Dental Coverage Extended Beyond Pregnancy

Dental visits during pregnancy are safe and recommended!

- Mother's oral health affects both mother and baby's overall health.
- Hormonal changes during pregnancy can cause swollen and bleeding gums and changes in eating habits.
- Mother with poor oral health increases cavity risk for babies.

Oral Care During Pregnancy

- Continue regular oral hygiene, brush twice and floss once daily.
- Eat nutritious foods.
- Tell your dentist you are pregnant, and continue regular dental checkups.

*Information provided by DentaQuest

DENTAL COVERAGE | **BEFORE PREGNANCY** | **DURING PREGNANCY & 60 DAYS AFTER BIRTH** | **AFTER PREGNANCY**

Smiles For Children (SFC) is Virginia's Medicaid and FAMIS dental program. SFC provides:

- comprehensive dental benefits to members under 21
- medically appropriate dental benefits to pregnant members
- comprehensive dental benefits to all members over 21

Smiles For Children℠
Improving Dental Care Across Virginia

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Call DentaQuest at 888.912.3456 with questions, or visit www.vahealthcatalyst.org/AdultDentalBenefit/

Virginia Health Catalyst
The Intersection of Overall Health and Oral Health

Healthefficient

DentaQuest®

WORKING TOGETHER TO IMPROVE YOUR ORAL HEALTH

ORAL HEALTH DURING PREGNANCY

During your pregnancy it is important to take care of your mouth, including your teeth. Taking care of your teeth, eating healthy foods and practicing other good health behaviors is important for you and your baby.

Tips for Good Oral Health Care:

- Changes to your body during pregnancy can cause your gums to be sore and swollen and possilby bleed. This is called gingivitis and should be treated by your dentist.
- Oral care is safe during pregnancy and it is important to visit the dentist every six months or when you have concerns.
- You should brush at least twice a day and replace your toothbrush every 3 to 4 months.
- Rinse every night with a mouthwash that contains fluoride.
- Eat a variety of healthy foods such as fruits, vegitables, dairy products and whole grains.
- If you vomit, it is important to rinse your mouth to stop the acid from attacking your teeth.

Smiles For Children
Improving Dental Care Across Virginia

Baby Teeth Are Important

- The good habit of brushing baby teeth will start a good habit for the adult teeth. You should begin wiping your baby's gums even before they have teeth. You can wipe them with a clean wash cloth or gauze.
- Baby teeth hold space for the adult teeth to grow into.
- Baby teeth allow kids to eat right.
- Healthy baby teeth help to keep the rest of the body well.
- Baby teeth also help kids to speak clearly.
- Healthy teeth help children do better in school because they are not in pain.
- Children with healthy teeth feel good about themselves.

Children should have their first dental visit at age one.

You and your children need to have regular check-ups at your Dental Home. A Dental Home is the dentist's office where you go regularly every six months. Choosing the right dentist is very important. If you are covered by ***Smiles For Children*** (VA Medicaid, FAMIS or FAMIS Plus), we will help you choose a dentist you like and trust. Call this number to find out the names of dentists near your home: 1-888-912-3456. For more information, visit www.DentaQuest.com or download the MyDentaQuest App on your Smartphone.

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LA SALUD BUCODENTAL ES IMPORTANTE

TRABAJANDO JUNTOS PARA MEJORAR SU SALUD BUCODENTAL

SALUD ORAL DURANTE EL EMBARAZO

Durante el embarazo es importante cuidar la boca y los dientes. Cuidar los dientes, comer alimentos saludables y tener otros comportamientos saludables es importante para usted y para su bebé.

Consejos para cuidar bien la salud oral

- Los cambios corporales durante el embarazo pueden hacer que las encías estén sensibles, que se hinchen y que posiblemente sangren. A esto se le conoce como gingivitis y es necesario que el dentista la trate.
- El cuidado oral es seguro durante el embarazo y es importante ver al dentista cada seis meses o cuando algo le preocupe.
- Debe cepillarse los dientes cuando menos dos veces al día y reemplazar el cepillo de dientes cada 3 a 4 meses.
- Enjuáguese cada noche con un enjuague bucal con flúor.
- Coma diversos alimentos saludables como frutas, verduras, productos lácteos y granos enteros.
- Si vomita, es importante enjuagar la boca para que el ácido no afecte los dientes.

