common patterns regardless of the clinical topic (behavioral health, pharmacy, eye care, foot care), and lessons learned in the process of integrating oral health into primary care are often generalizable. Several practices engaged in the oral health integration field-testing efforts discovered opportunities for other improvements, and developed processes that were applicable to other aspects of their practice transformation work, such as improving referral processes, improving care team skills in population management of chronic diseases, and population health reporting.

Some practices found that integrating oral health and primary care led to improvements in other systems of care.

"This program is helping us to improve our own internal data reporting and get more meaningful information to clinicians and staff. The health center had already realized that data reporting is important, but was still in the beginning stages of working on it. This was one of the first programs that really emphasized data reporting, and this work helped support the health center's data reporting efforts as a whole."

—Samantha Jordan, DMD,
MPH Lowell Community Health Center

Primary Care's Role in Protecting and Promoting Oral Health

It is important to define several concepts that are closely related but distinct:

- **Oral health** is an aspect of overall health and may be broadly defined as a state of being free from pain, diseases, and disorders affecting the oral cavity.
- **Oral healthcare** (or the "care" of oral health) is a part of overall patient care and includes activities such as risk assessment, health promotion and education, and referral for dental care.
- **Dental care** is a critical component of oral healthcare, and includes health services specifically focused on maintaining, attaining, or restoring oral health.[22]

The role of the primary care clinician and team is to provide oral healthcare by assessing and reducing risk, screening for signs of early oral disease, implementing preventive measures (e.g., applying fluoride varnish), identifying patients in need of dental care, and coordinating referrals to dentistry. These actions are delineated in the Framework and described in detail in Section 3: The Oral Health Delivery Framework. The oral disease process involves pathophysiology (e.g., infection, inflammation) similar to many other disease processes. Primary care clinicians and teams have the knowledge and skills required to understand and intervene in the oral disease process, although many will benefit from a clinical review, discussed further in Section 4: How to Prepare for Successful Implementation. Staffing definitions used in this guide are provided in Section 5: Staffing Options and Workflow. Primary care teams are not expected to definitively diagnose or treat oral disease. Incorporating oral health in routine primary care thus requires close partnerships with dentist-led teams. Strategies for building these partnerships are explored further in Section 6: Structuring Referrals to Dentistry.

"We are in a severe dental shortage area, so anything we could do to improve oral health will have a significant impact. We're very rural, not quite frontier. We've been looking at different ways we could help bridge that gap and meet the need, and this felt like it was something we could do to help address oral health. In our needs assessment for all patients we ask about dental needs, and it's a need for everyone."

—Heather Hicks, RN, Heart of Kansas Clinic

The Case for Change: Incorporating Oral Health in Routine Medical Care PowerPoint tool outlines the role primary care providers can play in addressing oral health issues.

What Integrated Care Could Look Like: A Fictional Case Example

It is helpful to have a clear vision of success when beginning the process of creating system change. This fictional case example illustrates what full and robust implementation of the information laid out in this guide might look like. A primary care network integrates oral health into primary care.

The Cul de Sac Family Practice Network (CdS) is a private, multi-site primary care group in a suburban environment that recently achieved Level 3 National Committee for Quality Assurance (NCQA) medical home recognition. Two years ago, CdS finished deploying a new program to all of their clinics with the aim of integrating preventive oral health services into their primary care practices using the Oral Health Delivery Framework. They began with a goal of providing fluoride varnish to all children under age six twice a year and emphasizing oral health for the whole family through oral hygiene/dietary coaching for parents and caregivers. They expanded the program to include a yearly oral health screening assessment first for pediatrics, adolescents, and adults with diabetes, then for pregnant women, and finally, for all patients.

Structure and function of a successful program

All CdS clinics are structured around large, multidisciplinary primary care teams staffed by one full-time equivalent (FTE) physician, one FTE physician assistant, one FTE registered nurse (RN) for care management and population health, and four FTE clinical assistants to handle patient flow. Each team manages a panel of approximately 3,500 patients. All of the care teams incorporate oral health into their normal office visit workflow. Clinical assistants review upcoming visits on the schedule each day during a huddle. Patients identified as overdue for their yearly oral health assessment are flagged and get the brief oral health assessment as part of the visit regardless of the chief complaint. In that assessment, the clinical assistants follow a protocol to determine whether the patient meets the risk criteria set by the practice for referral for tooth decay or gum disease, and they look in the patient's mouth for visual signs of oral disease. The resulting information is documented in the patient's chart and reviewed and confirmed by the primary care clinician. Those patients found to be at risk for tooth decay receive fluoride varnish from the clinical assistant, and a tutorial in optimal oral hygiene practice and dietary coaching from the RN. Those with signs of tooth decay or gum disease are referred to a dentist by the primary care clinician.

