A Summary of the 2013 Michigan Perinatal Oral Health Conference

August 2013
December 5, 2013

Dear Colleagues:

Thank you for your participation in the inaugural Michigan Department of Community Health Perinatal Oral Health Conference on August 7-8, 2013. It was a great success! As you know, the conference and the actions arising from the conference are in response to Governor Rick Snyder’s commitment to reducing infant mortality as part of making Michigan a healthier place to live.

The document attached provides an overview of the presentations and discussions at the two-day conference, including a proposed action plan for next steps. The *Perinatal Infant Oral Health Action Plan* found in Appendix A outlines the objectives that were identified by conference participants as the guiding principles for program planning and policy development. These objectives provide a framework for the Perinatal Oral Health Program Action Plan and reflect the federal priorities that were summarized by Commander Pamela Vodicka. The Michigan Department of Community Health views this Action Plan as the initial step for engaging experts to further refine program activities and move toward implementation strategies to improve health outcomes.

We are grateful to all the stakeholders who were able to provide their expertise, commitment and leadership in this initial effort. We look forward to working with you to improve the health of families across Michigan. Again, we very much appreciate your participation.

Sincerely,

Christine Farrell, RDH, BSDH, MPA
MDCH Oral Health Director
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Introduction

The story is shocking. A pregnant woman with two cavities but no access to dental care repeatedly seeks emergency room treatment for severe pain. Each time she is given Tylenol with codeine, and antibiotics. At 29 weeks into her pregnancy her baby is born dead, the result of liver toxicity from Tylenol’s active ingredient, acetaminophen. The mother is flown to Pittsburgh for a liver transplant.

That story catalyzed New York State’s odyssey to develop guidelines for perinatal oral health care a decade ago. And it riveted the attention of an audience gathered in suburban Lansing, Michigan, August 7-8, 2013 at a meeting to advise how Michigan should address the oral health needs of pregnant women and infants. The Perinatal Oral Health Conference, organized by the Michigan Department of Community Health, was held at the Okemos, Michigan headquarters of the dental benefits administrator, Delta Dental. The conference drew nearly 70 attendees representing medical and dental health professionals, local, state and federal government agencies, advocacy groups, and academicians.

Michigan’s focus on perinatal oral health is part of an ambitious state plan to reduce infant mortality, an initiative proposed by Governor Rick Snyder in 2011 in light of persistently high death rates: Out of a thousand live births in the state, 7 infants die before their first birthday, a figure higher than the 6 per thousand average for the nation as a whole.* For Caucasians, the Michigan figure is 5 out of a thousand, for Hispanics, 7 out of thousand, and for African Americans, 14 out of thousand. The Michigan Infant Mortality Reduction Plan identifies 8 strategies, beginning with implementing a statewide coordinated perinatal health system. It includes such strategies as eliminating unnecessary deliveries before 39 weeks’ gestation, reducing unintended pregnancies, promoting safer infant sleeping habits, and expanding home-visiting programs to support vulnerable women and infants.

The call for improving oral health falls under a broad strategy to Support better health status for women and girls, where a specific goal is to “integrate oral health promotion and treatment into the medical home model.”

The Lansing conference was opened by Christine Farrell, RDH, BSDH, MPA, Director of the Oral Health Program, Michigan Department of Community Health and a principal organizer of the meeting. She asked audience members to introduce themselves, remarking on the high turnout and diverse backgrounds of people wanting to attend. As well, she acknowledged the support of many groups and individuals who had made the meeting possible, including the Michigan Oral Health Coalition, the Washington D.C.-based Children’s Dental Health Project, an organization which had participated in earlier state and federal perinatal oral health meetings, and Delta Dental for hosting the meeting.

Ms. Farrell described Michigan’s high infant mortality as a public health crisis. Oral health—or the lack of it—plays a role in those statistics, she said. To learn more about provider practices in Michigan, the Department is surveying health professionals.

A questionnaire being sent to obstetricians and gynecologists asks whether they discuss oral health with their patients, and if they refer to/collaborate with dentists. A similar survey being sent to dentists asks if they accept pregnant patients, and if so, whether there are restrictions on when they see them during the pregnancy or the kind of services they provide. A survey of public health nurses is also planned.

Ms. Farrell expressed hope that the audience would come together to forge a strategic plan to play out over the next few years, one that would encompass Michigan-specific perinatal oral health care guidelines, an implementation plan, and a means of assessing outcomes. As a start, she proposed that the group adopt the expanded time frame used by the March of Dimes in defining “perinatal” as the period from preconception through the first year of a baby’s life.

* This figure puts the U.S. at the high end of infant mortality among developed nations, but critics contend that some countries report lower infant mortality figures because of the way they tally the data. The U.S. counts all live births, for example, but some countries don’t count as “live births” infants who die within the first 24 hours.
The Michigan Landscape

Over the course of the 2-day meeting, attendees would hear progress reports from several states that have already adopted perinatal oral health care guidelines, learn what steps the federal government is taking, and contribute their own ideas in breakout groups. To provide background on the state of perinatal oral health in Michigan today, Divesh Byrappagari, BDS, MSD, Assistant Professor and Director of Community Programs at The University of Detroit Mercy School of Dentistry, supplied some baseline data and details.

Distribution of Infant Mortality by Cause, Michigan 2010

The chief causes of infant mortality in Michigan, he noted, are low-birth-weight and preterm births, which together account for over 20 percent of infant mortality. The death rate for very low-birth-weight newborns—3.5 pounds or less—is 240 per thousand compared to the rate of 2 per thousand for babies 5.5 pounds or better.

