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Research and Practice

**Could a Mid-Level Dental Provider Increase  
Access to Oral Health Care in Michigan?**

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### **Abstract**

According to a 2000 Surgeon General's report, the United States faces an epidemic of unmet oral health needs, the result of both the high cost of care and geographic maldistribution of providers. This article assesses the extent of this unmet health care needs in Michigan, and examines one possible solution: the introduction of a mid-level dental provider (MDP) who could provide preventive and basic restorative care, under the supervision of a Michigan dentist. MDPs in various forms currently practice in over 50 countries including Canada and the U.K. The evidence suggests that a large and rigorous pilot of mid-level dental providers should be undertaken in Michigan, to inform policymakers about the structure's potential for improving access to oral health care for vulnerable populations in the state.

## **Introduction**

According to the Surgeon General's landmark report, *Oral Health in America*, "you cannot be healthy without oral health" (USDHHS, 2000). However, over one-third of American households report skipping dental care or dental examinations because of cost (Kaiser, 2009). Further, "profound and consequential" oral health disparities exist in this country (USDHSS, 2000). Both the high cost of care and the geographic mal-distribution of providers create barriers to care, and improving access is a vital step toward increasing the overall health of individuals, as well as society at large.

One potential solution to the problem of unmet oral health needs is the introduction of a mid-level dental provider (MDP). MDPs already provide basic preventive and basic restorative care in over 50 countries worldwide, in two U.S. states, and could do so in Michigan as well. This article examines the extent of unmet oral health care needs in Michigan, and makes the case that Michigan should consider creating a mid-level licensure that expands the scope of practice of dental hygienists to include basic restorative care such as fillings and simple extractions. Such a provider would work under the supervision of a Michigan dentist, who could be off-site. The evidence suggests that a rigorous pilot of mid-level dental providers should be undertaken, under the leadership of one or both of the dental schools in Michigan, to inform policymakers about the structure's potential for improving access to oral health care for vulnerable populations in Michigan.

## Why Oral Health Care Matters

Oral disease affects millions, disproportionately impacting those in poverty, the elderly, and children.<sup>1</sup> Tooth decay is the single most common chronic disease of childhood (USDHHS, 2000). Oral health problems in childhood are critical, because oral pain can negatively impact a child's learning, nutrition, and sleep. Moreover, lack of dental care in childhood can lead to long-term health problems and medical expenses, as oral diseases are progressive and cumulative (USDHHS, 2000), with the costs compounding over time. Many who cannot find or afford a dentist end up in hospital emergency rooms. A study of seven hospitals in the Twin City metropolitan area in Minnesota reportedly traced over 10,000 ER visits to toothaches, abscesses, and other untreated dental problems (Johnson, 2011). Yet, oral disease is largely preventable.

In *Oral Health in America*, the Surgeon General decried a “silent epidemic” of oral disease “affecting our most vulnerable citizens” and described the public health infrastructure for oral health as insufficient to meet the needs of disadvantaged groups (USDHSS, 2000). Unfortunately, despite widespread acknowledgement of the problem, little real progress has been made (Gehshan, 2008; Hilton and Lester, 2010). Nationally, utilization of dental services by children enrolled in public dental programs has increased somewhat, from 25% in 1999 to 38% in 2008 (Edelstein, 2010a). This improvement has been attributed to Medicaid/CHIP enhancements, and increased professional awareness. At the same time, since the Surgeon General's report, rates of oral disease have actually

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<sup>1</sup> Much of the evidence on access to oral health care in Michigan was first reported by one of the authors of the current manuscript, Renee Tetrick, in (2011), “Addressing Unmet Oral Health Care Needs in Michigan with a Mid-level Dental Provider.” *Michigan Journal of Social Welfare*, 2(1), 85-97, and is revised and included in the current manuscript under MJSW's open-access copyright guidelines.

increased for young children, and economic and racial/ethnic disparities persist (Edelstein and Chinn, 2009).

### **Access to Oral Health Care in Michigan**

Children, in particular, face serious barriers to oral health care in Michigan. The 2005 Count Your Smiles (CYS) survey of Michigan third graders found that nearly one in ten had immediate dental care needs (pain, infection, swelling). According to parent reports, over one in eight had experienced a toothache in the past six months, and one in four had untreated dental disease. Nearly one in six lacked dental insurance, twice the rate lacking general health insurance (MDCH, 2006). Children without dental insurance had greater rates of dental disease, and much less access to care, than children with insurance. While overall 84% of Michigan's third graders had visited a dentist in the preceding year, roughly one in nine had been unable to obtain dental care.

