

GIH

*Returning the Mouth  
to the Body:*

INTEGRATING  
ORAL HEALTH &  
PRIMARY CARE

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BASED ON A  
GRANTMAKERS  
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ISSUE DIALOGUE

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## FOREWORD

As part of its continuing mission to serve trustees and staff of health foundations and corporate giving programs, Grantmakers In Health (GIH) convened a group of grantmakers, researchers, and practitioners on April 17, 2012, for an in-depth discussion focused on the benefits, challenges, and approaches to integrating oral health and primary care. This Issue Brief synthesizes key points from the day's discussion with a background paper previously prepared for Issue Dialogue participants.

Special thanks are due to those who participated in the Issue Dialogue, especially the presenters and discussants: William Maas, a public health consultant; Richard Munger of the Buncombe County Human Services Support Team; Meg Booth of the Children's Dental Health Project; Kim Moore of the United Methodist Health Ministry Fund; David Grossman of Group Health; G. Joseph Kilsdonk of Marshfield Clinic; Yvonne Cook of the Highmark Foundation; David Krol of the Robert Wood Johnson Foundation; and Ralph Fuccillo of the DentaQuest Foundation.

Lauren LeRoy, president and CEO of GIH, moderated the Issue Dialogue. Colin Pekruhn, GIH program associate, planned the program, wrote the background paper, and synthesized key points from the Issue Dialogue into this report. Faith Mitchell, GIH vice president for program and strategy, and Leila Polintan, GIH communications manager, provided editorial assistance.

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## EXECUTIVE SUMMARY

### *Returning the Mouth to the Body:*

# INTEGRATING ORAL HEALTH & PRIMARY CARE

Dental disease is one of the great preventable public health challenges of the 21<sup>st</sup> century. Labeled a “silent epidemic” by the U.S. Surgeon General, dental disease ranks high in prevalence among chronic health conditions (HHS 2000). It is universally prevalent, but a number of subpopulations are particularly vulnerable, including seniors, children and adolescents, low-income people, minority groups, and people with special health care needs (IOM 2011).

While dental disease is itself a discrete health concern, like many other chronic diseases it has broader health impacts. Poor oral health has been linked to increased risk for cardiovascular disease, diabetes, and other chronic conditions. Among adults who have lost their natural teeth, studies have shown that there is a significant impact on nutritional intake, resulting in the consumption of little or no fresh fruit and vegetables. Poor oral health also exacerbates other underlying chronic diseases. For example, diabetic patients with periodontitis are six times more at risk for worsening glycemic control and are at increased risk for other diabetic health complications (Mealey and Rose 2008).

Dental disease has a number of broader implications. Poor oral health in children has been shown to result in decreased academic performance and can adversely affect behavioral and social development. Over 51 million school hours are lost each year due to dental problems (Pew Center on the States 2011a). Poor oral health is even a national security concern. According to a study conducted by the U.S. Department of Defense, 52 percent of new recruits were in need of urgent dental treatment that would delay their deployment (Leiendecker et al. 2008).

### THE CASE FOR INTEGRATION

Integrating primary care and oral health makes logical sense for a number of reasons. By sharing information, providing basic diagnostic services, and consulting one another in a systematic and sustained manner, dental and medical professionals in integrated practice arrangements would have a far better chance of identifying disease precursors and underlying conditions in keeping with a patient-centered model of care. Integration can also raise patients’ awareness of the importance of oral health, potentially aiding them in taking advantage of dental services sooner rather than later.

Integration could also:

- increase the effectiveness and efficiency of both dental and medical professionals in preventing disease, thereby reducing the large number of preventable dental conditions, which are far too often treated in emergency rooms (Pew Center on the States 2012);
- improve chronic disease management and prevention;
- address significant oral health care access issues by expanding entry points into the dental care system, especially for at-risk and underserved populations (IOM 2011; IOM and NRC 2011);
- facilitate the use of interdisciplinary techniques to overcome patient-specific barriers to accessing services, such as patient apprehension and anxiety about visiting the dentist (Munger 2012); and
- provide significant cost savings to the health care system by controlling for and reducing risk factors common to dental disease and various chronic diseases, like diabetes (Ide et al. 2007; Cigna 2010, 2011).

## AREAS FOR GRANTMAKER INVESTMENT AND ACTION

Although the benefits of integrating oral health and primary care are evident, there are a number of barriers and practical challenges to achieving this goal. They include conflicting practice models, workforce needs, gaps in stakeholder education, and financial issues. Promising approaches for addressing these challenges are being implemented at state and local levels, many with philanthropic support, and leading areas of activity are summarized below. Some of the approaches in each area are supported by empirical evidence, while others are untested and have been identified by health funders as logical next steps worth exploring. More evaluation and assessment of all integration efforts will give the field a better sense of what works best in different communities and care settings.

- **Implementation of Integration Models** – The most obvious area where grantmakers can invest is in supporting the implementation of an integrated model. There are several models for integrating oral health and primary care that differ in scope and intensity (Munger 2012; National Maternal and Child Oral Health Policy Center 2011b). There are four general models: full integration, colocation, primary care provider service focus, and collaboration. Integration can occur along a continuum and through a variety of models, all of which share the goal of increasing patient access to dental and oral health services through the primary care system. No one approach should be considered the “gold standard.”

There are a number of populations and locales where implementing an integrative model would be relatively easy and potentially effective, such as school-based health centers and nursing homes. The patient-centered medical home movement is another opportunity for philanthropic support of integration. Given oral health’s links to larger patient outcomes, integration of care is a natural fit for this and similar quality improvement efforts. Investment in developing integrated electronic health record systems is another area for grantmakers to consider. It can be a positive step toward integrating oral health and primary care, if these systems can be adopted by multiple providers regardless of practice model.

- **Workforce Development** – Despite common historical roots, dental and medical services have traditionally been delivered separately via differentiated delivery systems (Maas 2012). Typically there is little to no communication between dental and medical silos, which has led to the mouth being treated as a separate entity from the rest of the body by medical and dental practitioners. Physicians and other medical personnel receive little or no training in oral health procedures or practices (Krol 2004; Ferullo et al. 2011). Dentists and other dental personnel conversely have little or no training working together, let alone in interfacing with the medical community or in operating in a multidisciplinary team (Okwuje et al. 2009).

There is a significant opportunity for health philanthropy to engage medical and dental professional associations and training institutions in implementing revised and enhanced curricula. Several funders have supported the Smiles for Life curriculum as a method for training primary care clinicians of all types and levels of experience in preventive oral health techniques. Funders can also consider grants to enable the development, evaluation, and implementation of curricula to train dental practitioners, especially dental school faculty, and students to work in team-based and group practice settings. Grants to support the development and implementation of interdisciplinary education programs are another way to help integrate oral health, as is working with schools and accreditation boards to remove accreditation standards that are barriers to implementing new curricula.

Leadership development is another important element of workforce development. There is evidence that medical-dental providers feel strong leadership from professional associations and states, including mandates supporting integrative approaches, can support increased integration of oral health and primary care (Traver and Kislak 2011). These programs can create a cadre of provider leaders to be vocal and credible advocates for policy change that supports system improvement, including within their own professional associations.

- **Stakeholder Education** – Limited public awareness of the need for dental care and dental disease prevention is a serious barrier that is especially prevalent among populations that could benefit most from

integrated oral health and primary care. The public often views dental care as secondary and generally has a poor understanding of oral health. If communities do not realize the necessity and benefits of accessing dental services and preventive care, integration into primary care faces an uphill battle. Therefore, raising awareness of oral health's importance to overall health and educating the public on attaining and maintaining good oral health are critical tasks. Grants to support this work can help improve prevention efforts and can also serve as a catalyst for generating community support for an integrated approach.

Educating primary care providers and important stakeholders operating within the system, such as insurers, is as important as educating the public because health practitioners are not always aware of the importance of oral health. Likewise, building support within administrative and clinical leadership can be critical to the success of integrative approaches (Traver and Kislak 2011). The policy community is another important stakeholder. Philanthropy can play an important role in calling policymakers' attention to oral health issues and services by serving as an information resource on the importance of oral health and its connection to overall health, including potential health care cost savings. Foundations can also work with policymakers to ensure that oral health is included when health care delivery and financing systems are being redesigned or reformed in the states. For example, funders can work with policymakers to include oral health in Medicaid managed care requests for proposals and in medical home legislation. As part of any policymaker and provider education effort, philanthropy can also be a critical player in mobilizing communities to engage with policymakers once they have identified oral health as a problem. The communities most at risk and most in need of oral health services are those least likely to be heard. Philanthropy can play a critical role in making their concerns heard and ensuring that their voices are valued.

- ***Integration as Part of Increasing Dental Provider Access*** – Integration of oral health and primary care in many cases requires access to dental providers, and there are many places that lack dental providers and lack providers willing to treat the underinsured, uninsured, and patients covered by public dental insurance. Research has shown that only 44 percent (12.9 million out of 29 million) of Medicaid-enrolled children receive dental care, and inability to access a dental provider is cited as a major contributing factor (Pew Center on the States 2011a). In all, about 20 percent of practicing dentists provide care to Medicaid beneficiaries, with fewer still who devote significant portions of their practices to treating these patients (HRSA 2012a).