Los dientes de leche son importantes

No permita que el bebé se duerma con el biberón en la boca; en lugar de eso trate lo siguiente:

- El buen hábito de cepillar los dientes de leche dará inicio a un buen hábito para los dientes permanentes. Debe comenzar a limpiar las encías de su bebé incluso antes de que salgan los dientes. Puede limpiarlos con un paño para la cara limpio o una gasa.
- Los dientes de leche mantienen el espacio para que por allí salgan los dientes permanentes.
- Los dientes de leche les permiten a los niños comer bien.
- Unos dientes de leche sanos ayudan a mantener bien el resto del cuerpo.
- Los dientes de leche también ayudan a los niños a hablar claramente.
- Unos dientes sanos ayudan a los niños a desempeñarse mejor en la escuela porque no ocasionan dolor.
- Los niños con dientes sanos se sienten bien en cuanto a sí mismos.

Los niños deben ir a su primera consulta dental al primer año de edad.

Usted y sus hijos deben ir frecuentemente al dentista para los chequeos dentales. El consultorio dental es el lugar donde el dentista le atiende regularmente cada seis meses. Escoger el dentista adecuado es muy importante. Si tiene cobertura con Smiles For Children (VA Medicaid, FAMIS o FAMIS Plus), le ayudaremos a seleccionar a un dentista que sea de su agrado y confianza. Llame a este número para conocer los nombres de los dentistas que están cerca de su hogar: 1-888-912-3456. Si desea más información, visite www.DentaQuest.com o descargue la aplicación MyDentaQuest en su teléfono inteligente.

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Oral Health in Pregnancy

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Abstract

Oral health is crucial to overall health. Because of normal physiologic changes, pregnancy is a time of particular vulnerability in terms of oral health. Pregnant women and their providers need more knowledge about the many changes that occur in the oral cavity during pregnancy. In this article we describe the importance of the recognition, prevention, and treatment of oral health problems in pregnant women. We offer educational strategies that integrate interprofessional oral health competencies.

Keywords

gingivitis • oral health • periodontal disease • pregnancy • women's health care

In the last decade, the importance of oral health during pregnancy has garnered the attention of policymakers, foundations, agencies, and health care providers who serve pregnant women and young children. The U.S. Surgeon General (U.S. Department of Health and Human Services, 2000), World Health Organization (Petersen, 2008), and American

College of Obstetricians and Gynecologists (American College of Obstetricians and Gynecologists Women's Health Care Physicians & Committee on Health Care for Underserved Women, 2013) have all recognized that oral health is an integral part of preventive health care for pregnant women and their newborns. Three Institute of Medicine reports (Institute of Medicine, 2011, Institute of Medicine, 2013, Institute of Medicine and National Research Council, 2011) highlighted the significance of addressing oral health as a population health issue for pregnant women. In 2012, the Oral Health Care During Pregnancy Expert Workgroup highlighted the importance of the provision of oral health care to pregnant women in their landmark document, *Oral Health During Pregnancy: A National Consensus Statement.* The U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA) released *Integration of Oral Health and Primary Care Practice* (2014), which outlines interprofessional oral health core clinical competencies appropriate for primary care providers including nurse practitioners (NPs), nurse-midwives (NMs), medical doctors (MDs), doctors of osteopathic medicine (DOs), and physician assistants (PAs).

During pregnancy, many changes occur in the oral cavity that can be linked to periodontal disease, which includes gingivitis and periodontitis. Studies have indicated that there is a connection between “increased plasma levels of pregnancy hormones and a decline in periodontal health status” (Wu, Chen, & Jiang, 2015, p. 8). Approximately 60% to 75% of pregnant women have gingivitis (American Dental Association Council on Access, Prevention, and Interprofessional Relations, 2006). Although various numbers have been reported for the prevalence of periodontitis in pregnancy, almost half of adults in the United States have this condition (Eke, Dye, Wei, Thornton-Evans, & Genco, 2012).

During pregnancy, a woman's oral health can affect her health and the health of her unborn child. The purpose of this article is to present information on the importance of women's health care providers in the recognition, prevention, and management of oral health problems during pregnancy. Strategies that integrate interprofessional oral health competencies into women's health care provider education and practice are provided.