The CYS also found that children living in the Upper Peninsula and northern Lower Peninsula (LP) have the highest rates of untreated decay. The rural southern LP has the highest rate of uninsured children, while the urban southern LP has the highest rates of children with immediate dental needs (17.4%). Toothache is most common among children in the city of Detroit. Difficulty obtaining dental care disproportionately affects Latino and African-American children, with nearly 10% of Latino children not having seen a dentist in three or more years.<sup>2</sup> Of course, cultural values and practices, such as baby-bottle use (including putting a child to bed with a bottle of juice, which can lead to

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<sup>2</sup> While widely cited, the statistics from the CYS are subject to large sampling error, particularly with respect to sub-populations.

tooth decay), can also impact oral health. To the extent that current demographic trends continue and the widening income gap persists, we can expect these disparities to exacerbate over time (Edelstein, 2009).

Access to dental care is also a barrier for older adults, the disabled, and pregnant women. Data from the 2008 Behavioral Risk Factor Survey (BRFS) indicate that 25% of Michigan's older adults had not seen a dentist in over a year, despite need being great among this population (MDCH, 2010). Barriers such as affordability, lack of insurance (often lost upon retirement), institutional living and transportation in particular, are all contributing factors. Also, the elderly often take medications that can have oral side effects (USDHSS, 2000), and disproportionately suffer from oral cancer. If caught early, oral cancer is treatable. However in Michigan, only 40% of oral cancer cases are diagnosed when still localized, and African-Americans in Michigan are 1.5 times more likely to die from oral cancer than are non-African-Americans (MDCH, 2010).

Just as the elderly are more susceptible to certain conditions, pregnant women are at heightened risk. Though inconclusive as to causality, a correlation has been found between periodontal disease and preeclampsia (Buerlein, et al, 2010), and women with chronic oral infections may be more likely to give birth prematurely (USDHSS, 2000). What has been established is that mother-to-child transmission of bacteria (via saliva) is the primary means through which children first acquire dental caries (Buerlein, et al, 2010). Controlling oral disease in pregnant women thus has the potential to not only improve the oral health of women, but also of children. Unfortunately, many dentists are

uncomfortable treating pregnant women, and tend to delay treatment despite the fact that the benefits of providing dental care during pregnancy far outweigh any potential risks (California Dental Association, 2010). In addition, given that over 40% of births in Michigan are now covered by Medicaid (Casey, 2009), the on-again / off-again nature of adult dental coverage under Medicaid can only serve to increase vulnerability.

Individuals with developmental disabilities also have higher treatment needs than the general population. Studies indicate that this is due to difficulties accessing care, as well as to personal limitations with respect to oral hygiene (MDCH/MOHC, 2006).

According to the 2008 BRFSS, people with disabilities are less likely to have dental insurance than those without a disability (66% vs. 72%), and the disabled are more likely than the general population to have faced cost barriers to care during the past year (MDCH, 2010). Through the Donated Dental Program, the Michigan Dental Association works with the state Department of Community Health to identify dentists who will donate care to the elderly and disabled, however according to the MDCH website, wait lists are often two years or more.

In Michigan, like the U.S. generally, low-income individuals are disproportionately affected by oral disease. Those living below poverty are less likely to visit a dentist or have their teeth cleaned than are the more affluent. According to the 2008 BRFSS, nearly half of the state's adults with incomes less than \$20,000 had not visited a dentist in the prior year, while only 20% of those with household incomes between \$50,000 and \$75,000 had not. Likewise, those with less than a high school education were two times



less likely to have visited the dentist in the prior year than were all adults. And, while 16% of adults in Michigan over the age of 65 have lost all their teeth, 21% of Detroit's seniors have (MDCH, 2010). The fact that root canals are both expensive and generally not covered by emergency Medicaid may help explain the high rate of tooth extractions in Detroit.