The debate over how best to increase access to oral health and dental services provides a strategic window of opportunity to introduce the integration of oral health and primary care as part of the solution. While a number of different strategies have been discussed, such as creating new and expanding existing dental schools, a central issue in the debate concerns the extent to which alternative dental providers, or midlevel dental providers, can or should also be used to expand access to care. Alternative dental providers have a skill set between those of traditional dentists and dental hygienists. Because their training and typical scope of practice allow them to practice in satellite clinics that can be attached to or integrated with federally qualified health centers and other primary care systems, proponents suggest that alternative providers could both compensate for the serious shortage of dental providers in geographically isolated and low-income areas and also facilitate the integration of oral health and primary care. For example, some medical-dental providers suggest that these providers could be used to triage dental problems like medical nurses triage medical problems, coordinate care and on-call schedules between medical and dental providers, and assess the severity of patient dental conditions (Traver and Kislak 2011).

The topic remains controversial. While there is evidence suggesting that alternative providers are safe, effective, and can increase dental practice profitability and productivity, opponents have expressed concerns, among other things, about patient safety and quality of care (Wetterhall et al. 2010; Nash et al. 2012; Pew Center on the States 2010; NDA 2010). This is similar to the reactions seen over the years by medical professionals to the introduction of midlevel health care providers and definitions of their scope of practice.

- ***Reform Financing of Oral Health*** – The current financing system for dental care represents a serious barrier to integration because of the divide between medical and dental insurance realms. The resulting separation of billing creates barriers to formal relationships and coordination of services between medical and dental providers. The divide also impedes performance assessments by separating related procedures into two claims silos, creates separate sets of claims and diagnostic codes and terminologies, feeds a general perception of dental care as an “optional” service, and impedes medical professionals from performing basic dental services.

Given that the current system for financing and paying for dental and oral health services leaves many people without a means to pay for oral health services and actually hinders efforts to integrate oral health and primary care, there is interest among some funders in reforming the system. These grantmakers have worked with policymakers, dental and primary care providers, and insurers to develop reimbursement policies for oral health services provided by primary care clinicians. Opportunities also exist to support providers who are experimenting with and adopting accountable care organization models that focus on population health outcomes. Given that an integrated model of care can play a significant role in disease prevention for both dental and other chronic diseases, some funders have considered a focus on creating provider incentives for preventive oral health services.

- ***Research and Pilot Projects*** – There is a lack of documented research and experience on the subject of integrating oral health and primary care. The research base for the various models and approaches to integrating oral health and primary care is extremely limited; thus, there is a need for solid process and outcomes data. Not only is more evidence needed to validate different approaches to integrating oral health and primary care, but there is also a need to determine how best to implement different models. While there have been some state and local efforts to facilitate integration, there has not been much research on best practices and strategies. Some extrapolation from research on integrating behavioral health into primary care has yielded a starting point for researchers and practitioners, but focused research into oral health integration remains a critical gap.

Pilot projects related to the integration of oral health and primary care, using a chronic disease case management approach, have drawn funder interest. In particular, projects centered on diseases with cofactors, like diabetes or prenatal and perinatal health, where there is a strong research base linking the oral health of mothers and the health of infants, have drawn funder interest as viable areas for investment. Another area for potential investigation is clinical interventions commonly used in other fields, such as behavioral health, that can effectively integrate oral health and primary care.

- ***Setting an Example: Integrating Oral Health and Philanthropy*** – Health funders have an opportunity to lead by example and raise awareness of oral health’s importance by integrating oral health into their own work. For example, a request for proposals for a project to address community health disparities could include language giving priority to projects that incorporate oral health. Similarly, funders could consider including dentists or others with oral health expertise on their boards or advisory committees to act as a resource and champion for oral health within the organization.

Foundations can also share successes and failures of their integration efforts with one another. Nationally and locally, they can also consider including oral health in broader discussions and grantmaking related to integration of health services. Other fields, like behavioral health, have been working to integrate with primary care, although not in concert with oral health funders. Bringing everyone to the table in current and future high-level discussions of care integration could be a role of funders.

Philanthropy can make a significant contribution by taking on any number of roles: convener, researcher, educator, benefactor, and advocate. There is no gold standard approach to integration: each model has its own benefits and limitations that will require thoughtful assessment by all stakeholders. Grantmakers can play a leadership role in this effort and be powerful agents in reversing a century-and-a-half-long schism between the mouth and the body.

# TABLE OF CONTENTS

- INTRODUCTION** .....2
- SCOPE OF THE PROBLEM** .....3
- THE CASE FOR INTEGRATION** .....5
- PRACTICAL CHALLENGES AND CONSIDERATIONS** .....7
  - Traditional Separation of Services.....7
  - Provider Training and Skills .....8
  - Insurance and Financing .....8
  - Provider Access ..... 10
  - Public Awareness..... 11
  - Limited Research Base ..... 12
- PRACTICE MODELS FOR INTEGRATING DELIVERY AND FINANCING SYSTEMS**..... 13
- AREAS FOR GRANTMAKER INVESTMENT** ..... 16
  - Implementation of the Models..... 18
  - Workforce Development ..... 19
  - Stakeholder Education ..... 21
  - Integration as Part of Increasing Dental Provider Access..... 22
  - Reform Financing of Oral Health ..... 23
  - Research and Pilot Projects ..... 24
  - Setting an Example: Integrating Oral Health and Philanthropy ..... 25
- CONCLUSION**..... 26
- REFERENCES** ..... 27

## INTRODUCTION

Dental disease is one of the great preventable public health challenges of the 21<sup>st</sup> century. Labeled a “silent epidemic” by the U.S. Surgeon General, dental disease ranks high in prevalence among chronic health conditions (HHS 2000). It is universally prevalent, but a number of subpopulations are particularly vulnerable, including seniors, children and adolescents, low-income people, minority groups, and people with special health care needs (IOM 2011).

The persistence of barriers to treatment and care has generated an interest among funders and practitioners in new and innovative approaches to increasing access to quality care. A concept gaining traction in many circles is the coordination, and even integration, of oral health into primary care, reversing the traditional divide between medical and dental care that has essentially separated the mouth from the rest of the body.

While there is a difference between “integrating” services and “coordinating” services (see “Coordination/Collaboration versus Integration of Services” box), this Issue Brief focuses on integration from the broader perspective of

integrating oral health concepts, practices, and services into the primary care system, which can be accomplished either by coordinating or integrating services. As will be discussed, integration can occur along a continuum and through a variety of models, all of which share the goal of increasing patient access to dental and oral health services through the primary care system. No one approach is the “gold standard.” Careful evaluation and deliberation is necessary to determine what approach is best for a given community to reap the benefits of integration.

The Grantmakers In Health Issue Dialogue *Returning the Mouth to the Body: Integrating Oral Health and Primary Care* reinforced the case for integrating oral health into primary care and explored theoretical models for integration and real world applications. The Issue Dialogue also examined current opportunities in health care reform and existing federal policy for integrating care. Using this information, participants engaged in active dialogue to determine what next steps need to be taken and funders’ roles in supporting this work. This Issue Brief summarizes background materials compiled for the meeting and highlights key themes and findings that emerged from the day’s discussion.

### COORDINATION/COLLABORATION VERSUS INTEGRATION OF SERVICES

The terms *coordination* or *collaboration* are often used interchangeably with *integration* when discussing oral health being more closely attuned with primary care; however, there is an important distinction.

Collaboration or coordination of care is when oral health and primary care providers work with one another. In this case, patients perceive that they are receiving a separate specialist service from a dentist who works with their physician.

Integration is when oral health works within primary care. In this case, patients perceive that they are receiving dental services that are a routine part of their health care.

Source: Collins et al. 2010

## SCOPE OF THE PROBLEM

Dental disease is a highly prevalent and highly preventable health issue that affects people across the country. More than one in five people have untreated dental caries, or tooth decay (CDC 2012). While a number of subgroups experience dental disease in higher-than-average proportions, poor oral health is a widely pervasive public health issue that affects everybody, regardless of race, age, gender, and socioeconomic status.

Among the vulnerable groups in need of improved oral health, seniors are near the top of the list. Seniors have a high incidence of dental disease but often do not receive the treatment they need. According to the *National Health and Nutrition Examination Survey*, 23 percent of seniors age 65 or older have untreated dental decay (NIH et al. 2012). Moreover, at least 25 percent of adults over the age of 60 have lost all of their natural teeth (CDC 2006a). This is in part due to a lack of consistent or prevalent preventive measures from earlier in life, such as community water fluoridation and fluoridated toothpaste. Seniors' problems are compounded by over 400 common medications they take that cause dry mouth, which greatly increases the risk for dental disease. In addition, seniors and their caregivers tend to focus more on traditional health concerns (for example, heart disease, dementia, or stroke) than on oral health.

Even at younger ages adults are experiencing high incidence of dental disease. About 14 percent of middle-aged adults have severe periodontal disease, while 25 percent reported experiencing some form of facial pain in the last six months, and 1 in 20 are missing not some, but all, of their original teeth (CDC 2012). Significant racial disparities also exist for adults. Untreated dental caries in non-Hispanic black (40 percent) and Mexican-American (35 percent) adults ages 20 to 64 are significantly more prevalent than non-Hispanic white adults (19 percent) (CDC 2012). The disease burden is also more pronounced for low-income adults, with more than 40 percent of those ages 20 and up having at least one untreated decayed tooth. The same is true for only 16 percent of higher-income adults (CDC 2006b).

The burden of dental disease is especially high among children and adolescents. Every year an estimated 16.5 million children do not receive basic dental care for a variety of reasons (Pew Center on the States 2011a). In 2010 alone, 4.6 million children ages 2 to 17 in the United States (7 percent of the total population) did not receive needed dental care, simply because their families could not afford it (Bloom et al. 2011a). As a result, 16 percent, or nearly one in five, of all children and teens between the ages of 6 and 19 have untreated dental caries (CDC 2010).