Periodontal Disease in Pregnancy

Periodontal disease, including gingivitis and periodontitis, has been associated with pregnancy (Wu et al., 2015). According to the American Academy of Periodontology, *periodontal disease* is “an inflammatory disease that affects the soft and hard structures that support the teeth” (n.d., “The Causes and Symptoms,” para. 2). *Gingivitis*, the early stage of

periodontal disease, occurs when “the gums become swollen and red due to inflammation,” and *periodontitis,* the most serious form of periodontal disease, occurs when the “gums pull away from the tooth and supporting gum tissues are destroyed” (American Academy of Periodontology, n.d., “The Causes and Symptoms,” para. 2).

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Lack of oral health care during pregnancy can negatively affect mother and newborn.

Gingivitis

Figuero, Carrillo-de-Albornoz, Martín, Tobías, and Herrera (2013) reported in their systematic review that the relationship between pregnancy and gingivitis confirmed “the existence of a significant increase in gingivitis throughout pregnancy and between pregnant versus post-partum or non pregnant women” (p. 457). Ehlers, Callaway, Hortig, Kasaj, and Willershausen (2013) compared the dental evaluation and gingival crevicular fluid from 40 pregnant women and 40 age-matched nonpregnant control subjects. They found that 80% of pregnant women had gingival inflammation compared with 40% of control subjects. Gogeneni et al. (2015) reported that pregnant women with gingivitis and pregnant women with gingivitis and gestational diabetes mellitus (GDM) had high levels of systemic C-reactive protein. These findings indicate that gingivitis is a problem in pregnant women.

Periodontitis

Recent studies have shown an association between periodontitis during pregnancy and low birth weight (LBW), very low birth weight (VLBW), preeclampsia, and GDM (Corbella et al., 2016, Guimarães et al., 2012, Ha et al., 2014, Xiong et al., 2009). Guimarães et al. (2012) showed in their cross-sectional study of 1,206 postpartum women that “maternal periodontitis was associated with a decrease in mean birth weight, as well as LBW and VLBW” (p. 1024). Corbella et al. (2016) conducted a meta-analysis of studies in which researchers controlled for periodontitis as a risk factor associated with negative pregnancy outcomes. They chose 22 out of 422 studies, which included 17,053 subjects. They found that there was an association between periodontitis and negative consequences in pregnancy; however, this association was weak (Corbella et al., 2016).

Xiong et al. (2009) found that periodontitis was associated with GDM (77.4% of pregnant women with GDM had periodontis) with an adjusted odds ratio of 2.6 and a confidence

interval of 95% in their case-control study of 53 pregnant women with GDM and 106 without GDM. Ha et al. (2014) found “a significant relationship between periodontitis and preeclampsia in never smokers” (p. 869) in their prospective cohort study of 283 pregnant women who had never smoked, 67 with periodontitis and 216 without periodontitis.

Although these studies did not show conclusive evidence of the link between periodontal disease and negative pregnancy outcomes, periodontal treatment is safe for pregnant women, avoids the adverse consequences of periodontitis (e.g., pain, tooth loss) for the mother, and is not associated with any negative infant or maternal outcomes (Wrzosek & Einarson, 2009).

Access to Care

Access to dental care is reported to be related to multiple factors and situations that may be concurrent. Examples of these factors and situations include the following: (a) race/ethnicity (Azofeifa et al., 2014, Hwang et al., 2011), (b) age and income level (Azofeifa et al., 2014), (c) personal stressors (Le, Riedy, Weinstein, & Milgrom, 2009), (d) lack of education (Azofeifa et al., 2014), (e) lack of perceived need (Marchi, Fisher-Owens, Weintraub, Yu, & Braveman, 2010), (f) insurance coverage (Cigna Corporation, 2015), and (g) sociodemographic differences (Azofeifa et al., 2014, Hwang et al., 2011).

Hwang et al. (2011) analyzed Pregnancy Risk Assessment Monitoring System data from 2004 through 2006 and found significant disparities in race and ethnicity in the oral health experiences of pregnant women. Black non-Hispanic and Hispanic women were significantly less likely to receive dental care during pregnancy than White non-Hispanic women. Through their use of data from the 1999 through 2004 National Health and Nutrition Examination Survey, Azofeifa et al. (2014) showed significant sociodemographic disparities in dental service use and self-reported oral health among U.S. women in general and between pregnant and nonpregnant women. The probability of having a dental visit within the year significantly increased as the pregnant woman's age, education, and income increased.