### **Capacity, the Dental Workforce, and Geographic Distribution of Providers**

Current data suggest that Michigan's dental workforce is not large enough to meet the demand for oral health care in Michigan, as is true elsewhere elsewhere (MDCH, 2009a). Indeed, nationally, the dentist to population ratio is significantly below the physician to population ratio, and declining (Mertz and O'Neil, 2002). The majority of dentists practice in the suburbs, with few working in high-need rural or inner-city areas (Nash, 2009a). The high rate of debt among dental school graduates is often cited as a contributing factor in terms of practice location (USDHSS, 2000; Public Sector Consultants, 2010a). Nationally, only about 3% of dental school seniors plan to work in rural areas, and less than 3% ultimately plan to work in government service or community clinics (Okwuje, Anderson, and Valachovic, 2009). Some parts of the state have virtually no dentists; in 2007, twelve counties had fewer than five dentists, and one had not a single dentist at all (MDCH, 2010). In addition, whereas in the U.S. as a whole, 70% of all community-based health centers and local health departments have oral health components, in Michigan only 38% do (MDCH, 2010), and the state's community health centers often have lengthy wait lists (Public Sector Consultants, 2010a).

According to data from the 2010 MDCH Survey of Dentists, only half of the state's dentists plan to continue practicing more than ten years (Public Sector Consultants, 2011). At the same time, the state appears to have a surplus of dental hygienists.

According to the 2009 MDCH Survey of Dental Hygienists, 3% are employed in another field, 4% are actively looking for work, and 25% would like to work more hours. Of those looking for work, 86% reported difficulty finding a position (Public Sector Consultants, 2010b). A notable lack of racial/ethnic diversity in the dental workforce is also evident. In 2010, 87% of the state's dentists were white; only 3% were African-American and 1% were Latino (Public Sector Consultants, 2011). The high cost of dental education is no doubt a contributing factor to this disproportionate representation (USDHSS, 2003). To the extent that people are more comfortable with, and receptive to, receiving care and advice from somebody they feel they can relate to, this is problematic.

### **Lack of Insurance, Public Insurance, and Access to Care**

While noting that some communities even lacked enough dentists to care for privately insured patients, Michigan's 2010 Oral Health Plan report finds a serious shortage of dentists willing to care for uninsured and publicly insured populations in the state (MCDH, 2010). Insurance status is thus, not surprisingly, closely tied to dental access. In 2005, 92% of the state's privately insured children saw a dentist in the prior year, compared to 80% of the children with public insurance, and just 67% of children without insurance (MDCH, 2006). Similarly, the parents of over twice as many publicly insured children reported difficulty obtaining dental care for their children as did those with private insurance (13.2% vs. 5.6%).

Just over half of Michigan's dentists report seeing any children covered by Medicaid or MICHild (Public Sector Consultants, 2011). In Michigan's fee-for-service counties, the Michigan Oral Health Plan (MDCH, 2010) reports that in 2006 only 23% of dentists reported seeing children covered by Medicaid, and just 10% could be considered "critical access providers," the equivalent of seeing three or four children per week (Borchgrevink et al, 2008). Further, a total of nine counties did not have a single dentist that accepted Medicaid (MCDH, 2010). Due in part to the narrow definition of "medically necessary," adults enrolled in Medicaid have the most difficulty obtaining dental care. In 2010, 84% of Michigan's dentists stated that they did not see any adult Medicaid patients in a typical month, and only 19% reported seeing any adults on a sliding-scale basis (Public Sector Consultants, 2011).<sup>3</sup> The main explanation offered for non-participation in Medicaid is its low rate of reimbursement; administrative burden and patient behavior are also frequently cited (Public Sector Consultants, 2010a; Borchgrevink et al, 2008). Michigan is, in fact, well below the national average with respect to its fee-for-service Medicaid dental reimbursement rates (Borchgrevink et al, 2008).

### **Michigan's Current Goals and Strategies for Improving Oral Health and Access to Care**

In an attempt to improve access to care in the state, in 2000 Michigan placed Medicaid-eligible children from thirty-seven (primarily rural) counties into Healthy Kids Dental, administered by Delta Dental. Participating dentists are eligible to be reimbursed at

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<sup>3</sup> It should be noted that the vast majority of the state's dentists do report doing some charity or volunteer work for which they receive no compensation. While generous, charity care is insufficient to meet the need.