### DEFINING DENTAL DISEASE

The dental and craniofacial diseases that affect a person's oral health include, but are not limited to:

- dental caries, or tooth decay;
- periodontal disease, or gum disease;
- oral and facial pain;
- oral and pharyngeal cancers, or mouth and throat cancers; and
- cleft lip and palate.

Source: HHS 2000

Low-income children with unmet dental needs fare far worse than the general population. About one-half of all low-income children and two-thirds of low-income adolescents suffer from dental caries. Furthermore, 25 percent of poor children and adolescents have untreated dental caries compared to 12 percent living at 200 percent of the poverty level or higher (CDC 2010; 2012). Uninsured children, who are disproportionately from low-income families, are six times more likely to have unmet dental needs than those with private dental insurance and four times more likely than those with public dental insurance.

Ethnic minority children also experience significant disparities. For instance, 23 percent of Mexican-American and non-Hispanic black children and adolescents have untreated dental caries compared to 13

percent of non-Hispanic white children and adolescents (CDC 2012). Likewise, 40 percent of Mexican-American children ages six to eight have untreated dental caries compared to only 25 percent of non-Hispanic whites (CDC 2011), and non-Hispanic white children are more likely than their black or Hispanic counterparts to have had contact with a dental professional in the last six months (Bloom et al. 2011). American Indian and Alaskan Native children ages two to four experience five times the rate of tooth decay of other populations (GAO 2000). A recent study also found that 39 percent of American Indian and Alaskan Native children ages one to five had untreated tooth decay and 36 percent needed early or urgent dental care (Phipps et al. 2012).

Children and adolescents with special health care needs are particularly vulnerable to dental disease and often face significant barriers to care. As defined by the U.S. Maternal and Child Health Bureau, children with special health care needs are those who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and who require health and related services of a type or amount beyond that typically required by children (McPherson et al. 1998). Of the 10.2 million children with special physical and mental health care needs, about 750,000 experience critical gaps in accessing dental care; they are also three times more likely to have unmet dental needs (National Maternal and Child Oral Health Policy Center 2011a). This unmet need has significant consequences as these children transition to adulthood, resulting in lifelong oral health challenges that are both costly and detrimental to general health (ASTDD 2011).

While dental disease is itself a discrete health concern, like many other chronic diseases it has broader health impacts. Poor oral health has been linked to increased risk for cardiovascular disease, diabetes, and other chronic conditions. Among adults who have lost their natural teeth, studies have shown that there is a significant impact on nutritional intake, resulting in the consumption of little or no fresh fruit and vegetables. Poor oral health also exacerbates other underlying chronic diseases. For example, diabetic patients with periodontitis are six times more at risk for worsening glycemic control and are at increased risk for other diabetic health complications (Mealey and Rose 2008).

Dental disease has a number of broader implications. Poor oral health in children has been shown to result in decreased academic performance and can adversely affect behavioral and social development. Over 51 million school hours are lost each year due to dental problems (Pew Center on the States 2011a). Poor oral health is even a national security concern. According to a study conducted by the U.S. Department of Defense, 52 percent of new recruits were in such need of urgent dental treatment that it would delay their deployment (Leiendecker et al. 2008).

## THE CASE FOR INTEGRATION

Integrating primary care and oral health makes logical sense for a number of reasons, ranging from the practical to the theoretical. Perhaps the most obvious benefit would be an increase in the effectiveness and efficiency of both dental and medical professionals in preventing disease. Preventable dental conditions contributed to an additional

830,590 emergency room visits nationwide in 2009, a 16 percent increase over three years, at a cost of hundreds of millions of dollars to states (Pew Center on the States 2012). By sharing information, providing basic diagnostic services, and consulting one another in a systematic and sustained manner, dental and medical professionals in integrated practice arrangements would have a far better chance of identifying disease precursors and underlying conditions in keeping with a patient-centered model of care. Integration would also raise patients' awareness of the importance of oral health, potentially aiding in their accessing dental services sooner rather than later.

Integration of care can also potentially improve chronic disease management and prevention. For example, research shows that there is at least a correlational association between atherosclerotic vascular disease (ASVD) and periodontal disease. Although no causal relationship has been established, the diseases share several common risk factors (Lockhart et al. 2012). Given this relationship, integration of oral health and primary care is a logical step in engaging patients in disease risk reduction. In the case of ASVD, periodontal disease can be viewed as a warning sign and potential source of pathology affecting a patient's vascular system (Patton 2012). Likewise, patients with a history of ASVD can receive more personalized interventions from dental providers to reduce their risk of periodontal disease. In each case, collaboration between and integration of medical and dental providers enhances these efforts over the current practice system. If evidence later reveals a deeper relationship between dental and other chronic diseases, integration of care would have an even more profound impact on disease treatment, management, and prevention.

According to the American Dental Association, an estimated 30 percent of the population has difficulty accessing dental services via the predominantly private practice delivery system (Glassman 2011). By expanding entry points into the dental care system, integration of oral health into primary care has the potential to improve access, especially for at-risk and underserved populations that typically have greater access to primary care professionals than to dental care. For example, children, who are a particularly vulnerable population, are seen and treated by pediatricians and school nurses far more frequently than by dentists, especially at younger ages. Likewise, seniors who live in institutions, including independent living facilities and skilled care units, typically receive consistent nursing and other professional health care. These medical professionals, with additional training, can more easily provide ongoing preventive oral health care than dentists in a traditional private practice setting (IOM 2011; IOM and NRC 2011).

Integration of dental and primary care also can help overcome patient-specific barriers to accessing services. For example, patient apprehension and anxiety regarding dental visits are a common experience for many people and act as a barrier to seeking ongoing dental care. An integrated model of care that would allow for "warm handoffs" from primary care providers to dental care providers is one possible strategy for overcoming this barrier. A warm handoff is a process by which a primary care clinician facilitates the introduction of a patient in need of additional services to an appropriate specialist. While this intervention has not been rigorously tested, anecdotal evidence from the behavioral health field suggests it is a simple and positive intervention that may be applicable to oral health (Munger 2012).

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*There is [no] recognition between the physicians and the dentists that there's a problem or that there's anything that they can do about it.*

*– Issue Dialogue Participant*

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Integration of dental and primary care also makes sense from a cost-savings perspective, given the linkages between dental and other chronic diseases. Evidence suggests that, when integrated with primary care, preventive dental care can play at least an indirect role in controlling health care costs (Cigna 2010). For example, studies have found that patients with severe periodontal disease incur much higher health care costs than patients with good oral health (Ide et al. 2007). Diabetes patients are among the groups at greater risk for periodontal disease. Those undergoing preventive treatment incur on average \$2,500 less in health care costs per year than patients with periodontal disease—a 23 percent reduction in costs (Cigna 2011).

## PRACTICAL CHALLENGES AND CONSIDERATIONS

While integration of oral health and primary care clearly makes sense from a theoretical perspective, there are numerous practical challenges to implementation on even a small scale. These challenges range from the systemic separation of primary care and dental practices to widespread access barriers.

*Care to maintain oral health is not dental care per se. Oral health care is a subset of primary care. After all, the mouth is part of the body.*

– William Maas

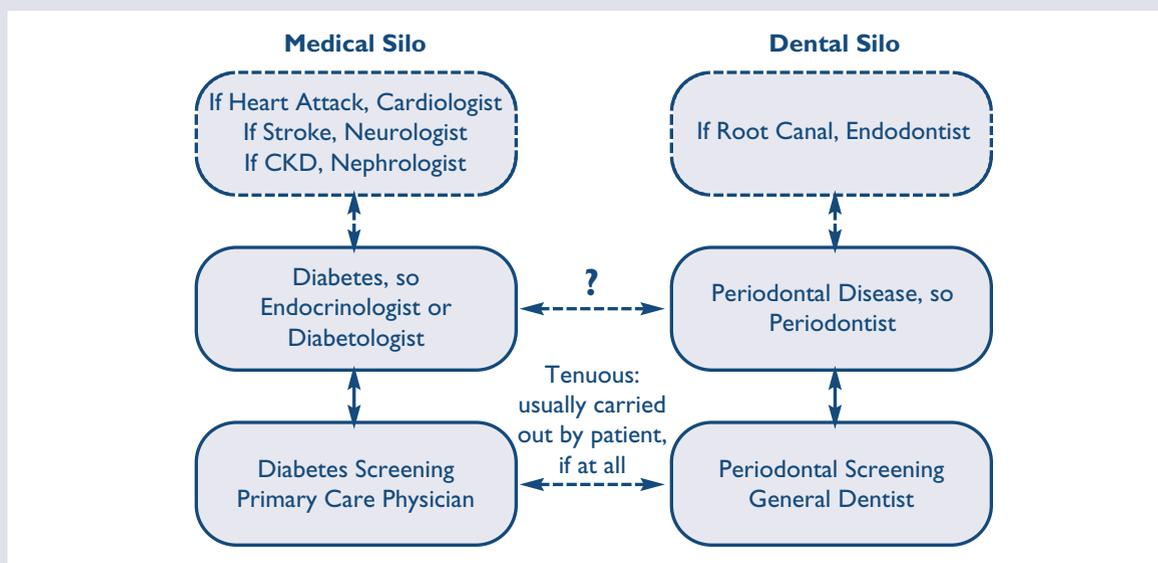
### TRADITIONAL SEPARATION OF SERVICES

Despite common historical roots beginning in the early development of surgery in 19<sup>th</sup> century, dental and medical services have traditionally been delivered separately via differentiated delivery systems. Where medicine branched from a surgical approach to include nonsurgical approaches to patient care, dentistry remained entirely focused on surgery until the 1950s. Even with the advent of other treatments and approaches, dentistry remains primarily surgical- and procedure-based (Maas 2012).