To determine women’s knowledge and behavior with respect to oral health during pregnancy, Michigan uses an annual population-based survey, the Pregnancy Risk Assessment and Monitoring System (PRAMS). Results from the 2008 survey indicate that over half the women responding did not receive oral care counseling from their medical providers during their pregnancy (53.6 percent) and almost three-quarters did not have dental care during that time. Socioeconomic factors were significant: 56 percent of women with private insurance received dental care during pregnancy, versus 21

percent of pregnant women covered by Medicaid, and 25 percent who were uninsured. Overall, the prevalence of women who obtained dental care during pregnancy was consistently higher for older-aged, better educated, and non-Hispanic white women.

In terms of infant oral health, Dr. Byrappagari reported that 30 percent of Michigan children 5 years and under had experienced dental caries and 27 percent needed dental treatment. Of that group, 57 percent of parents had sought dental care for their children compared to 43 percent who did not. If untreated, caries experience and treatment needs generally increase with age. By age 5, for example, a study of children enrolled in Head Start programs in Michigan found that over half the children (55 percent) had experienced dental caries.

Yet, caries is a completely preventable disease. It is associated with specific oral bacteria whose metabolism of carbohydrates in the diet generates acid that attacks tooth enamel. The route by which babies acquire cariogenic bacteria, indeed the route by which they acquire the bulk of microorganisms that comprise the oral flora, is through the care and handling by their caretakers—usually the mother. Thus, one of the driving forces to develop perinatal oral care guidelines is to ensure a healthy start for babies at the outset of life by advancing the oral health of both mother and child.

Dental science has long pioneered means of caries prevention, starting with water fluoridation, good oral hygiene, and regular dental check-ups. Current prevention efforts aimed at children include training
medical providers and allied health personnel to conduct dental screenings, apply preventive treatments such as fluoride varnishes, and explain the importance of seeking dental care to mothers when they bring their babies in for well-baby check-ups. Dr. Byrappagari noted that a 2012 study by the Early Childhood Investment Corporation in Michigan found that 53 percent of parents reported that their health care provider had talked about taking the child to the dentist at their last well-baby visit. Over a third of these providers explained how to clean children’s teeth and keep them healthy, while smaller percentages actually applied fluoride varnish or noted signs of dental problems (16 and 10 percent respectively). Interestingly, it was parents who took their children to clinics or health centers who were more likely to report oral health activities during well-baby visits rather than parents seeing pediatricians or family physicians.

Dr. Byrappagari mentioned several steps Michigan has taken to advance perinatal oral health. A pilot study by the Department of Community Health, the Maternal/Infant Health Program, was directed at high-risk pregnant mothers and babies in their first year. It used professionals to make home visits, provide oral health education, oral screenings, fluoride varnish applications, advise on prevention, and help connect families to dental homes. Most of the initial programs have continued after the pilot study ended, he said, and are providing screenings and referrals. The Michigan Department of Community Health Oral Health Program has the Varnish! Michigan-Babies Too! Program, which gives free fluoride varnish to medical providers as an incentive to provide oral screenings and fluoride varnish applications on their high-risk children under three.

A private group, Points of Light, also helps parents connect to dentists at an early age and has a mission to promote a first dental visit by age one. This group encourages relationships between medical and dental professionals to get an early start in preventing decay for their young patients. In terms of policy, the state now allows medical practitioners to be reimbursed for oral screenings and fluoride varnish applications. It also certifies selected medical personnel who take the national Smiles for Life training and treat infants up to age 3 to bill Medicaid for oral screenings and fluoride varnish applications.
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Dr. Byrappagari also mentioned dental professional training programs. His own dental school, The University of Detroit Mercy School of Dentistry, now offers a course in oral health during pregnancy and one on infant oral health, including clinical rotations at Head Start and Early Head Start sites.

Clearly Michigan is moving in the right direction. But, as Dr. Byrappagari concluded, there are gaps to fill and hurdles to overcome. There is a need for more data on perinatal oral health and perinatal oral health care in Michigan, he said. But perhaps the major hurdle, not exclusive to the state of Michigan, lies in getting people in general, and pregnant women in particular, to understand why oral health is essential to general health—and to the health of the developing fetus and infant. The need for understanding applies to providers, too, as many physicians fail to make the connection between oral and general health. Add to that, the hurdles of the financial cost, whether paying out-of-pocket, investing in private dental insurance, or obtaining dental care through Medicaid.

Finally, there are gaps in the dental workforce itself: Many dentists don’t accept Medicaid patients; many are reluctant or uncomfortable in treating very young children; many were taught in dental school not to treat pregnant women. At the same time, over half the dentists responding to a recent survey by the Early Childhood Investment Corp. said they disagreed (or “strongly disagreed”) that medical practitioners could conduct dental screenings and apply fluoride varnishes to children 3 years or under. These issues would come up again and again in state progress reports and underscore the importance of the federal government taking a stand in support of perinatal oral health care initiatives and providing guidance.

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The Federal Perspective

Federal programs addressing the health of mothers and infants, especially women with low incomes, limited availability of care, or whose children have special health care needs, are the concern of the Maternal and Child Health Bureau (MCHB) of the Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services. MCHB partners with states to co-fund educational resources and provide health care services in the state, with emphasis on vulnerable individuals. Part of the Bureau’s mandate is to reduce infant mortality and to provide access to comprehensive prenatal and postnatal care to women.