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Health care providers lack information on the oral health care needs of pregnant women.

There is evidence that a high percentage of pregnant women do not visit a dentist. For example, the Cigna Corporation (2015) recently conducted a national survey of 801 pregnant women, only half of whom had dental insurance. They found that although 76% of pregnant women reported that they had a dental problem, only 57% reported a dental visit during pregnancy. Those with dental insurance were twice as likely to visit the dentist.

Le et al. (2009) and Marchi et al. (2010) studied why women did not access dental care during pregnancy. Le et al. conducted a telephone interview with 51 randomly selected pregnant women who participated in an Oregon oral health pilot study. They reported that both personal stressors (e.g., financial, employment, and domestic) and dental care issues (e.g., time, cost, attitudes of dental providers, and comprehension of importance of oral health) were some of the barriers that prevented pregnant women from accessing dental care during pregnancy. Marchi et al. (2010) used a population-based survey of over 21,000 pregnant patients and found that the primary reason the women did not access dental care was because of lack of perceived need and that the second most common reason was financial barriers. In a study conducted by Morgan, Crall, Goldenberg, and Schulkin (2009), 77% of obstetrician-gynecologists reported that their patients had been refused dental services because of pregnancy.

Unfortunately, dental care is not a mandated essential for adults in the Patient Protection and Affordable Care Act (2010). Many women do not have a dental benefit with their public or private health plans. Although many states provide a Medicaid dental benefit during pregnancy (National Health Law Program, 2012), these benefits may end when the woman gives birth or shortly thereafter, so timely oral assessment by health professionals and the facilitation of access to appropriate dental care is a priority. Furthermore, access to dental care during pregnancy remains limited because only 32% of the 193,300 U.S. dentists in 2011 reported that they accepted Medicaid (Medicaid-CHIP State Dental Association, n.d.). These findings on access to care highlight the need to improve education in oral health and access for U.S. women of childbearing age.

Oral Health Practice Behavior of Women's Health Care Providers

Many health professionals are aware of the importance of oral health, but often they do not address it as part of their provision of preconception, prenatal, or well woman care (Hashim and Akbar, 2014, Morgan et al., 2009). Hashim and Akbar found that 95.4% of gynecologists surveyed had knowledge about the association between oral health and pregnancy and that

85.2% recommended dental visits for their patients. However, they also found that many gynecologists mistakenly believed that dental x-ray imaging (73%) and local dental anesthesia (59.3%) were unsafe. Similarly, Morgan et al. found that 84% of obstetrician-gynecologists were aware of the importance of oral health in pregnancy but that 54% did not ask about oral health issues and 69% did not provide information on oral health. Furthermore, only 62% recommended dental visits for their patients. In a summary of its survey of pregnant patients, Cigna Corporation (2015) reported that "only 44% of women surveyed say their doctor talked to them about oral health during their pregnancy visits" (p. 2). Many dentists are unwilling to see pregnant patients because of liability concerns, yet they may face more liability from not treating pregnant patients than from treating them (National Maternal and Child Oral Health Policy Center, 2012). This suggests that dentists may still lack knowledge about the oral–systemic connection.

Essential Oral Health Competencies

Women and their health care providers, including dentists, need more knowledge and clarification about the safety of dental treatments during pregnancy. Dental care during pregnancy is safe, and there are appropriate guidelines for the treatment of pregnant patients (Oral Health Care During Pregnancy Expert Workgroup, 2012). Dental visits can take place during any trimester and, if urgent, should never be delayed (Silk, Douglass, Douglass, & Silk, 2008). The risk of radiation exposure is extremely low when lead aprons are used during dental x-ray imaging (Kurien et al., 2013). The most common medications and anesthetics prescribed by dentists are in U.S. Food and Drug Administration Category B, and these drugs have not been found to be a risk to the fetus (Oral Health Care During Pregnancy Expert Workgroup, 2012, Silk et al., 2012).