Dental services are largely provided through private, independent practices with little or no ties to any medical practice or system. The typical practice consists of one or two dentists with a dental hygienist, dental assistant, and an office manager. Except in certain public health and community health center settings, dentists rarely interact with non-dental health professionals such as primary care physicians.

As demonstrated in Figure 1, typically there is little to no communication between the dental and medical care practitioner silos. In this example, the flow of information about the diagnosis and treatment of

**FIGURE 1. FLOW OF INFORMATION IN PATIENT CARE FOR PROVIDERS**



Source: Powell and Din 2008

diabetes is heavily reliant upon the patient acting as the conduit, which is not only a serious burden on the patient, but also an unreliable means communicating critical health information. Unfortunately, this scenario is more the norm than the exception despite a growing recognition of the value and importance of integrated (or at least coordinated) care systems.

This history notwithstanding, there are signs that changes in medical and dental practice are making both fields more conducive to an integrated approach. With the rise of accountable care organizations (ACOs), medical homes, and other group practice models, primary care physicians are gravitating toward alignment with larger practice systems and organizations, and dentistry may be following a similar trend (Medical Group Management Association 2010). According to the American Dental Association, large dental practices have grown in number by 25 percent over the past two years, while solo practices have decreased from 76 percent of all dental practices in 2006 to 69 percent in 2010 (Fox 2012a). With the rising costs of dental school and establishing and maintaining a solo practice, new dentists appear to be more open to working in a group practice or for a larger system or organization.

### **PROVIDER TRAINING AND SKILLS**

Despite the high prevalence of oral health disease and its far-reaching impacts, medical and dental practitioners effectively treat the mouth as a separate entity from the rest of the body. Physicians and other medical personnel receive little or no training in oral health procedures or practices (Krol 2004; Ferullo et al. 2011). Meanwhile, dentists and other dental personnel conversely have little or no training working together let alone in interfacing with the medical community or in operating in a multidisciplinary team (Okwuje et al. 2009). This is largely a result of the longstanding traditional separation of the dental and medical fields, and has implications for how little physicians and dentists and their respective clinical care teams know about how to communicate and support their patients' oral health.

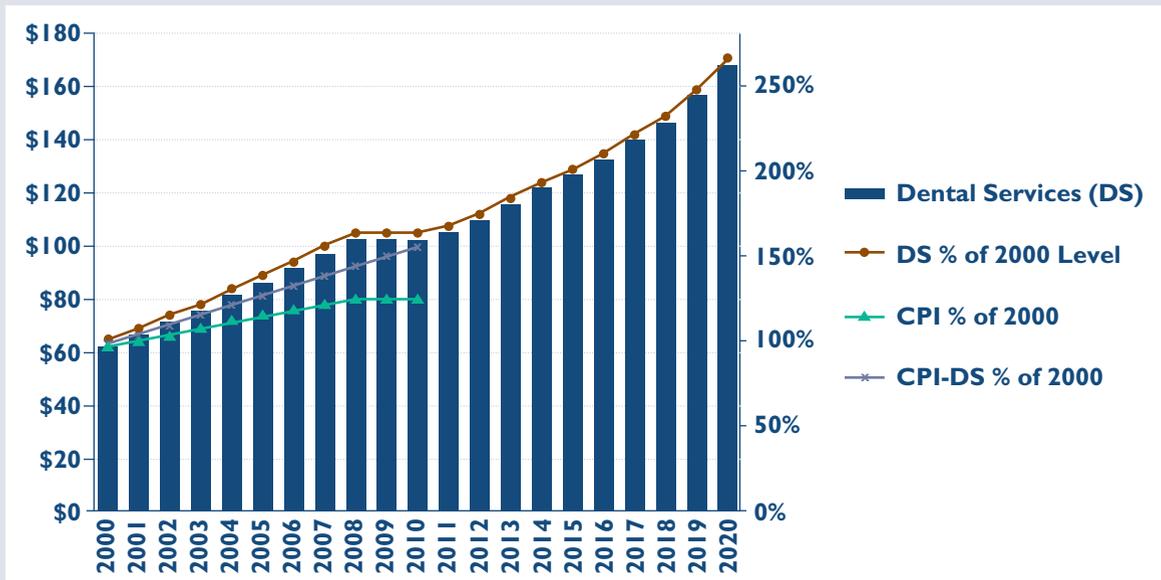
Promising developments with nurses and other non-physician providers suggest that this situation is changing. For example, there are instances where primary care providers have been trained and enlisted to provide oral health services. This is typical in school-based programs, such as one managed by Hamilton Health Center in Harrisburg, Pennsylvania, that uses nurses and other personnel to provide oral health assessments and fluoride varnish treatments (Pekruhn and Strozer 2010).

### **INSURANCE AND FINANCING**

A critical challenge facing any attempt to integrate oral health and primary care is the current financing system for dental care. A significant number of children and adults simply do not have the means to pay for dental services because they lack dental insurance coverage, either public or private. Furthermore, barring some exceptions, medical insurance does not typically reimburse providers for dental services. Without basic financial support to pay providers for services, meaningful integration of care becomes moot.

Despite the overwhelming evidence reflected in the disease burden and unmet need, lack of access to proper dental care continues to be a pervasive issue. According to the *2008 National Health Interview Survey*, 45 million Americans (about 25 percent) under the age of 65 with private medical insurance had no dental coverage; low-income and less-educated people were even less likely to have dental insurance coverage (Bloom and Cohen 2010). Other studies place the number of total Americans without dental insurance at around 100 million, about twice the number (50.7 million) who currently lack medical insurance (The Henry J. Kaiser Family Foundation 2009).

Rapidly increasing dental care expenditures are also a threat to service access, given that affordability of care is a significant barrier to accessing care (California HealthCare Foundation 2008). The Centers for Medicare and Medicaid Services projects that U.S. national dental expenditures will triple by 2020 to \$167.9 billion (see Figure 2) (Glassman 2011). In 2008 out-of-pocket dental expenditures accounted for \$30.7 billion or over 22 percent of all out-of-pocket health expenditures, making dental expenditures second only to those

**FIGURE 2. U.S. NATIONAL DENTAL EXPENDITURES 2000-2020**

Source: Glassman 2011

for prescription drugs (Glassman 2011; U.S. Bureau of Labor and Statistics 2012). While these costs most dramatically affect the uninsured and underinsured, they might increasingly affect those with comprehensive dental insurance as well.

Historically, federal and state governments have not provided comprehensive dental benefits through public insurance. While children enrolled in Medicaid have received dental benefits under the Early Periodic Screening, Diagnosis, and Treatment (EPSDT) requirements, the same has not been true of Children's Health Insurance Program (CHIP) enrollees. In the past, some jurisdictions, like the state of Washington, provided coverage for children enrolled in CHIP, but many states either provided no benefits or provided limited or capped benefits not equal to EPSDT requirements (Hess et al. 2011). A number of states have also attempted to increase preventive dental services for children by reimbursing primary care providers for services. For example, more than 40 states reimburse non-dental providers for fluoride varnish application through Medicaid, although many states impose restrictions on when these clinicians can apply varnish and be reimbursed (Pew Center on the States 2011b; Martin et al. 2012).

With the passage of the Patient Protection and Affordable Care Act (ACA) in 2010 and the Children's Health Insurance Program Reauthorization Act (CHIPRA) in 2009, pediatric dental benefits are now required offerings as part of the essential benefits package in both state health insurance exchanges and state CHIP benefits respectively. By 2014 these regulations will result in dental coverage for an estimated 5.3 million additional children through Medicaid and CHIP, a significant increase although still short of universal coverage (Pew Center on the States 2011a). State health insurance exchanges that offer stand-alone dental plans will be required to offer child-only plans, which could potentially further increase coverage for children whose families cannot afford family plans. Under ideal conditions, up to 27 million uninsured children might receive dental insurance coverage through the exchanges (Leary 2012).

Unfortunately, comprehensive adult dental benefits are not specifically addressed in either piece of legislation and, excepting federally required emergency service coverage, will likely remain an optional benefit for state Medicaid programs. Only a handful of states, such as Michigan, provide comprehensive dental coverage for adults, and it is often one of the first benefits to be targeted in state budget cuts. The same holds true

in principle for state health insurance exchanges, where states may or may not choose to offer affordable comprehensive medical plans that include dental benefits or traditional stand-alone dental insurance options. Likewise, for older and disabled adults enrolled in Medicare, there is no comprehensive dental benefit provided; in fact, coverage for routine services and preventive care is denied via statutory exclusion. Even adults who are employed and receive medical benefits often find themselves without dental coverage. In 2010 only 47 percent of firms offering medical benefits offered or contributed to a separate dental plan (The Henry J. Kaiser Family Foundation 2010).

Adults' inability to obtain dental services affects their children. Studies have consistently found that if parents do not access dental care for themselves, their children are far less likely to obtain dental services (Isong et al. 2010). Thus, despite advances made in the ACA and CHIPRA, without similar efforts to cover the rest of the family, there may be only modest increases in actual child access to dental services.