Speaking for HRSA and MCHB at the Lansing meeting was Commander Pamella Vodicka, MS, RD, of the U.S. Public Health Service, a registered dietitian who is the Oral Health Program Director. Perinatal oral health began to take center stage at the Bureau in 2006, she said, following publication of a number of studies suggesting an association between pregnant women with untreated periodontal disease and preterm, low-birth-weight babies.

Like dental caries, periodontal disease is also associated with oral bacteria. Certain species attack the soft tissues and bone that anchor teeth in the jaw, causing them to loosen and possibly need extraction. To test the suggested association of mother’s periodontal disease and low birth weights and preterm births, several large clinical trials were initiated in the middle and late 2000s. The birth outcomes of women who received periodontal disease treatment during pregnancy were compared with the birth outcomes of a control group of pregnant women whose periodontal disease was treated post-partum. The results were disappointing, Cdr. Vodicka said. Treating pregnant women for their periodontitis did not seem to make a difference in birth outcomes. Technically, the experts who reviewed the trials found “insufficient evidence” that periodontal disease treatment during pregnancy reduced the number of preterm or low-birth-weight babies. What the trials did show was that it was safe to treat pregnant women with the extensive scaling and root planning of teeth that is standard periodontal disease therapy.

But that finding in itself was important, because it could work to dispel fears (by providers as well as women) that prenatal dental treatment was hazardous. Meanwhile, states had begun to publish perinatal oral health care guidelines and MCHB itself was contributing to the effort, producing educational materials for women and health professionals. It was time to consider how the government could further progress.

Toward that end, MCHB convened an Expert Panel meeting in 2008. The result was the publication, Improving Perinatal Oral Health: Moving Forward, which proposed 5 strategies:

1. Promote the use of guidelines
2. Expand opportunities for professional education
3. Integrate oral health with routine prenatal care
4. Educate women
5. Dental insurance coverage for women

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To address the first strategy, MCHB drew key professional groups together in an Oral Health Care During Pregnancy Consensus Development Expert Working Group Meeting in 2011. The Bureau, together with the American College of Obstetricians and Gynecologists (ACOG) and the American Dental Association, coordinated by the National Maternal and Child Health Resource Center, met at Georgetown University on October 18, 2011 to draft a National Consensus Statement on Oral Health Care During Pregnancy, published in 2012. The publication is a compelling affirmation of the safety and importance of oral care for mothers-to-be, with recommendations directed to prenatal care providers and oral health professionals, suggestions for information to be shared with pregnant women, and tips for pregnant women themselves on how to have good oral health during pregnancy. Importantly, it includes a list of commonly prescribed drugs with considerations for their use during pregnancy.

With the consensus statement as a firm foundation for setting guidelines and moving practice toward a better standard of care, HRSA has now launched a national initiative, the Perinatal & Infant Oral Health Quality Improvement (PIOHQI) pilot grant program. As Cdr. Vodicka explained, the program addresses strategies 3, 4, and 5 of the 2008 goals: integrate oral health into routine prenatal care, educate women, and dental insurance coverage for women.

Specifically, grantees are asked to develop, implement and assess:

- A statewide approach that responds to the comprehensive oral health needs of pregnant women and infants most at risk
- A statewide data system that drives quality improvement; and
- A fiscal leveraging strategy that sustains this improved quality of care

Cdr. Vodicka said that the $200,000 pilot grants offered in 2013 represent a one-time offer geared to states that have already written guidelines and need help expanding their implementation statewide. She calls these states “early adopters.” A second grant request will be made in two years to appeal to states that need help initiating a guidelines program in the first place—the “late adopters.” In time, the hope is to establish a framework of states with perinatal oral care programs that would be coordinated at the national level with federal funding to provide mentoring experience, lessons learned, and outcome monitoring.
The New York Experience

New York was the first state in the nation to develop perinatal oral care guidelines. The co-editor of those guidelines, published by the NY Department of Health in 2006, was the next speaker, Renee Samelson, MD, MPH, FACOG, professor of obstetrics and gynecology at Albany Medical College, and a member of the division of Maternal-Fetal Medicine. Dr. Samelson participated in a National Academy of Sciences’ Institute of Medicine Committee that developed the publication, Improving Access to Oral Health Care for Vulnerable and Underserved Populations in 2011. She also served on the Expert Panel that developed the National Consensus Statement in 2012.

It was Dr. Samelson who related the 2001 story of the pregnant woman with untreated dental abscess who went into labor failure at seven months gestation due to acetaminophen toxicity which she was taking for oral pain because she could not find a dentist. These events caused her baby to be stillborn. That was one of the critical events leading New York to develop guidelines, she said. A second trigger was the initial studies suggesting the association between untreated periodontal disease and low-birth-weight/preterm births. Because annual figures for preterm and low-birth-weight babies were trending upward across the nation, the thinking was “why not invest in dental care for pregnant women?” It would certainly be a lot cheaper than the cost of newborn intensive care units and the long-term health consequences that surviving infants often face.

A third spur to action was Dr. Samelson’s career itself. She joined a residency program in preventive medicine, offered by the NY State Department of Health and the SUNY School of Public Health. So she began her research, confident that if a new public health policy on prenatal oral care were to be formulated, New York could lead the way. It was, after all, the first state in the nation to require dentists to adopt universal infection controls (gloves, masks, eyewear) following the discovery of cases of hepatitis B contracted through dental care. New York State AIDS Institute also developed the first guidelines for dental care for people with HIV/AIDS.