Delta's usual rate. Expansions in 2006 and 2008 have brought the total number of covered counties to sixty-one, with Wayne County a notable exception. According to an analysis of the first several years of the program, the rate of utilization among children enrolled for any portion of the year went from 30% in 2001 to 37% in 2007, and for those enrolled for the entire year, from 49.0% to 55% (Eklund, 2008). And while participation among dentists certainly went up, there is some discrepancy as to how many are active participants. Edelstein (2010a) reports a 150% increase in enrollment due to the reforms, though notes that still less than a quarter of dentists are listed as Medicaid providers (time period undisclosed), while a 2009 Michigan Dental Association / Michigan Oral Health Coalition report states that 75% percent of the dentists in Healthy Kids Counties participate. A 2010 Survey of Dentists revealed, in any case, that while only 3% of the state's dentists said their practices were full, just 12% were accepting new fee-for-service Medicaid patients, and fewer than half were accepting new Healthy Kids Dental patients (Public Sector Consultants, 2011).

In a separate attempt to increase access to preventive care, Michigan passed Public Act 161 in 2005. PA 161 allows dental hygienists to treat (within their scope of practice) under-served populations in public or non-profit settings without the direct supervision of a dentist, through what is called a "waiver of assignment". That same year, the state also adopted its Oral Health Plan. In 2010 an updated report was issued; it recognizes collaboration among diverse stakeholders, but notes much work still to be done.

## **The Role of a Mid-Level Dental Provider**

One way that over 50 other countries, including Canada, the U.K, Australia, New Zealand and the Netherlands (for brief overviews of these and other countries' programs, see Nash and Nagel, 2005 or Nash et al, 2008), and now two U.S. states, address barriers to dental care is through a Mid-Level Dental Provider (MDP) model. MDPs, which are also called alternative providers or dental therapists,<sup>4</sup> fall in between dental hygienists and dentists, similar to nurse practitioners or physician assistants in the broader health field. MDP licensure allows non-dentists to provide routine and preventive care, under the supervision of a dentist, who in most models can be off-site. One of the hallmarks of the MDP model is that trainees are typically drawn from the communities they will serve (Hilton and Lester, 2010).

A number of states are considering MDP proposals, and the Kellogg Foundation has recently sponsored initiatives to develop curriculum and promote MDP programs in five states (Community Catalyst, 2010). Moreover, the 2010 Health Care Reform law not only mandates oral health benefits for children, but also authorizes demonstration programs to train and employ alternative dental providers as a means of increasing access for under-served communities. The American Dental Hygienists' Association has also advocated the creation of an Advanced Dental Hygiene Practitioner who would be able to perform many of the same clinical procedures as dental therapists. In fact, the combined hygienist/therapist model, which is typically achieved in three years of study, is becoming increasingly popular internationally (Nash, 2009b). It is worth noting that the

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<sup>4</sup> MDPs were originally called dental nurses when New Zealand developed the first program in the 1920s to address widespread dental disease and a severe shortage of dentists. Notably, by the 1970s, well before water fluoridation, permanent tooth loss had been virtually eliminated in New Zealand (Friedman, 2011).

current U.S. dental hygiene curriculum covers many courses typically included in international therapist or combined hygienist/therapist programs, so existing dental hygienists could likely be trained to provide basic restorative care in an accelerated program (Nash, 2009a).

In Alaska, “Dental Health Aide Therapists” (DHATs) have been providing oral health care services in tribal villages under general supervision (which requires a dentist to provide consultation and advice through telecommunication, but does not require them to be physically accessible to the treatment site) since 2005. DHATs undertake two years of training post-high school, and provide a variety of services including simple extractions and restorations (fillings) that could previously be delivered only by a dentist. Minnesota passed MDP legislation in 2009. Unlike Alaska and most foreign programs, which typically require two to three years of training, in Minnesota dental therapists are required to have a Bachelor’s degree or more. In Minnesota, basic dental therapists will work under indirect supervision (in which a dentist is physically accessible to the treatment, if needed), while advanced dental therapists will have a somewhat expanded scope of practice, and will practice under general supervision. The type of supervision required is an important factor in determining the extent to which MDPs can provide care to populations in areas where there are few or no dentists.