A significant issue with regard to current coverage is the separation of dental and medical insurance. Where medical insurance typically provides coverage and payment for acute, unpredictable, and expensive hospital services, dental insurance provides prepayment for predictable events, such as cleanings, and requires high copayments for all other discretionary and rehabilitation services. The result is two very different approaches to paying for the treatment and prevention of disease that further reinforce the popular perception of oral health being a personal responsibility and dental care being “discretionary” or “elective” (Maas 2012).

The divide between the two insurance realms reinforces larger obstacles to integrating dental and medical care. The current system requires dental and medical billing to be done separately in discrete and different formats and systems, which in turn:

- creates barriers to formal relationships and coordination of services between medical and dental providers,
- impedes performance assessments by separating related procedures into two claims silos,
- creates separate sets of claims and diagnostic codes and terminologies,
- feeds a general perception of dental care as an “optional” service, and
- impedes medical professionals from performing basic dental services.

The impediment of performance assessments is of particular concern given the current interest in using such assessments as part of outcomes-based cost-reduction strategies. Ultimately, the current payment structure simply is not flexible enough and adds too many administrative barriers to the integration of oral health and primary care.

Payment reforms that move away from fee-for-service and procedures-based reimbursement toward pay-for-performance or outcomes-based payment would greatly reduce the payment barriers to integrating oral health and primary care. The case for integration becomes very strong when the payment system supports disease prevention and a patient-centered approach: oral health can simply become part of the standard of care. However, while this trend is increasingly supported by state and federal policies, particularly with ACOs under the ACA, and is being experimented with by some providers and insurance entities, it will take time for reforms to supersede and replace the current system (Families USA 2012).

## **PROVIDER ACCESS**

Integration of oral health and primary care in many cases requires access to dental providers. Even in cases where primary care providers provide preventive oral health services (discussed in the next chapter on mod-

els), there are clearly services and expertise that require dental professionals.

Unfortunately there are many places that lack dental providers or lack providers willing to treat the underinsured, uninsured, and patients covered by public dental insurance. Despite recent policy successes to expand dental coverage for children through the ACA and CHIPRA, these efforts may fall short as a result. Research has shown that only 44 percent (12.9 million out of 29 million) of Medicaid-enrolled children receive dental care, and inability to access a dental provider is cited as a major contributing factor (Pew Center on the States 2011a). In all, about 20 percent of practicing dentists provide care to Medicaid beneficiaries, with fewer still who devote significant portions of their practices to treating these patients (HRSA 2012a).

Dentists' unwillingness to treat publicly insured and uninsured patients has been attributed to a number of factors. In many cases, state reimbursement rates are below what is considered "fair market" value. Coupled with large dental student indebtedness, this creates a disincentive to establish dental practices in low-income, rural, and geographically remote areas. Others have cited large administrative barriers, claiming that participation in Medicaid results in more paperwork and other related billing issues (Thomas 2009). The pervasive

underrepresentation of ethnic minorities and women in dentistry is also a factor because the race and gender of patients have been shown to play a role in determining both who dentists will treat and patient experiences with those providers (Edelstein 2006). Many dentists are often not well prepared to treat groups that are represented in the Medicaid population, including ethnic minorities, seniors, young children, and lower-income patients.

Current state dental practice laws are an additional, and significant, barrier to provider access. In the majority of states, these laws are very prescriptive about who can provide various oral health services. In most cases, these laws limit or disallow non-dentists from administering any oral health-related treatments. As a result, primary care physicians and other non-dentist providers have been legally barred from providing dental treatment to patients, regardless of circumstance (Behrens and Lear 2011).

## **PUBLIC AWARENESS**

There is a pressing need for greater public education about oral health care and dental disease. A recent national survey conducted by the American Dental Association found such significant gaps in consumer knowledge that it gave the nation a "D" grade (Fox 2012b). Knowledge gaps are especially prevalent among populations that could benefit most from integrated oral health and primary care. For example, a recent national survey of Hispanics found that 30 percent believe cavities will go away on their own through regular tooth brushing (Hispanic Dental Association et al. 2011). The survey also found many knowledge gaps among Hispanic parents even though 82 percent considered themselves to be an excellent or a good source of information for their children about oral health habits.

If the public, especially those communities most at-risk and underserved, does not realize the necessity and benefits of accessing dental services and preventive care, integration into primary care will face an uphill battle and will lack broad support from the community. Paradoxically, integration of oral health into primary care could be a solution to the problem of misinformation and low awareness about oral health issues.

### **DENTAL HEALTH PROVIDER SHORTAGE AREAS**

As of May 2012 there are 4,552 dental health provider shortage areas (DHPSAs) that contain about 49.7 million people. In order to provide an acceptable provider-to-population ratio in these areas, it would take 9,846 dental practitioners. Unfortunately, DHPSAs are typically less densely populated rural areas or low-income urban centers, locales that, for financial and other reasons, do not traditionally attract providers.

Source: HRSA 2012b

### **LIMITED RESEARCH BASE**

Perhaps one of the greatest challenges to integrating services is the lack of a strong evidence base on the subject. While there have been some state and local efforts to facilitate integration, there is insufficient documentation of best practices and strategies. Likewise, there have been few large-scale, evaluated efforts to fully integrate oral health into primary care. Projects in Colorado (sponsored by the Colorado Delta Dental Foundation), Washington (sponsored by the Washington Dental Service Foundation), and Michigan (through grants awarded by the Department of Community Health) that looked at the feasibility of co-located dental and primary care services have perhaps been the most notable attempts to date (see the section on practice models for more information about colocation) (National Maternal and Child Oral Health Policy Center 2011b). Some extrapolation from research on integrating behavioral health into primary care has yielded a starting point for researchers and practitioners, but focused research into oral health integration remains a critical gap.

## PRACTICE MODELS FOR INTEGRATING DELIVERY AND FINANCING SYSTEMS

Models for directly integrating or coordinating oral health and primary care range in scope and intensity (see Figure 3) (Munger 2012; National Maternal and Child Oral Health Policy Center 2011b). No one approach will fit every community given the range of resources and infrastructure. As in public health and behavioral health, it is possible for integration of oral health and primary care to occur along a continuum (see Figure 4). Each model has pros and cons that need to be assessed when considering the best approach in a given state or community.

**FIGURE 3. OVERVIEW OF PRACTICE MODELS**

Model	Level of Integration
Full Integration	High
Colocation	Moderate
Primary Care Provider Service Focus	Moderate
Cooperation and Collaboration	Low

One end of the continuum attempts to merge dental providers into the primary care setting, the goal being, more or less, to make oral health like any other medical service specialty provided within a primary care setting. The archetype for this approach is a model that fully integrates dental and primary care practice (also known as “colocation, operationally integrated”). The model uses a team approach in which dentists and other specialized oral health professionals provide a wide array of preventive and restorative treatments alongside primary care providers and other health professionals. It allows for full sharing of information between providers, as well as a systematic structure for regular consultation of providers to treat and maintain the health of patients. At present, this model is rarely seen outside certain clinics at children’s hospitals and other specialty clinics and, at least in theory, in a small number of health maintenance organization and ACO settings. The approach requires a significant investment to develop the appropriate facilities, provider training, and infrastructure. An example of an effort to implement this model is the Oral Health Disparities Pilot sponsored by the Health Resources and Services Administration. In this pilot, four centers experimented with and investigated the components and characteristics of full integration, resulting in preliminary guidelines for medical practices wishing to integrate oral health and primary care (HRSA 2008).

A step removed from a full merger is the colocation model (also known as “colocation, operationally separate”). It is similar to full integration, but changes in the physical arrangement of practice are less dramatic. While providers are located in the same physical space, there is no health team that formally coordinates patient care. Instead providers operate independently of one another but can openly share information and more easily refer and follow up with patients because of provider proximity. An advantage of this approach is that provider practice models are essentially left intact, which can lower provider resistance and apprehension. Essentially, dental and primary care providers enter a partnership that can act as a direct stepping stone to a fully integrated model. Several federally qualified health centers (FQHCs) and some

**FIGURE 4. CONTINUUM OF INTEGRATION**

Source: Adapted from IOM 2012

school-based health centers (SBHCs) have implemented this model. Support from foundations and the states is the typical avenue for funding this approach, while insurance reimbursement and other financial arrangements between the colocated providers can help sustain the arrangement. An example of this model is the Colorado Dental Hygienist Co-location Project. Supported by the Colorado Delta Dental Foundation, the project colocates dental hygienists in primary care settings (Traver and Kislak 2011).

In some cases, particularly where geography and dental provider availability are an issue, colocation can be achieved virtually. In these instances, dentists remotely consult and assist in the treatment of patients in primary care and community health settings, using various Web and Net technologies. Typically the dentist will work with a dental hygienist with more advanced training (or a similar provider depending on state practice laws) who may or may not be part of a primary care or community health practice. Usually the dentist will assist in developing treatment plans, and in some cases, using webcam technologies, will supervise more advanced procedures. Like the physical colocation model, philanthropy and states are key funders. Insurance reimbursement and contractual arrangements between the dentist and primary care provider would also be necessary to sustain this approach.

A third approach within the continuum focuses on instilling oral health concepts and practices within primary care practices. The goal is to incorporate oral health as part of a patient-centered, preventive approach to primary care that is more or less independent of dentistry. Primary care health professionals provide preventive oral health services independent of dental providers. Dental providers continue to provide advanced dental services independent of primary care practices. While there may or may not be capacity for consultation with, and referral to, a dental health professional, this approach focuses primarily on integrating oral health as part of the disease management standard of care within a primary care or community health practice. Services typically include screening, risk assessment, anticipatory guidance or health education, and application of fluoride varnish. This model is especially attractive in areas where the capacity of the oral health service system is limited for various reasons. It is usually reliant on primary care health professionals being able to bill for oral health services in some capacity (such as directly for individual procedures or as part of a bundled set of services). Group Health is an example of this model approach ([see “Group Health” box, page 24](#)).