In 2000, the U. S. Surgeon General’s Report on Oral Health in America, delivered a strong message that oral health is essential to general health. The report also acknowledged that not everyone was benefiting equally from advances in dental health. There were barriers to care—the same gaps and hurdles Dr. Byrappagari had identified in his presentation—plus the fact that there were no guidelines for treating pregnant women. Indeed, a survey conducted by a New York University dentist indicated that dentists were taught not to treat pregnant women, but to wait until post-partum, and to only provide pain relief and antibiotics in the interim.

What was needed was a meeting to write guidelines. That meeting, held in 2003, brought obstetricians (including Dr. Samelson), neonatologists, and pediatricians together with dentists to review the literature. They agreed that there were three fundamental reasons why pregnant women should receive oral care:

1. **Oral health care is important for overall health** (evidence from the Surgeon General’s Report);
2. **Maximizing maternal oral health improves oral health of their children** (specifically, this would reduce infant exposure to cariogenic bacteria); and
3. **Poor oral health has been associated with poor pregnancy outcomes.** (At the time of the meeting the periodontal disease clinical trials were just beginning.)

Although the three randomized clinical trials in the U.S. showed that treatment during pregnancy did not decrease rates of preterm delivery, the trials provided robust data supporting the safety and efficacy of oral health treatment during pregnancy. Dr. Vodicca emphasized that the trials themselves confirmed that dental treatment of pregnant women did not incur harm to either mother or fetus. In 2006 New York State published Oral Health Care during Pregnancy and Early Childhood/Practice Guidelines, an annotated 71-page, expert panel consensus statement with an executive summary and recommendations for all health care professionals, for prenatal care providers, oral health professionals, and child health professionals.

Dr. Samelson concluded her talk with a review of what has happened in the seven years since the guidelines were published. There have been modest increases in the number of pregnant women in New York who sought dental care during pregnancy, she said, particularly for women with Medicaid coverage. Similarly, there have been increases in women who talked to a dentist or health care worker about oral care during pregnancy. Following up on one of the guideline recommendations, she reported that a study of Medicaid patients in 2011 showed that 1/3 of pregnant women had received an oral health assessment during early prenatal visits. Of
that group 9 percent were judged to be in need of care, and 92 percent were referred to a dentist for treatment.

Publication of the guidelines has also helped sensitize non-dental health professionals to the role of oral health in pregnancy. It has also increased programs to train non-dentist providers, such as the Smiles for Life curricula developed by family physicians for all health care professionals including but not limited to physicians, physician assistants, and nurse practitioners. With regard to her own specialty, Dr. Samelson noted that a 2009 survey revealed that 80 percent of ob-gyns recognize the importance of routine dental care during pregnancy and believe that periodontal treatment can have a positive effect on birth outcome. Yet the majority do not ask about oral health, do not educate patients or advise them to seek dental care, and do not ask if they had seen a dentist in the last year. Those figures may increase with a new publication of the American College of Obstetrics and Gynecologists out this year, called Oral Health During Pregnancy and Beyond. Significantly, she added, 75 percent of the specialists surveyed in 2009 said that they had had a patient who was declined treatment from a dentist because of pregnancy.

Dr. Samelson also noted increased government perinatal activities, mentioning that HRSA is developing non-dental professional oral health core competencies, as well as the new pilot grant program. States, too, are beginning to incorporate oral health into general health initiatives, such as Michigan’s program to reduce infant mortality. Kentucky has included an oral health treatment component in a new Babies are Worth the Weight clinical trial.

In recent years, new publications have explored the association of periodontal disease with birth outcomes continues. Dr. Samelson reported that a national study published in 2010 looked retrospectively at over 23,000 women with private health insurance who delivered babies between 2003 and 2006. The study again confirmed no increased odds of adverse birth effects from prenatal dental or periodontal treatment. Then, earlier this year the *Journal of Clinical Periodontology* published findings of an American Academy of Periodontology workshop, which conducted a systematic review of the literature. Their conclusions were that maternal periodontal disease was modestly associated with low birth weight, preterm birth, and pre-eclampsia, but that treatment of a pregnant woman’s periodontitis did not improve birth outcomes.

The complex association between the human body and the microorganisms that live in it is the subject of a major federal research program to identify all the microorganisms that populate sites in and on the human body, the connection between oral bacteria and adverse birth outcomes has gotten a new lease on life. The “Human Microbiome” project has so far revealed that the vast mix of microorganisms that inhabit body sites varies from individual to individual and from site to site in the body and that some of these populations are associated with unhealthy conditions, such as certain gut bacteria being associated with obesity. Now a new research study is again looking at oral bacteria and preterm birth, based on the finding of an oral periodontal pathogen of the genus Fusobacterium in the amniotic fluid of women who had gone into preterm labor.

Dr. Samelson also mentioned another microbiological study relevant to perinatal oral health that is based on the known anti-cariogenic properties of the sugar alcohol, xylitol. A Finnish study showed that women who chewed xylitol gum while breastfeeding could, in this way, reduce the level of both cariogenic and periodontal disease bacteria in their own and in their baby’s mouths. This has inspired a clinical trial in Malawi, Africa, which has high rates of preterm birth. The trial will test whether pregnant women who chew xylitol gum have fewer preterm births compared to women given placebos.
The California Story

After the New York Guidelines were published in 2006, other states began to take notice and consider plans of their own. The process began in earnest in California in 2007 when the California Dental Association Foundation was awarded a grant from the California Healthcare Foundation. In 2008, the Foundation convened an Advisory Committee, co-chaired by a dentist and an obstetrician, with members drawn from a broad range of researchers, program administrators, and health practitioners.