### **MDPs Provide Safe, Quality Care**

Despite substantial evidence from both the U.S. and abroad indicating that MDPs provide safe and effective care that does not endanger patients, concerns have been raised,

primarily by American dental associations, that MDP licensure would create a two-tiered system that puts under-served and vulnerable populations at risk (APHA, 2006; Garcia et al, 2010). However, studies from Australia, Canada, and the U.K., as well as Alaska, many employing blind evaluations, find that MDPs provide high quality care, including both diagnosis and treatment equal to that provided by dentists. Similar findings were obtained by studies assessing several U.S. pilot programs undertaken in the 1960s and 1970s in which dental assistants or hygienists were trained in expanded functions. A key aspect of MDP education is to train providers to clearly know the limits of their scope of practice, and indeed it does not appear that they exceed their parameters of care (e.g. Fiset, 2005).

Moreover, MDPs provide this care in a cost-effective manner (e.g. Lewis, 1981; Riordan, 1997), and enjoy a wide degree of social acceptance and patient satisfaction (e.g. Wetterhall et al, 2010). Indeed, a recent study in the U.K. found patients attending therapists to have significantly higher rates of satisfaction than those attending appointments with dentists (Sun et al, 2010). Though often initially skeptical, once dentists understand the role therapists can play as part of the dental team, they typically develop a favorable attitude toward them (e.g. Gallagher and Wright, 2003; Fiset, 2005).

A recent GAO study included interviews with health officials in New Zealand, Australia, Canada and the U.K. and found “no reservations about the quality of care provided by dental therapists,” among any of them (GAO, 2010). Indeed as far back as the mid-1970s, a (positive) Canadian review of a dental therapist program in Saskatchewan

declared, “in light of these findings, which have been repeated so many times in the literature, one wonders whether the quality of dental [therapist] services is even an issue.” (Ambrose et al, 1976). Our own review of the existing literature has yet to uncover a single finding of low quality of care by MDPs.

Not all U.S. dentists oppose the MDP model. In a 2001 JADA editorial, Lawrence Meskin advocated a system of expanded duty auxiliaries as a cost-effective means of addressing dental access issues, and one that was preferable to increasing the number of dentists (Meskin, 2001). More recently Kenten Johnson, the Minnesota Dental Association’s “1999 outstanding new dentist,” strongly advocated in favor of that state’s new MDP program (Johnson, 2011). The American Public Health Association, and the American Association of Public Health Dentistry both also support MDPs (APHA, 2006; AAPHD, 2006).

One of the more recent countries to adopt the MDP model, the Netherlands added dental hygienist-therapists to their oral health care delivery system within the last decade based on the assumption that costs would be reduced and access to care improved (Nash et al, 2008). Though initially opposed by Dutch dentists, Dutch insurance, consumer and educational organizations came together to support this model (Friedman, 2011).



## **The Time is Right for MDPs in Michigan**

MDPs are one solution to lowering the cost of, and increasing access to, oral health care for underserved populations, especially children, people with disabilities, and the elderly. Due to fewer years of education, MDPs command lower fees than dentists for routine and preventive care. As a result, they would likely be more willing to participate in MIChild and Medicaid, as reimbursement would more fully cover costs associated with care. By law, the new Minnesota program requires that “at least 50 percent of a dental therapist’s practice must be invested in public health or clinics that see Medicaid patients” (Riggs, 2011). A recent study by the Pew Center on the States found that in addition to improving access to care, even dentists in private practice might benefit financially from employing dental therapists as they could increase their patient caseloads by delegating care to lower cost providers (Pew, 2010). A similar finding was obtained by Abramowitz and Berg (1973), and in a piece highlighting lessons for the U.S. from the Canadian experience, Quiñonez and Locker (2008) note, “the uptake of dental therapists into Canadian private practice is a clear indication that this provider is valuable in different service settings.”

In Saskatchewan, where dental therapists may work independently, they are now well accepted by dentists, suggesting that the two can be colleagues rather than competitors (Friedman, 2011). Saskatchewan actually provides an interesting and informative case study. Before dental therapists began working in school clinics in 1974, children there had poor dental health and low service use, due largely to geographic and economic inaccessibility. Though widely regarded as successful, the school-based public program was eliminated in 1987 due primarily to pressure from dentists. Since then there has been

both a notable decline in utilization, and an increase in untreated caries among children (Quiñonez and Locker, 2008). While some of the existing therapists moved to other public settings, others moved to private practice. There is currently just one training program for dental therapists in Canada, at First Nations University in Prince Albert, and outside of Saskatchewan, Canadian dental therapists work primarily on First Nations reserves.