At the opposite end of the continuum from a fully integrative model is an approach that provides infrastructure for cooperation and collaboration between primary and dental care. Typically, this model provides a system for active follow-up and referral between primary care and dentistry. It is, more or less, a formal system of checks and tracking of patients between providers. Often times, this model is used when primary care facilities contract with dentists. The most common examples of this are found in FQHCs and SBHCs. Funding for this strategy can range from grantmaker support and public grants to insurance incentives. While it is the least integrative approach, this collaborative model can be a first step to integration for many communities.

Each of the practice models can be augmented using additional strategies, ranging from incentives to various infrastructure changes. For example, joint financial arrangements are a coordinated approach where oral health and primary care providers enter an agreement involving shared financial risk and opportunity. Providers may or may not be colocated, but the financial arrangement creates a system of shared concern about patient treatment and outcomes. Such an approach can provide incentives for mutual referrals and treatment agreements. For example, financial incentives may be given for primary care providers who provide dental screenings and dentists who provide basic medical screenings. An ACO would be an example where this type of arrangement could be implemented. State public insurance regulations and private insurance incentives are the method for funding and sustaining this approach.

Integration can also be assisted through the use of health information technology, overcoming basic communications infrastructure issues by using digital

records and coordinated or linked information networks. Ideally this strategy will create a shared electronic health record for patients that is accessible to both oral health and primary care providers. If properly executed and maintained, this approach would easily facilitate the transmission of pertinent information regarding patient treatment and health status among otherwise independent providers. The strategy requires significant investment by providers, which could be offset by government and foundation grants and other financial incentives.

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*There are some bright spots all around the country of examples of programs that are doing some really phenomenal work and yielding some phenomenal outcomes.*

*– Issue Dialogue Participant*

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## AREAS FOR GRANTMAKER INVESTMENT

Despite myriad challenges to integrate oral health and primary care, there are some promising approaches to addressing the problem (see Figure 5). Many were discussed at the Issue Dialogue, some of which have been considered by, and have support from, oral health and medical practitioners and experts (U.S. National Oral Health Alliance 2011). Promising approaches for addressing these challenges are being implemented at state and local levels, many with philanthropic support. Some of the approaches in each area are supported by empirical evidence, while others are untested and have been identified by health funders as logical next steps worth exploring. More evaluation and assessment of all integration efforts will give the field a better sense of what works best in different communities and care settings.

**FIGURE 5. POTENTIAL GRANTMAKER INVESTMENTS OR ACTIONS**

Investment Area	Investment	Rationale
<b>Implementation of Models</b>	Implement the colocation model	Minimal change to existing popular practice models, stepping stone to full integration
	Focus implementation on school-based health centers and nursing homes	Target at-risk populations, locations where team approach to care is common
	Add oral health integration into patient-centered medical home and other quality/patient-outcomes improvement initiatives	Builds on pre-existing work where grantmakers have already invested, logical case for oral health integration to improve outcomes/quality
	Integrated electronic health record systems	Tangible investment, potentially affect multiple providers, support integration efforts regardless of model approach
<b>Workforce Development</b>	Joint dental and medical courses	Create early opportunities for interprofessional interaction
	Joint residencies and practicums	Create opportunities for interprofessional interaction in a clinical setting, help create new generation of practitioners trained to work as a team
	Oral health education for primary care professionals and students (implement programs using curriculum like Smiles for Life)	Educate current and next generation of primary care professionals on importance of oral health and their role, increase their willingness to integrate oral health in their own practices
	Team-based training for dental professionals and students (develop and evaluate curriculum, implement programs)	Educate new and current generation of dental professionals to work in team-based settings, increase willingness and odds that dental care will be part of medical team and similar integrative approaches to patient-centered care
	Oral health leadership development for dental and primary care professionals	Develop advocates for change and integration, bridge gaps between professions, create cadre of trainers

Investment Area	Investment	Rationale
<b>Stakeholder Education</b>	Public education campaigns	Raise awareness of importance of oral health as part of overall health outcomes; raise community demand for services, including in primary care setting; integration of oral health service in primary care setting increases opportunities for raising patient awareness of importance of oral health
	Primary care education	Raise awareness in primary care of importance of oral health to the overall health of patients, increase demand/support for training opportunities
	Policymaker education	Generate support for oral health, such as incorporating oral health into primary care policies and programs
	Community mobilization	Help increase policymaker support for programs and policies, increase provider buy-in for integrating services
<b>Integration as Part of Increasing Dental Provider Access</b>	Integrate alternative or existing dental providers into primary care settings	Increase dental access and integration with primary care in dental health provider shortage areas and other low-access communities
	Convene stakeholders, include integration as an option to increasing access within the alternative provider debate	Additional, potentially less-threatening option to increase access for alternative provider opponents; potential stepping stone toward buy-in for alternative providers
<b>Reform Financing of Oral Health</b>	Work with stakeholders to reimburse and remove administrative barriers for wide range of oral health services provided by primary care clinicians	Remove significant barriers to integrating oral health and primary care
	Assist providers by reimbursing for services in demonstration and pilot projects	Remove significant obstacle to implementing models, allow project to focus on other critical components to develop and sustain program
	Research and support alternative dental business models that integrate oral health and primary care	Finding profitable alternatives will boost dental professional buy-in to integration, potential to increase access for underserved populations
<b>Research and Pilot Projects</b>	Pilot projects with solid evaluation and data collection plans	Build evidence base for integration, develop best practices for implementing various models
	Chronic disease management focus (heart disease, diabetes, and pre- and perinatal)	Strong evidence and support due to cofactors make this a “low-hanging fruit” opportunity

Investment Area	Investment	Rationale
<b>Setting an Example: Integrating Oral Health and Philanthropy</b>	Recruit dentists and other oral health experts to grantmaker boards or advisory committees	Have an expert and a champion to draw upon
	Integrate oral health into broader work	Facilitate integration of oral health through example and prioritization, raise awareness among grantees and community of oral health's importance
	Bring dentists and oral health advocates into other work, such as chronic disease management and prevention	Facilitate integration of oral health through example and prioritization, raise awareness among grantees and community of oral health's importance
	Share success stories and other data regarding integration within philanthropic community	Build philanthropy's case for various approaches and models to integrate oral health and primary care, encourage other grantmakers to invest
	Coordinate with other integrative efforts (such as behavioral health and public health)	Coordinate efforts, ensure oral health is not continued to be omitted from the primary care service discussion, piggyback onto other initiatives

## IMPLEMENTATION OF THE MODELS

The most obvious area where grantmakers can invest is in supporting the development and implementation of an integrated model. Because there is no gold standard or one-size-fits-all approach to integrating oral health and primary care, community and provider surveys can provide the basis for identifying the most promising approach. Many grantmakers have indicated an interest in exploring the colocation model, which they see as a good first step toward full integration because primary care and dental practices would remain operationally separate. This model allows dentists to keep a more traditional practice while interacting more closely with primary care practitioners.

There are a number of populations and locales where implementing an integrative model would be relatively easy and potentially effective. For example, SBHCs provide access to children, one of the most at-risk populations for dental disease. SBHCs, like FQHCs, are conducive to team-based approaches and already have experience integrating oral health and dental services into their mission. In one instance, the Highmark Foundation supported the start-up costs for collocating dental providers in SBHCs until insurance payments could sustain the program (Pekruhn and Strozer 2010). Nursing homes are another setting to consider for reaching the high-risk population of older adults. For example, the John Muir/Mt. Diablo Community Health Fund in California supports La Clínica de La Raza in Contra Costa County to place dentists at nursing home and senior center sites through formal partnerships to deliver high-quality oral health care and education.

The National Committee for Quality Assurance's patient-centered medical home movement is another opportunity for philanthropic support of integration. Foundations can approach providers, especially those who already participate and receive funding, and support the integration of oral health and primary care as part of new quality improvement initiatives. Given oral health's links to larger patient outcomes, integration of care is a natural fit for this and similar quality improvement efforts.

Investment in developing integrated electronic health record (EHR) systems is another area for grantmakers to consider. The Marshfield Clinic (see text box) has demonstrated that an integrated EHR that includes patient dental data along with other pertinent health information can have a significant impact on integrating and coordinating care, especially for chronic diseases. It is also a step in the right direction if these systems can be adopted by multiple providers regardless of practice model.

### **WORKFORCE DEVELOPMENT**

A major issue affecting the implementation of most integration models is the current state of the workforce. Generally in oral health there is a lack of provider capacity, training, and experience in operating in cross-disciplinary or integrated settings (Krol 2004; Ferullo et al. 2011). Likewise, primary care providers are generally untrained in oral health procedures and practices (Okwuje et al. 2009). Given this situation, there is a significant need to develop the primary care and dental workforces by providing future and existing providers with the skills needed in order for integration to succeed.

A handful of dental and medical schools have started to collaborate to create opportunities for dental and medical students to work together. At the basic level, schools have started to consider making changes to their curriculum. Some medical schools have begun to develop courses in oral health for medical students or even partnered with dental schools to allow their students to take courses with dental students. For example, the University of Connecticut Medical and Dental Schools have their students participate in biomedical science courses together (University of Connecticut 2012). At Harvard, dental medicine and medical students are together for their first two years of preclinical science (Harvard School of Dental Medicine 2012). Likewise, some dental schools, such as the University of Washington, have offered coursework in oral health to medical students (Mouradian et al. 2005). While these joint coursework efforts may not affect the actual practice of new providers, they are a valuable first step that increases mutual awareness of the other's field. Ultimately, these courses can act as a stepping stone to new training opportunities.