Irene V. Hilton, DDS, MPH, a dentist with the San Francisco Department of Public Health, an Advisory Committee member, and a Consultant to the National Network for Oral Health Access, explained to the Lansing audience how the Committee worked to develop California’s guidelines and what has happened since they were published.

It was clear that there was need for guidelines, she began. Data from the 2006 California Maternal and Infant Health Assessment showed that only 35 percent of women had seen a dentist when they were pregnant. But over half (53.8 percent) said they had had an oral health problem and more than half of that group (62.3 percent) did not receive dental care. Women with low incomes, on Medicaid, or otherwise disadvantaged were significantly more likely not to receive dental care while pregnant.

The Advisory Committee reasoned that the New York guidelines could serve as a model, with updates as appropriate. That would mean convening experts to review the growing scientific literature, reaching consensus, and formulating perinatal oral care guidelines for the state of California. Such an expert panel met, along with representatives of health professional organizations, advocacy groups, and other stakeholders, at a two-day Perinatal Consensus Conference in February.
2009. Panel members reported on the evidence according to their individual expertise, the panel arrived at a consensus of the findings, and individual members then drafted sections of the guidelines document. With additional reviews and refinements, the state published *Oral Health During Pregnancy: Evidence-based Guidelines for Health professionals* in February 2010.

Like New York’s Guidelines, the California publication is an extensive (75-page) document with instructions up front specific to different stakeholders. In addition to prenatal care professionals, oral health care professionals and child health care professionals, California also adds recommendations for community-based programs. The rest of the volume provides the scientific evidence and references. A key paragraph on page 3 is a perinatal oral health consensus statement, which, in one form or another, is central to all perinatal oral health care guidelines:

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### Perinatal Consensus Statement

**Prevention, diagnosis and treatment of oral diseases, included needed dental radiographs and use of local anesthesia, are highly beneficial and can be undertaken during pregnancy with no additional fetal or maternal risk, when compared to the risk of not providing care.** Good oral health and control of oral disease protects a woman’s health and quality of life and has the potential to reduce the transmission of pathogenic bacteria from mothers to their children.

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Dr. Hilton concluded her talk enumerating a number of “good and bad things” that have happened since the Guidelines were published. On the good side she noted that two issues of the *California Dental Association Journal* were devoted to the guidelines. This has helped overcome resistance on the part of dentists (given that many may have been taught not to treat pregnant women and many also fear malpractice liability). New health education materials for pregnant women have also been produced (in English and Spanish) and a policy brief was written to accompany the Guidelines. As well, Dr. Hilton noted that a number of interdisciplinary collaborations have been initiated in local health centers focusing on perinatal oral care and using the Guidelines as a tool.

On the bad side, are many of the same barriers and hurdles that have generally dogged the receipt of oral health care by low-income populations. Indeed, California eliminated adult Medicaid dental benefits in July 2009, except for limited services for pregnant women. The result is that even when pregnant women with Medicaid coverage find dentists willing to accept Medicaid reimbursement, perinatal care is limited to exams and periodontal treatment, with no services for restorations, root canals, or dentures.

Resistance to change is also an issue, Dr. Hilton said, as not all California dental schools have embraced the guidelines, raising the question that if dental students do not learn to treat pregnant women, how can they be expected to include them in their practice? Dr. Hilton concluded her talk on a positive note, however, remarking that California will restore some adult Medicaid dental benefits, providing basic diagnostic, preventive and restorative dental care, beginning May 2014.
Guidelines Gain Momentum

Not only did the New York Guidelines inspire California to take action, they also served as a model for other states. South Carolina convened a dental/medical panel to review and update the New York guidelines and produced *Oral Health Care for Pregnant Women in 2009*. Connecticut and West Virginia both have published short guidelines geared to dentists. Connecticut’s *Considerations for the Dental Treatment of Pregnant Women*, published in 2013, uses a question-and-answer format to inform dentists and provides a page of pharmacological advice as well as references to other guidelines and policy statements. The West Virginia University School of Dentistry and the March of Dimes are the source for *Oral Health Care during Pregnancy*, a one-page guide with advice and suggestions for West Virginia dentists, including a list of acceptable and unacceptable drugs for pregnant women.

Washington State is also on board, using the New York and California guidelines as the basis for a movement to make oral health care during the perinatal period the norm. Sarah Borgida, Program Manager of Delta Dental’s Washington Dental Service Foundation, described what the Foundation is doing to advance perinatal oral health. The mission of the Foundation is to prevent oral disease and improve overall health in two distinct groups, she said, young children and seniors. Perinatal oral care addresses the mission for young children since, among other things, it can reduce transmission of cariogenic bacteria. But the perinatal period is also a time when women are highly motivated to do what’s best for their offspring, so it is a time when they can ideally be approached with other oral health messages on nutrition, proper oral hygiene, and the importance of seeking dental care for themselves and their children.

The Foundation is targeting messages to dentists, prenatal care providers, pregnant women, and community organizations, using focus groups to educate, discuss issues and come up with recommendations. The Foundation can also advocate, and has worked with other interested groups to achieve retention of Medicaid dental coverage for pregnant women in 2012. Future goals are to increase reimbursements for dentists and to extend Medicaid coverage to up to a year post-partum.