An additional, and perhaps equally important benefit of MDPs, is that they are likely to be more easily recruited from under-served populations. Indeed, a recent survey of dental school seniors reports that 46% of African-American, and 34% of Latino students state that service to vulnerable and low-income populations is “very important” to them; only 16% of white dental school seniors make this claim (Okwuje et al, 2009).

California’s experience with Registered Dental Hygienists in Alternative Practice (RDHAP) is also illustrative. There, RDHAPs are authorized to practice their profession independently (with a “dentist of record” for referral, consultation and emergencies) in under-served settings. Compared to all registered hygienists, RDHAPs are more likely to be from under-represented minorities (21.2% vs. 8.5%) and to be able to converse in a language other than English (Mertz and Glassman, 2011). Indeed, it appears that the RDHAP program attracts those with a stronger commitment to improving access to care for the under-served. Increasing the ethnic and racial diversity of the dental workforce should thus reduce barriers to care by both increasing cultural credibility, and increasing the likelihood that such therapists will set up practice in under-served areas. Moreover,

to the extent patient behavior (missed appointments, poor habits) is a common complaint of dentists working with under-served populations, MDPs from within the community would seem uniquely qualified to address some of these issues. Evidence from Alaska and Canada highlight these points (Wetterhall et al, 2010; Lewis, 1981).

Edelstein (2010b) reports that, according American Dental Association survey data, the majority of procedures currently delivered exclusively by dentists could safely be delegated to properly trained MDPs. This would allow dentists, who have considerable knowledge of complex oral problems, to devote more of their time to advanced procedures – an optimal and efficient use of the limited number of professionals with such skills. In addition, at a time when Michigan has been hard hit by unemployment and the realities of the twenty-first century economy, MDP licensure would create a new class of professional jobs for the state. The need for oral health care in Michigan, as across the U.S., is high, and MDPs provide a solution that should be given serious consideration. MDP licensure will increase access to care for under-served populations, lower the cost of care, and create jobs.

What type of mid-level provider should Michigan consider? The trend internationally is a combined dental hygienist-dental therapist (referred to for the remainder of this article as a DH/DT), and this would also be the best option for Michigan. This new provider would work under the supervision of a Michigan-licensed dentist, who could be off-site. The DH/DT would be trained to provide advanced preventive care and basic restorative care including fillings and simple extractions. More advanced procedures would remain

restricted to dentists. The main practice settings of DH/DT providers might include Federally Qualified Health Centers (FQHCs), Tribal Lands, schools or community centers with Head Start programs or programs for needy seniors, or private practice settings in areas of the state with the most significant provider shortages. Using new technologies like those employed in the Alaska DHAT program, the supervising dentist would approve all treatment plans—no irreversible procedures would be conducted without prior approval by the supervising dentist.

The DH/DT model is the right one for Michigan for several reasons. First, because oral disease is almost entirely preventable, expanding access to advanced preventive care should be a key priority for improving access. It seems more cost-effective to train one provider who could provide both advanced preventive care and basic restorative care, rather than segmenting these roles. It also seems more likely that one combined DH/DT provider would relocate to a remote part of the state, relative to the probability that a hygienist and a therapist would jointly relocate to such an area. For this reason, the DH/DT model—while it requires somewhat more education—may be the most cost-effective way of getting underserved populations the care they need.

Second, Michigan currently has a large supply of unemployed and under-employed dental hygienists. Given the overlap in competencies of these two types of providers, registered dental hygienists could be trained in a relatively short period (12-18 months) to provide basic restorative care. Indeed, training practicing dental hygienists is likely the fastest way to train providers and get them into the practice environment. Finally, a

combined provider would require less “disruptive change” within the current care delivery system than would the introduction of a totally new type of provider. Instead of creating an entirely new class of providers, the DH/DT would add competencies—many of which overlap what is currently taught in dental hygiene curriculums—to an existing provider. Existing systems could be adapted rather than requiring entirely new systems. Because it builds on pre-existing structures, the combined DH/DT model would benefit from having more institutional support from within the oral health community than would a new class of provider, which might be seen as a threat to both dentists and dental hygienists.