More advanced efforts that provide students with integrative work experience have focused on developing cross-disciplinary or joint residencies and other training practicums or "collaboratoriums." In most cases, dental and medical students/residents participate together in a structured health team. These programs do not need to be limited to medical and dental students and can include dental hygienists, physician assistants, nurses, and other health practitioners. The residency or training practicum may use a cross rotation model where students of various types (for example, pediatricians, pediatric dentists, internists, family practitioners) rotate together as a team to various sites. Generally, these training opportunities take place in FQHCs and other community health settings. They can range from a truly integrated model to a colocated model approach. For example, the Michigan Department of Community Health seeded grants that resulted in the University of Michigan Dental School rotating students into community health centers (ASTDD 2010). Another example is a medical-dental center in Rhode Island that exposes dental residents to increased communication and coordination with its medical staff and regularly has the residents interact and coordinate care with their medical colleagues (Traver and Kislak 2011). The goal in each case is to help make new providers be more receptive and prepared to working together.

### **NATIONAL INTERPROFESSIONAL INITIATIVE ON ORAL HEALTH**

At the national level, grantmakers have invested in developing both oral health leadership and primary care training in oral health through the National Interprofessional Initiative on Oral Health (NIIOH). Established in 2009, the NIIOH has engaged and developed leaders from a number of primary care professions to demonstrate how oral health can be included in the education and training experience of their professions. The NIIOH has also facilitated work across the primary care and dental professions, which includes interprofessional agreement on common tools, such as competencies, and support for the development of the Smiles for Life curriculum.

Source: NIIOH 2012

There has been some effort to train primary care and other medical professionals in oral health practices and procedures. Most commonly this has centered on preventive care and treatment, including screening, risk assessment, anticipatory guidance or health education, and application of fluoride varnish. The most effective and widely used training tool has been Smiles for Life, a comprehensive and evidence-based oral health curriculum for both students and practicing primary care clinicians (Douglass et al. 2010). Some training programs for medical professionals have also incorporated oral health into their curricula. For example, the Physician Assistant Program at the University of Colorado-Denver provides oral exam workshops, has dental students teach fluoride varnish and oral health screening, and includes a third year observational experience at the Children's Hospital Denver dental clinic. Historically, continuing education opportunities in working with primary care and providing primary care services have been limited for dentists and other oral health practitioners. That is changing: a recent example is a new continuing education course series aimed at

### **MARSHFIELD CLINIC MARSHFIELD, WISCONSIN**

Marshfield Clinic is one of the largest private, nonprofit, multispecialty group practices and federally qualified health center programs in the United States. It has 54 locations throughout northern, central, and western Wisconsin that include eight dental clinics (nine by the end of 2012), employing 44 dentists. Marshfield's 35-year-old electronic health record (EHR) system is one of the oldest and most robust in the country.

Marshfield approaches dentistry as one of the 86 medical specialties it provides to address patient needs, rejecting the traditional professional divide that removes the mouth from the body. Marshfield also considers the integration of oral health into its primary care mission to be a pragmatic strategy for improving outcomes and reducing costs. The overall approach has been to increase oral health access, make it interprofessional, include oral health procedures and metrics in overall medical quality metrics, integrate care, and justify reimbursement for oral health services. To this end, Marshfield elected to focus on providing care for the 5 percent of the population who are medically compromised and account for about 50 percent of the care.

Marshfield's dental centers are beginning to incorporate oral health in chronic disease quality metrics used as part of a physician group practice demonstration project with the Centers for Medicare and Medicaid Services (CMS) (for example, incorporating quality metrics for periodontal exams for diabetes patients), and have integrated dental care into the EHR system. Funded in part by Delta Dental of Wisconsin, EHR integration not only provides a comprehensive dental patient record, but also clinical decision support tools for cross-disciplinary care management. These tools will have a dramatic diagnostic impact. For example, Marshfield estimates that, on average, four undiagnosed adult diabetic patients and 38 pre-diabetic patients pass through a typical dental practice annually.

The results suggest a net savings per patient encounter to Medicaid and an increase in access to oral health services. Based on third-party payer data and costs, Marshfield estimates that the country would save around \$4.2 billion if adult diabetics were provided oral health care, which further justifies the argument for the integration of care in their view.

Based on CMS-416 report data from 2008, where Wisconsin ranked 46 out of 48 states reporting access for children (24.6 percent), the counties where Marshfield operates have among the best dental utilization rates in the country (41.7, 48.4, and 56.9 percent). Marshfield has also seen a rolling average of a 3 percent reduction in the cost per patient per visit as a result of providing oral health care and meeting patient oral health needs.

Source: Kilsdonk 2012

increasing collaboration between physicians and dentists to screen patients at risk of heart disease, diabetes, and stroke (Kincade 2012).

There is a significant opportunity for health philanthropy to engage medical and dental professional associations and training institutions in implementing revised and enhanced training curricula. The Smiles for Life curriculum is an easy and proven method for training

primary clinicians of all types and levels of experience. The Washington Dental Service Foundation has used it since 2003 to conduct primary care medical provider trainings, and has trained nearly one-third of all practicing physicians in the state. Foundations can also consider supporting the development, evaluation, and implementation of curricula to train dental practitioners, especially dental school faculty, and students to work in team-based and group practice settings, or consider grants to support the development and implementation of interdisciplinary education programs that include oral health.

A limiting factor to implementing new curricula and training opportunities at universities is program accreditation standards and boards. If these standards do not allow, or do not require, programs to provide cross-disciplinary training opportunities and curricula, silos between primary care and dental training programs are likely to persist. Foundations can work with schools and accreditation boards to remove these barriers, and even provide programs with an incentive to pursue interprofessional education.

Leadership development is another important element of training. There is evidence that medical-dental providers feel strong leadership from professional associations and states, including mandates, can support increased integration of oral health and primary care (Traver and Kislak 2011). Programs like Oral Health Champions, which has been tested in Kansas, can create a cadre of provider leaders to be vocal and credible advocates for policy change that supports system improvement, including within their own professional associations. Participants in Oral Health Champions come from various fields beyond dentistry, and issue divides have been bridged through the sharing of a common, intensive experience.

## STAKEHOLDER EDUCATION

The public often views dental care as secondary and generally has a poor understanding of oral health, so raising public awareness of the importance of oral health to overall health is critical. Not only can such efforts help improve prevention efforts, but they can also serve as a catalyst for generating community support for an integrated approach. Primary care clinicians who treat and engage patients on oral health matters support the broader message about the importance of oral health and its links to general health.

A recent example of an oral health education campaign that used primary care clinicians to educate the public was the Empowering School Nurses to Change Oral Health Perceptions national campaign, launched in 2011. A partnership between the National Association of School Nurses and the American Dental Association, with support from the DentaQuest Foundation, the campaign educated school nurses and provided them with resources to educate students and families about the importance of oral health. The campaign also connected school nurses with dentists in their communities to coordinate referrals and other oral health promotional efforts.

Educating primary care providers and related stakeholders, such as insurers, is equally important because health practitioners are not always aware of the importance of oral health in improving the overall health of their patients and community. Likewise, building support within administrative and clinical leadership can be critical to the success of integrative approaches (Traver and Kislak 2011). Not only would a campaign that, at least in part, targeted primary care clinicians raise awareness and buy-in for integrating oral health

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*The [dental] profession is changing... is there any way for philanthropy to help steer... or contribute to that change in a way that gets us to the kind of health system that we really want: an integrated system?*

– Kim Moore

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and primary care, but it also could generate demand and support for primary care training opportunities in oral health services. A current example of a campaign that includes primary care providers as an audience is the Maryland Dental Action Coalition's Healthy Teeth, Healthy Kids oral health literacy campaign. Launched in 2012, the campaign uses traditional and social media primarily to target pregnant women, parents, and caregivers, but it includes a secondary focus on educating health care providers to include oral health in their treatment of young children. The coalition is in part supported by Kaiser Permanente and the DentaQuest Foundation.

The policy community is another important stakeholder. Foundations can play an important role in calling policymakers' attention to oral health issues and services, acting as a source of information on the importance of oral health and its connection to overall health, including potential health care cost savings. Funders can also work with policymakers to ensure that oral health is included when health care delivery and financing systems are being redesigned or reformed in the states. For example, they can work with policymakers to include oral health in Medicaid managed care requests for proposals and in medical home legislation.

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*The leverage of even a small foundation is you can get people to the table and have uncomfortable conversations because you're a neutral convener.*

*– Issue Dialogue Participant*

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As part of any policymaker and provider education effort, philanthropy can also be a critical player in mobilizing communities to engage with policymakers once they have identified oral health as a problem. The communities most at risk and most in need of oral health services are those least likely to be heard. Foundations can play a critical role in making their concerns heard and ensuring that their voices are valued.