The perinatal period offers a teachable moment for oral health care and can potentially have an effect on maternal and infant health (American College of Obstetricians and Gynecologists Women's Health Care Physicians and Committee on Health Care for Underserved Women, 2013, California Dental Association Foundation and American College of Obstetricians and Gynecologists, District IX, 2010). The 2013 Committee Opinion from the American College of Obstetricians and Gynecologists recommends that all health care providers assess oral health at the first prenatal visit (American College of Obstetricians and Gynecologists Women's Health Care Physicians, Committee on Health Care for Underserved Women, 2013). Subsequent prenatal visits provide numerous opportunities to implement oral health promotion interventions, including anticipatory guidance and referrals

for dental care. Women's health care providers can incorporate oral–systemic health into all patient encounters from preconception counseling through prenatal and postpartum anticipatory guidance by transitioning the traditional HEENT (i.e., head, eyes, ears, nose, and throat) examination to the HEENOT (i.e., head, eyes, ears, nose, oral cavity, and throat) examination (Haber et al., 2015). The four essential questions to include in an oral history are presented in Table 1. Hummel, Phillips, Holt, and Hayes (2015) introduced the Oral Health Delivery Framework (see Figure 1) that guides the integration of the HEENOT (Haber et al., 2015) approach into the history, physical examination, and treatment plan.

Table 1 Oral Health History From Smiles for Life Prenatal Oral Health Pocket Card

Note. Adapted from "Prenatal Oral Health Pocket Card," by H. Silk, A. Douglass, & J. Douglass, 2012, *Smiles for Life: A National Oral Health Curriculum*. Copyright 2012 by Smiles for Life. Adapted with permission.

Questions
1. Do you brush twice a day and floss daily?
2. Do you have a dentist, dental insurance?
3. Have you seen the dentist in the past 6 months for a regular check-up and cleaning?
4. Do you need any dental treatment completed?

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Figure thumbnail gr1

Figure 1 Oral Health Delivery Framework.

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Although many health care providers may voice concern over the amount of time involved, an oral examination typically takes 1 minute to perform. During the physical examination, the provider examines the lips, mucous membranes, teeth, gums, and tongue. A plan of care, which includes education for prevention of oral health problems, maintenance of good oral health, and referral for any oral health problems is integral to the provision of whole-person care. Prevention includes information about oral hygiene, such as regular brushing twice a day and flossing daily. Women who experience vomiting should be instructed to rinse afterward with a solution of baking soda to prevent erosion of tooth enamel (Silk et al., 2008). Mothers need to know that *Streptococcus mutans,* the bacteria associated with dental caries, can be transmitted to the child, infect the child’s teeth, and increase the risk for early childhood caries (Berkowitz, 2006, California Dental Association Foundation and American College of Obstetricians and Gynecologists, District IX, 2010). In a population-based study, Weintraub, Prakash, Shain, Laccabue, and Gansky (2010) showed that the odds of children having untreated caries almost doubled when the mother had untreated caries. To reduce the transmission of bacteria from mother to child, it is important for women's health care providers to educate mothers about good oral hygiene practices and minimal “saliva-sharing activities” (American Academy of Pediatric Dentistry, 2015, p. 51). Good maternal oral health practices have the potential to influence the child’s lifelong oral health. Documentation of all oral health assessment findings and interventions is essential. The development of a network of community dentists for collaboration and referral is invaluable to offer patients for oral health maintenance.

Preparing the Next Generation of Women's Health Care Providers

Women's health care providers may lack adequate knowledge to distinguish between normal changes in oral health during pregnancy because they did not have this information in their curriculum. According to Ferullo, Silk, and Savageau (2011), about 70% of MD degree –granting (n = 72) and DO degree–granting (n = 13) schools surveyed had fewer than 5 hours of oral health education. Authors of the most recent review indicate that PA and NM

programs have not required oral health content or competencies in their curricula (American College of Nurse Midwives, 2012, National Commission on Certification of Physician Assistants et al., 2012).