The CdS internal quality reports are reviewed each month as part of a regular quality monitoring process. The reports reflect an increase in preventive oral health services for all their patients. They demonstrate that those patients found to have tooth decay, or to be at high risk for tooth decay, are receiving basic preventive interventions. The clinic pharmacist has developed a tool to help the care teams identify patients on medications that impair salivary function, placing them at higher risk for tooth decay, and offer alternatives for many of the most problematic medications.

Challenges and opportunities

As successful as it appeared, CdS still struggled with the challenge of maintaining a reliable referral network for patients needing dental procedures and coordinating care with dozens of different dental offices. They identified a group of dentists who owned a clinic called Suburban Smile Dentistry and who were intrigued by the prospect of growing their dental practice by partnering with a primary care group. They were willing to accept both commercially insured and Medicaid-insured patients and treat people without insurance on a sliding scale based on income. The two groups began with a small-scale pilot test limited to the CdS clinic closest to the Suburban Smile office. They negotiated and signed a referral agreement, then established a protocol for sharing clinical information both as part of the referral order and in the consultation report sent back to the ordering clinician. The pilot demonstrated a strong-enough business case that the stream of patients referred from CdS to Suburban Smile Dentistry was both manageable and would be able to produce sufficient revenue when scaled up to allow Suburban Smile to hire another dentist and dental hygienist.

Key ingredients of success for CdS

1. The primary care clinicians expanded their preventive clinical care knowledge to include oral health.
2. Primary care and dental clinicians built a relationship between their practices to provide better care for their patients, and they discovered there was a business model to support it.
3. The original step of providing fluoride varnish to all children under age six opened a door that led them to try other oral health integration innovations they otherwise may not have considered.
4. Clinicians were well served by moving in stages, testing each component on a small scale within a single care team to ensure it worked as expected before adopting on a wider scale.

Similar themes will reappear throughout this guide, illustrated through vignettes and case examples that share actual experiences from sites that field-tested various aspects of the Framework.

Health Information Technology
Using Data to Make Oral Health Integration an Organizational Strategic Priority

The widespread adoption of health information technology (HIT) in the form of electronic health records (EHRs) has transformed healthcare. Although the transition has been challenging, information technology has ushered in a new era in which it is now possible to use data to measure the processes by which care is delivered and, increasingly, the effect care delivery has on clinical outcomes. When planning an oral health integration program, it is useful to think through the ways in which data can be used to build and maintain organizational support for the program:

- One of leadership's roles is to initiate and lead change in an organization.[23] An effective strategy in leading change is to use data to show why the current state is unacceptable, and define the goal of change in terms of a desired measurable level of improvement. For example, at the beginning of an oral health initiative, an organization may have no data on the prevalence of periodontitis among its own population of patients with diabetes. However, it is possible to use national[1] or state prevalence figures as a proxy for the number of patients with diabetes for whom the organization provides care who have significant periodontal disease. This helps clinicians and other stakeholders understand the likely scale of the problem affecting diabetes outcomes that they need to monitor.
- Once an oral health program is underway, practice-level data are a powerful form of positive feedback that can demonstrate to a care team that their workflow innovations are improving a key measure. Data showing improvement are also effective in efforts to spread successful innovation to an entire delivery system. If a practice is unable to write clinical reports using EHR data, an alternative approach is to pull 20 or 30 charts and conduct a chart review to get a snapshot of how well a new process is working. For example, a practice may start the year with no information about periodontal disease among its diabetic patients, and by the end of the year has evaluated 80 percent of them for gum inflammation, finding it in nearly half of patients, with a resulting referral for treatment. This tells a compelling story.
- Presenting data in graphic format, such as a run chart (sample shown here in Figure 7.3), makes it much easier for people to quickly understand their meaning.

"As with all of our Uniform Data System (UDS) measures, we share that information with clinicians, both our clinic-wide rates and our per/clinician rate. Clinic-wide measures are posted on the wall of every exam room so patients can also see that information. We run the data reports quarterly, because we want to know why the people who are doing well are doing so well—what is that clinician doing with her team that makes it happen? And if someone else is not doing as well with fluoride varnish, we want to ask why it isn't being done, to know why we're missing it."

—A. Stevens Wrightson, MD, Bluegrass Community Health Center

It is important to articulate a clear vision of the information technology resources the program will need in order to measure the work of the care teams and the impact it is having on patients—in other words, to tell the story of how integrating preventive oral health into primary care will improve the care patients receive.

As new information becomes available, it is leadership's job to use that information to help the organization understand how oral health integration is aligned with the organization's strategic goals in the context of the Triple Aim: patient experience, population health, and total cost. In each of the following sections, we will dive in detail into how health information technology can be optimally configured to support the operational requirements of oral health integration and can be leveraged to enhance its benefit to patients.

Click here to jump to Section 3: HIT: Document—the Role of Health Information Technology.

Supporting Materials, Section 2

The Case for Change: Incorporating Oral Health in Routine Medical Care: This modifiable slide deck can be used by a champion in your practice organization to educate and inspire others. It includes basic information on the burden of oral disease and why oral health is an important component of comprehensive care. There are also spaces and directions for customizing messages for your community and audience.