## **INTEGRATION AS PART OF INCREASING DENTAL PROVIDER ACCESS**

The debate over how best to increase access to oral health and dental services provides a strategic window of opportunity for the subject of integrating oral health and primary care. While a number of different strategies, such as creating new and expanding existing dental schools, have been discussed, a central issue in the debate concerns the extent to which alternative dental providers, or midlevel dental providers, can or should be used to expand access to care. This new class of dental provider, with a skill set between that of the traditional dentist and the dental hygienist, is commonplace in over 40 other countries. Proponents suggest that they would compensate for the serious shortage of dental providers in a number of geographically isolated and low-income areas. Opponents raise concerns, among other things, about patient safety and quality of care (NDA 2010). This is similar to reactions seen over the years by medical professionals to the introduction of midlevel health care providers and definitions of their scope of practice. While more research is needed, there is evidence suggesting that alternative providers are safe, effective, and can increase dental practice profitability and productivity (Wetterhall et al. 2010; Nash et al. 2012; Pew Center on the States 2010).

The debate about alternative dental providers provides an opportunity for serious discussion about integrating care because of the potential role these providers can play in integrating oral health and primary care, especially in communities where there are few dentists. Alternative dental providers' training and typical scope of practice, such as those of the dental health aide therapist in Alaska and the advanced dental therapist in Minnesota, allow them to practice in satellite clinics that can be attached to or integrated with FQHCs and other primary care systems.

Some medical-dental providers suggest that alternative providers could be used to triage dental problems like medical nurses triage medical problems, coordinate care and on-call schedules between medical and dental providers, and assess the severity of patient dental conditions (Traver and Kislak 2011). An example is Kansas' use of extended care permit dental hygienists as part of a dental "hub and spoke" system. Initiated

through a public-private partnership that included support from the Delta Dental Foundation of Kansas, the Jones Foundation, the Kansas Health Foundation, REACH Healthcare Foundation, the Sunflower Foundation, and the United Methodist Health Ministry Fund, these hygienists deliver preventive dental services in a number of settings, including primary care practices and clinics (Sharpe 2012).

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*Patient-centered medical homes and reducing health care costs [are] a huge opportunity to integrate oral health strategies into chronic disease management.*

*– Issue Dialogue Participant*

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Foundations are particularly well suited to play a role in the access or alternative dental provider debate. Given the sensitive nature of the issue, grantmakers' ability to convene pertinent stakeholders is invaluable. Often viewed as a neutral party, grantmakers have an opportunity to act as a mediator between oral health advocates and organized dentistry. At the very least, exploring multiple approaches to increase access to dental and preventive oral health care can help steer the conversation in a more constructive direction.

### **REFORM FINANCING OF ORAL HEALTH**

The primary financial barrier in integrating oral health and primary care is provider reimbursement for services from public and private insurance plans. Primary care providers would need to be reimbursed for any oral health services provided to their patients, and dentists would need to be reimbursed for providing primary care. Attention must also be given to removing administrative barriers within the billing infrastructure, such as adopting procedural and diagnostic codes for oral health services provided within primary care settings. Without reform, financial constraints will hinder or limit integration, even when there is provider buy-in.

Philanthropy can play an important role in fostering solutions to this problem. Grantmakers can work with policymakers, dental and primary care providers, and insurance providers to reimburse for these services. This could include exploring bundled payment options that include oral health services as part of the standard of patient care or expanding the scope of service reimbursement to more providers. The Pew Children's Dental Health Campaign, for example, has worked with states to expand Medicaid and CHIP reimbursement for preventive oral health services to primary care clinicians. The Washington Dental Service Foundation, as a leader in a large broad-based coalition effort, worked with state policymakers in 2007 to pass legislation to reimburse primary care clinicians for providing oral screenings and oral health education, in addition to fluoride varnish applications, to children enrolled in Medicaid (Riter et al. 2008).

Particular attention should be given to preventive services, which traditionally have not been reimbursed or reimbursed well. Opportunities exist to support providers who are experimenting with and adopting ACO models that focus on population health outcomes. Given that an integrated model of care can play a significant role in disease prevention for both dental and other chronic diseases, a focus for funders could be on ensuring that providers have incentives to provide preventive services.

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*One of the things that foundations can do is to actually do studies of what it is that you think might work.*

*– Issue Dialogue Participant*

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Foundations can also consider exploring new business models for the provision of dental care that depart from the solo practitioner model. With the rise of ACOs and the greater focus on medical team models, dentistry risks being left behind and remaining an outlier. In order to convince the profession to adopt practice models that integrate more

with primary care, funders could consider funding studies related to these models. Ideally, foundations should also engage with dentists in these efforts to alleviate any of their potential concerns and draw upon their expertise and experience.

## RESEARCH AND PILOT PROJECTS

Many grantmakers are interested in supporting pilot and demonstration projects with solid evaluation plans. Not only is more evidence needed to validate different approaches to integrating oral health and primary care, but there is also a need to determine how best to implement different models. Pilot projects, like the Group Health pilot supported by the Washington Dental Service Foundation (see below), and other

### GROUP HEALTH SEATTLE, WASHINGTON

Group Health is a large integrated health care system in the state of Washington that combines a delivery system, including a contracted network, with insurance coverage. As part of their quality of care efforts, the Group Health Primary Care Division and the Group Health Foundation partnered with Washington Dental Service (WDS), a commercial dental benefits company, and the Washington Dental Service Foundation (WDSF) to provide oral health preventive services in routine well child care visits. This included oral screening, fluoride varnish treatments, anticipatory guidance and oral health information, and referrals to dentists when needed. The overall goals were to evaluate return on investment, create seamless business processes, establish patient and provider acceptance and satisfaction, and demonstrate the role of primary care in caries prevention.

A three-year pilot project was initiated with six clinics. The clinics incorporated oral health services for all children ages six months to three years who received care at Group Health clinics. The pilot developed a clinical workflow for primary care practitioners that defined the protocols, established the roles of each member of the clinical team, and built electronic tools to integrate care into the existing electronic health record (EHR) system. The pilot also created new business processes to accommodate oral health services, which necessitated capturing dental insurance information, billing any patient cost shares at the point of service, determining how to handle uninsured patients, and creating a means to code and document patient status and services provided in the EHR.

Throughout the pilot, WDS covered the cost of providing services to their policy holders, the state Medicaid Dental Program paid for oral services delivered to their enrollees, while WDSF provided funds to cover the uninsured and patients who had nonparticipating dental insurance. This allowed Group Health to focus on establishing clinical workflow. Group Health now offers a flat fee for uninsured patients. WDSF also provided training for providers and staff along with funds for planning and implementation.

The results of the pilot have been positive. In addition to creating clinical workflows and a successful business model that allows providers to bill dental plans on a per-patient basis, survey data found that parents and primary care medical staff are supportive and satisfied with the effort. Parents especially have been extremely satisfied with the services and information provided, and staff report they have an important role in oral health promotion. Providers' confidence levels improved significantly during the course of the pilot.

More importantly, two-thirds of the children who received oral health services at the pilot clinics had not yet seen a dentist, despite the American Academy of Pediatric Dentistry's recommendation of seeing a dentist by the age of one. Furthermore, the solid outcomes of the pilot phase convinced Group Health to roll out oral health preventive services to the entire network of 25 clinics.

Source: Grossman 2012

demonstration projects can be a critical investment toward establishing an evidence base.

There is some evidence of success from pilot projects using a chronic disease case management approach focused on cofactors like diabetes, atherosclerotic vascular disease, and the link between the oral health of mothers and the health of infants. Several medical-dental centers in Rhode Island, for example, have reported success coordinating dental and medical care for pregnant women and patients with diabetes (Traver and Kislak 2011).

Another area of promising research is investigations into clinical interventions commonly used in other fields, such as behavioral health, that can effectively integrate oral health and primary care. For example, although there is interest in using “warm handoffs” between primary care clinicians and dental providers to promote oral health integration, there is little or no hard data on their effectiveness. In fact, there are many gaps in the research base for handoffs in general (Friesen et al. 2008).

### SETTING AN EXAMPLE: INTEGRATING ORAL HEALTH AND PHILANTHROPY

Many grantmakers feel that the field of health philanthropy has an opportunity to lead by example by integrating oral health into its own work. For example, a request for proposals for a project to address community health disparities could include language giving priority to projects that incorporate oral health. Similarly, funders could consider making it a priority to add dentists or others with oral health expertise to their boards or advisory committees to act as a resource and champion for oral health within the organization.

Foundations can also share successes and failures from their integration efforts with one another. While this should be a consideration with any program, limited data and research in this area make shared knowledge particularly important.

Nationally and locally, foundations can consider working to include oral health in other discussions and grantmaking related to integration of health services. Other fields have also been working to integrate with primary care, although not in concert with oral health funders. For example, in a recent Institute of Medicine report on integrating public health and primary care, behavioral health was part of the discussion but oral health was omitted (IOM 2012; Wallace 2012). Bringing everyone to the table in current and future high-level discussions of care integration could be a role of funders.

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*[Philanthropy is] in a position to know and see a lot... in the formative stage, and are in a position to ask the question, “So where's oral health in this?” and expect an answer.*

– Issue Dialogue Participant

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## CONCLUSION

Integrating oral health and primary care can potentially solve a number of issues that contribute to the oral health crisis. By incorporating oral health into the primary care system's standard of patient care, the oral health needs of those communities and populations most in need can be addressed. But there is a great deal of work to be done. More research into the effectiveness of and processes for achieving oral health integration is needed, if widespread acceptance and adoption is to occur. There is also much to be done to educate providers, policymakers, and the public about potential benefits.

Philanthropy can make a significant contribution by taking on any number of roles: convener, researcher, educator, benefactor, and advocate. There is no gold standard approach to integration: each model has its own benefits and limitations that will require thoughtful assessment by all stakeholders. Grantmakers can play a leadership role in this effort and be powerful agents in reversing a century-and-a-half-long schism between the mouth and the body.

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