With regard to dentists, the focus groups revealed that many dentists are concerned with liability issues, fearing that treating pregnant women might incur litigation. Accordingly, they needed assurance not only of the safety of prenatal treatment, but also that lawsuits would not ensue, which the Foundation was able to do. Indeed, Ms. Borgida said there was greater likelihood that a lawsuit might be filed if prenatal dental care were not provided. Practicing dentists said that they wanted a continuing dental education course on the safety and efficacy of prenatal treatment as well as guidance on what drugs were safe to administer. Such a course has now been developed in partnership with the University of Washington School of Dentistry, which also offers undergraduate courses and has community-based programs for dentists in public health and private settings. Over 800 dentists have been trained so far.

The issues that the focus groups with pregnant women revealed related to their not understanding why dental care is important, not realizing that they themselves could be the source of harmful bacteria affecting their babies, and fears about x-rays, medications, and other aspects of dental treatment itself. The tack that the Foundation has taken here is to partner with government and community organizations with which pregnant women are likely to come in contact with (WIC programs, Head Start, home visiting programs, etc.) to reinforce health messages and motivate and help women find dental care.

One stakeholder explained that talking to women about dental care once is not enough.

She said that at least 3 or 4 encounters are needed to get key messages understood and acted upon.
Focus groups planned for prenatal medical providers will elicit their knowledge and attitudes toward oral health during pregnancy, what educational and training activities they would find most helpful, and what would it take for them to operationalize their knowledge—actually discussing oral health, providing oral health assessments, and referring women for care during the course of prenatal visits early in the pregnancy.

Ms. Borgida ended her presentation stating that a goal for the Foundation would be to establish a leadership group with members from the medical, dental and pediatric specialties, and maternal and child organizations. Her final word was to engage dentists early, often, and to provide training, support, and financial incentives, if possible.
The Audience Reacts

Following the formal presentations, audience members were invited to react to what they heard and provide examples of perinatal activities underway or planned in Michigan that might not have been mentioned earlier. One audience member suggested that public service announcements have not been used, but would be a good way to reach a large audience. Another commented that the Michigan Primary Care Association has partnered with the DentaQuest Foundation to distribute Smiles for Life to the state’s Community Health Centers. One woman reported on working in homes for pregnant girls and providing a link to dentists. Earlier the program had funding to provide transportation as well as to pay for restorative care, but now it has suffered budget shortfalls. Another audience member mentioned the brochure *Brush up for Babies*, given to educate pregnant women. But she admonished that simply talking to women about dental care once is not enough; you need at least three or four encounters imparting bits of information each time to get the message across, understood, and acted upon.

A Department of Community Health staff member said that you have to go to the places where women access services and consider what you can provide for them, other than a dental home. Multiple home visits are important, as is training mothers to actually look into their babies’ mouths. She also mentioned school-based dental programs throughout the state and new monies available that are enabling health centers to add programs. She was pleased to report that a third of these centers have asked for oral care. Several people in the audience praised the work of public health nurses and community health outreach workers; they are vital in making connections and relationships, especially in identifying at-risk pregnant women.

Leading the audience’s participation at this stage in the program and for the remainder of the meeting was a facilitator, Wendy Frosh, of Healthcare Management Strategies. Ms. Frosh explained that the order of business for the afternoon and the next day would be to elicit the audience’s vision of what an ideal perinatal oral health care program for Michigan should look like, and next, what data would be needed and what gaps would have to be filled to achieve the vision. The group would then be asked to formulate Michigan-specific perinatal guidelines, devise an action plan that could most effectively implement the guidelines, and propose outcome measures to judge how successful the guidelines and implementation actions have been in advancing perinatal oral health—and overall health—of women and infants. This would be in keeping with the Governor’s infant mortality reduction plan and its strategy to “support better health status for women and girls.”

Data. The audience agreed that more demographic data (e.g., education and income) in relation to oral health in Michigan was needed, and suggested that electronic health records might be tapped as a source of data. They also wanted information on malpractice suits in the state and asked if there was any information on dental history in relation to infant mortality. One member remarked that there was a need for qualitative over quantitative data. For example, what information is available for the best ways of overcoming cultural and attitudinal barriers to obtaining perinatal oral care?
**Vision.** The audience was bold in their vision for what the ideal perinatal oral care plan for Michigan should look like. Such a plan would:

- Embody a seamless collaboration between medical and dental providers.
- Ensure a patient-centered medical home with team-based collaboration and measurements. Mothers should be empowered to maximize their and their infants’ oral health, and be made a part of the team.
- Address Medicaid issues (increase reimbursement; extend duration of coverage up to 36 months for mothers and infants).
- Make perinatal oral care standard practice.
- Increase the availability of oral care providers.
- Train the trainers who will instruct all medical professionals on oral health (and put questions on licensing exams).
- Support ongoing research.
- Bring other agencies on board.
- Get private dentists to use a sliding scale for perinatal patients.
- Include oral health in chronic disease measurements.
- Use all forms (low- and high-tech methods of communication) in getting messages out to stakeholders.
- Assure accountability.

**Gaps.** The formal presentations had alluded to many of the gaps and hurdles (financial, educational, cultural/emotional, legal, workforce) that impede the provision of perinatal oral care. The audience acknowledged these gaps and addressed them in a few general statements, including the overall concept that oral health needs to be seen as a “public health imperative.” In essence, they said:

“We need to understand what prevents access to care in order to develop the right messages and the right system of care to overcome them. We need to recognize that one impediment is political, in that some individuals do not recognize health care as a right. We need to increase health literacy so that patients will understand the value of oral health and demand care. The same increase in health literacy applies to administrators of insurance programs and social agencies (e.g., Head Start, Community Health Centers) so that they include oral health routinely in their programs. Finally, we need to overcome a generational gap that may inhibit older dentists from providing perinatal care as well as expand the oral health workforce by overcoming resistance to training non-dentist health personnel to conduct oral assessments and apply preventive treatments.”