While there is considerable evidence regarding the quality of care provided by mid-level dental providers, an area in need of further research is the extent to which (or perhaps in what forms) the introduction of such providers into the US system would lead to increased access to oral health care. There is no guarantee that the introduction of a mid-level provider would improve access to care in Michigan. There may be unique characteristics about the US system (and Michigan in particular) that might lead to these types of providers being ineffective in expanding access. In this way, it may be as much a matter of how a mid-level provider is structured and implemented, rather than whether one is implemented. For example, it is likely that the training of the new provider would need to focus on culturally competent care delivery, and specialize in serving vulnerable groups.

Numerous stakeholders have stressed the need for more empirical evidence on the impact

that these types of providers would have on access, and the implications they would have for the broader provider community. It would be ideal for such evidence to come from within Michigan, as there are always concerns about whether successful programs in other states can be replicated in new settings. Indeed, a pilot such as the one described below could provide critical information regarding the specific characteristics of the new mid-level structure that would have the greatest effect on access to care for vulnerable populations, and whether this impact merits such a major change to the way dental care is delivered in Michigan.

We recommend a 7-year pilot study, the primary goal of which would be to assess the impact of introducing DH/DT providers in Michigan on access to oral health care.

Michigan's two schools of dentistry (at the University of Michigan and the University of Detroit Mercy) are well positioned to conduct this type of research, given the flexibility dental educational institutions are allowed within the practice act. Either or both of them could conduct the pilot we describe below without a change to the practice act. This research might be undertaken in collaboration with social work or public health researchers, who could provide information on best practices for reaching and serving vulnerable populations.

During each of the first 3 to 4 years of the pilot, 8 to 10 registered dental hygienists with prior practice experience would begin a program that trains them in basic restorative care in a 12 to 18-month program at one or both of the schools of dentistry. These experimental DH/DT student-providers would then practice as part of the pilot project for

3 years, first in clinics within one or both of the Schools and Dentistry, and then off-site in practice settings that would be most likely to reach vulnerable populations. As previously described, these might include FQHCs, Tribal Lands, schools or other government or non-profit settings (i.e. Head Start programs), or in private practice settings in areas of the state with the most significant shortages of providers. Throughout their participation in the study, the experimental DH/DTs would be under the supervision of dentists on the faculty at one or both of the Schools of Dentistry. Because the DH/DT providers who participated in the study might not be able to practice as DTs in Michigan following completion of the study, their time would have to be funded throughout the training and practice periods. This means private or public funds must be raised to pay for the training program and compensate the participating trainees. However, there are numerous sources that could be drawn upon for this purpose.

The experimental DH/DT providers would be assessed on a variety of outcomes including quality of care (although the evidence is strong already that these types of providers provide safe and competent care), and, more importantly, impact on access to care. As much as possible a randomized experimental design should be used to assess these impacts. While the principal investigators of the study should have final say on all aspects of the study, an advisory council of stakeholders (such as the Michigan Dental Association, the Michigan Dental Hygienists' Association, the Michigan Department of Community Health, and others) should be convened to recommend outcomes and track the progress of the research.

Problems in oral health account for considerable uncompensated emergency room care, and are associated with conditions such as diabetes, stroke, heart disease, and serious problems for newborns (USDHSS, 2000). By improving access to care and providing prevention and treatment of oral disease, MDPs could help Michigan residents become healthier, and, as a result, both residents and the state would save in overall health costs – an important consideration in a time of tight budgets.

Though falling short of explicitly recommending MDPs, the 2003 National Call to Action to Promote Oral Health did list as Action Step 4, “Increase Oral Health Workforce Diversity, Capacity and Flexibility” and recommends as part of Action Step 2 (Overcome Barriers by Replicating Effective Programs and Efforts), specific strategies to “explore policy changes that can improve provider participation in public health insurance programs and enhance patient access to care;” “ensure an adequate number and distribution of culturally competent providers to meet the needs of individuals and groups, particularly in health-care shortage areas;” and “make optimal use of oral health and other health care providers in improving access to oral health care.” In fact, efforts to supplement the U.S. dental workforce with MDPs are already underway. Congress and the U.S. Department of Health and Human Services have mandated studies (Edelstein, 2010b), Health Care Reform authorized pilot programs, and foundations are funding demonstrations. Michigan would do well to be at the forefront of this important movement.



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### **Disclaimer**

The views expressed are those of the authors and should not be construed as representing the Nokomis Foundation or the University of Michigan.

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