“We need to overcome a generational gap that may inhibit older dentists from providing perinatal care as well as expand the oral health workforce by overcoming resistance to training non-dentist health personnel to conduct oral assessments and apply preventive treatments.”
Breakout Groups

Following these brainstorming sessions, Ms. Frosh divided the audience into six breakout groups, asking them to develop their versions of Michigan-specific perinatal oral care guidelines. At the end of the afternoon, the groups reported their approaches before the re-assembled audience. There was considerable overlap, so that the next morning Ms. Frosh was able to present a list of areas of consensus that could serve as the basis for guidelines as well as means of disseminating and implementing them:

- Use the National Consensus statement;
- Adopt the New York and California guidelines modified for Michigan;
- Support educational programs targeted for specific groups;
- Use leading/high technology in communications, electronic health records and standardized risk/referral forms;
- Create a patient-centered health home with team-based care;
- Assure availability of financing

Ms. Frosh noted that the following commonalities nicely aligned with federal government priorities:

<table>
<thead>
<tr>
<th>FEDERAL PRIORITIES</th>
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<tbody>
<tr>
<td>Guideline development</td>
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<tr>
<td>Reimbursement</td>
</tr>
<tr>
<td>Integration of oral health into routine perinatal care</td>
</tr>
<tr>
<td>Education of professionals</td>
</tr>
<tr>
<td>Education of community/women</td>
</tr>
</tbody>
</table>

Given the time constraints, it would not be possible to flesh these out at the Lansing meeting. Instead, a set of guiding principles was proposed that reflected the thinking of the attendees. In terms of guideline development itself, participants had already agreed that Michigan’s guidelines should include a rationale or value statement that would refer to the National Consensus Statement and that the guidelines could use specific material from the New York and California Guidelines. Like those documents, the Michigan Guidelines should address multiple audiences, provide advice on pharmaceutical usage, and include standard referral forms. The Lansing audience further stipulated that the term “perinatal” be defined to include the period from preconception through age 3 for infants.

They also matched the five strategies that Cdr. Vodicka had outlined in HRSA’s 2008 Moving Forward publication. The audience agreed that these priorities could provide the framework for the development of Michigan guidelines and the actions necessary for their successful implementation.
Next Steps

The remainder of the meeting was devoted to audience recommendations for moving ahead on the four remaining federal priorities. Their recommendations, directed to the Oral Health Program, were used to develop the initial draft of the Michigan Perinatal Infant Oral Health (PIOH) Action Plan. The draft PIOH Action Plan, included in Appendix A, uses the priorities to form objectives for the Action Plan and outlines key activities proposed by conference participants.

The draft Action Plan is a working document to engage additional stakeholders and will be further refined by a Advisory Committee and Taskforces. A broadly representative Advisory Committee will oversee and review the final plan and implementation.

The meeting closed with Ms. Farrell committing to ongoing communication from the Department and encouraging all participants to consider additional steps and strategies that they could carry out to be active participants in the implementation of the Perinatal Infant Oral Health Action Plan.
Michigan’s focus on perinatal oral health is part of the state’s Infant Mortality Reduction Plan. The integration of oral health promotion and treatment into the medical home model is a goal under **Strategy 6: Support better health status for women and girls**. This goal led to the first statewide perinatal oral health conference held August 7-8, 2013, to assist the Department of Community Health in plans to advance oral health care for women planning to be pregnant, pregnant women, and infants up to three years. The objectives outlined in the following five-year action plan were the guiding principles identified by participants of the two-day conference and the activities reflect the initial work of the attendees to identify next steps. The following action plan is a working document that is intended to inspire stakeholders to engage in the early stages of a dynamic process to change the oral health care delivery system and in so doing, improve the health of pregnant women and infants.

**MISSION:** To eliminate infant mortality and morbidity caused by poor oral health.

**GOAL:** Create a comprehensive perinatal oral health initiative for the state of Michigan.

**OVERSIGHT:** Michigan Perinatal Oral Health Advisory Committee

The Michigan Perinatal Oral Health Advisory Committee is comprised of leadership from the following groups:

- Michigan Department of Community Health
- Statewide infant mortality steering committee
- Dental professions (public and private)
- Perinatal medical providers (public and private)
- Public and private payers
- Consumer Advocates
- Policymakers

The Advisory Committee will report to the Michigan Department of Community Health and is tasked with:

- Having a member chair each of the advisory committees for the objectives listed below.
- Establishing outcome measures.
- Creating an evaluation template.
- Updating this plan as new information emerges.
OBJECTIVE I: Develop Evidence-based Perinatal Oral Health Guidelines for the State of Michigan

a. Create a Taskforce
   i. Membership including representatives from:
      1. Dentistry
      2. OB/GYN
      3. Public Health
      4. MDCH
      5. Pediatrics
      6. Consumer Advocacy
   ii. Engage/consult outside experts as necessary

b. Draft guidelines that incorporate previously published guidelines from the National Consensus Statement and from New York and California Guidelines that include:
   i. Rationale
   ii. Definition of population (preconception to age 3)
   iii. Specific audiences
   iv. Referral templates
   v. Use of electronic health records
   vi. Pharmaceutical considerations

c. Develop an implementation and dissemination plan

d. Monitor and evaluate implementation

OBJECTIVE II: Integrate Oral Health into the Health Home for Women and Infants

a. Create a Taskforce
   i. Membership including representatives from:
      1. Perinatal medical professionals
      2. Oral health professionals
      3. Primary Care Association
      4. Consumer Advocacy
   ii. Engage/consult outside experts as necessary

b. Establish templates for a team approach to provision of patient care for care that include both providers and patients as members of the team

c. Develop a plan to utilize technology to ensure
   i. Standardized referral templates
   ii. Shared medical and dental information
   iii. Real-time communication

d. Develop an implementation and dissemination plan

e. Monitor and evaluate implementation

OBJECTIVE III: Develop Interdisciplinary Professional Education to Improve Perinatal Oral Health

a. Create a Taskforce
   i. Membership including representatives from:
      1. Professional medical and dental educators
      2. Professional medical and dental associations
      3. State professional licensure boards
      4. Allied health professions
   ii. Engage/consult outside experts as necessary

b. Develop comprehensive curricula for medical, dental and allied health professions
   i. Assess professional beliefs, attitudes and expectations
   ii. Evaluate and modify existing curricula, e.g. Smiles for Life
   iii. Disseminate Curricula

c. Investigate and/or design inter-professional educational opportunities

d. Develop an implementation and dissemination plan

e. Monitor and evaluate implementation
OBJECTIVE IV: Increase public awareness of the importance of oral health to the overall health of pregnant women and infants

a. Create a Taskforce
   i. Membership including representatives from:
      1. Public Health professions
      2. Communications professions
      3. Oral Health professions
      4. Medical professions
      5. Consumer advocacy groups
   ii. Engage/consult outside experts as necessary

b. Develop targeted communications messages and materials for both individuals and public audiences
   i. Ensure messages and materials consider:
      1. Target population (girls/women, partners/fathers, policymakers)
      2. Level of literacy
      3. Diverse culture and language

c. Implement a multi-faceted dissemination plan that utilizes:
   i. print and electronic media
   ii. settings/localities (schools, community health centers, faith-based organizations, prenatal/peer classes, recreational centers, etc.)

d. Develop an implementation and dissemination plan

e. Monitor and evaluate implementation

OBJECTIVE V: Ensure a financing system to support perinatal oral health

a. Create a Taskforce
   i. Membership including authorities from:
      1. Medicaid
      2. Private payers
      3. Policymakers
      4. Advocacy groups
      5. Perinatal medical professionals
      6. Oral health professionals
   ii. Engage/consult outside experts as necessary

b. Evaluate existing state payment models
   i. Medicaid coverage
   ii. Private medical and dental coverage
   iii. Uncompensated care

c. Ensure the reimbursement strategy considers:
   i. Eligibility
   ii. Length of coverage
   iii. Services covered
   iv. Reimbursement levels
   v. Reimbursable providers
   vi. Administrative procedures
   vii. Patient responsibility
   viii. Incentives for providers and patients

d. Develop a dissemination and implementation plan

e. Monitor and evaluate implementation
# APPENDIX B

## Michigan Perinatal Oral Health Guidelines Conference Agenda

### WEDNESDAY, AUGUST 7, 2013

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Registration/Breakfast</td>
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</tbody>
</table>
| 9:00 a.m. | Welcome and Introductions  
  *Christine Farrell, BSDH, MPA* |
| 9:20 a.m. | Overview of project and goals  
  *Christine Farrell, BSDH, MPA  
  Meg Booth* |
| 9:35 a.m. | The National Landscape of Perinatal Oral Health  
  Panel Discussion  
  *Meg Booth  
  Renee Samelson, MD  
  Pam Vodicka MS, RD  
  Irene Hilton, DDS  
  Sarah Borgida* |
| 10:55 a.m. | The Michigan Landscape  
  *Divesh Byrappagari, BDS, MSD  
  Christine Farrell, BSDH, MPA* |
| 11:15 a.m. | Break  
  *Wendy Frosh* |
| 11:30 a.m. | Group Discussion: Reaction to the landscape discussion  
  *Wendy Frosh* |
| 12:15 p.m. | Lunch  
  *Wendy Frosh* |
| 12:30 p.m. | Group Discussion: Creating the Ideal System  
  *Wendy Frosh* |
| 1:45 p.m. | Group Discussion: Gap Analysis  
  *Wendy Frosh* |
| 2:30 p.m. | Break  
  *Wendy Frosh* |
| 2:45 p.m. | Group Discussion: How Do We Fill the Gap?  
  *Wendy Frosh* |
| 4:45 p.m. | Review of today’s work/Preview tomorrow  
  *Christine Farrell, BSDH, MPA  
  Wendy Frosh* |

### THURSDAY, AUGUST 8, 2013

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 8:00 a.m. | Welcome/ Breakfast  
  *Christine Farrell, BSDH, MPA  
  Wendy Frosh* |
| 8:15 a.m. | Group Discussion: Coming to Consensus  
  *Wendy Frosh* |
| 9:30 a.m. | Group Discussion: Strategies for Implementation  
  *Wendy Frosh* |
| 10:30 | Break  
  *Wendy Frosh* |
| 10:45 p.m. | Group Discussion: Strategies for Implementation  
  *Wendy Frosh* |
| 12:00 p.m. | Wrap Up/Next Steps  
  *Christine Farrell, BSDH, MPA  
  Wendy Frosh* |
| 12:15 p.m. | Networking Lunch  
  *Wendy Frosh* |
## APPENDIX C

### Perinatal Oral Health Conference Participant List

<table>
<thead>
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<th>Title/Position</th>
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A Summary of the 2013 Michigan Perinatal Oral Health Conference