The National Interprofessional Initiative on Oral Health has played a leadership role in raising awareness among NP, NM, and PA faculty members; oral health is beginning to be integrated into these curricula. The National Organization of Nurse Practitioner Faculties has recently included oral health in the latest *Nurse Practitioner Core Competencies With Suggested Curriculum Content* (2014). The New York University College of Nursing Oral Health Nursing Education and Practice (OHNEP) program, the nursing arm of the National Interprofessional Initiative on Oral Health, has sponsored oral health workshops at the American College of Nurse-Midwives Annual Meeting and Exhibition in 2013, 2014, and 2015. In 2016, the OHNEP program administered a survey to all 39 Directors of Midwifery Education in the United States. The survey showed that 27 of the 30 programs (90%) that responded indicated they include oral health in the curriculum. In 2014, the PA arm of the National Interprofessional Initiative on Oral Health surveyed 182 PA Directors of accredited programs in the United States. According to Langelier, Glicken, and Surdu (2015), the survey showed that 98 of the 125 respondents (78.4%) indicated that their “programs had integrated oral health content into their curriculum,” which represented an increase from 2008 (p. 62).

Strategies for Integrating Oral Health

In 2014, HRSA released *Integration of Oral Health and Primary Care Practice*, which outlines interprofessional oral health core clinical competencies appropriate for primary care providers, including but not limited to NPs, NMs, MDs, DOs, and PAs (U.S. Department of Health and Human Services, HRSA, 2014). *Smiles for Life: A National Oral Health Curriculum* is an interprofessional oral health curriculum designed to provide the same women's health care providers with education in oral health promotion across the lifespan (Clark et al., 2010). Three specific *Smiles for Life* courses, “Relationship of Oral Health to Systemic Health,” “Oral Health and the Pregnant Patient,” and “The Oral Examination,” are found on the Web site (www.smilesforlifeoralhealth.org) and are recommended for qualified women’s health professionals to earn continuing education credits. These and other essential resources that contain important knowledge about oral health and related interprofessional competencies for women's health care providers and students can be found in Table 2.

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Clinicians who care for women during pregnancy should incorporate oral health competencies into their education and practice.

Table 2 Oral Health Resources

Organization	Resource	Web Site
American Academy of Pediatrics	*Bright Futures Oral Health Supervision Guidelines* (3rd ed.) *Bright Futures in Practice: Oral Health—Pocket Guide* (2nd ed.)	http://www.brightfutures.org http://mchoralhealth.org/pocket/index.html
American Academy of Pediatric Dentistry	*Pediatric Oral Health Policies and Clinical Practice Guidelines*	http://www.aapd.org/policies
Association of American Medical Colleges	*Oral Health in Medicine Model Curriculum* *Oral Health Management of Pregnant*	https://www.mededportal.org/about/initiatives/oralhealth https://www.mededportal.org/publication/4056

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Primary prevention requires more workforce capacity than the dental community alone can provide. The development of an interprofessional oral health primary care workforce capacity is integral to increasing access to oral health care for pregnant women. Heightened awareness of oral–systemic health must be included in women's health care provider education for clinicians to translate the information into practice. The OHNEP program has developed an Interprofessional Oral Health Faculty Toolkit (www.ohnep.org/faculty-toolkit). This Toolkit uses the HEENOT approach that was previously described. It includes a wealth of oral–systemic health resources for health assessment, health promotion, and clinical practice for faculty, students, and practicing clinicians to teach both the theory and practice of the integration of oral health into the history and physical examination. Examples of the Toolkit's overall strategies include (a) visual aids to supplement class discussions of normal versus abnormal oral findings, (b) oral–systemic case studies, and (c) projects to develop educational resources for pregnant women, such as the development of a community resource of dental providers willing to see pregnant women. It also provides specific strategies to teach future providers how to promote effective self-management of oral and overall health in their patients through interprofessional collaborative practice, health literacy, and community service. The Toolkit provides a firm foundation for future collaborative practice, highlighting that dental referrals for pregnant women are essential to safe practice.

Women's health care providers, to provide quality and safe care, must engage their patients in an oral health discussion and offer consistent prevention messages.

Conclusion

There is sufficient evidence that the lack of oral health care during pregnancy can have negative outcomes for both mothers and their newborns. To improve the oral–systemic health outcomes for mothers and their newborns, it is essential to increase the current and future interprofessional oral health workforce capacity. Current women's health care providers and NP, NM, MD, DO, and PA students, as future women's health care providers, can increase their knowledge of the oral health care needs of pregnant women through the use of oral health educational resources. Essential resources include the OHNEP *Interprofessional Oral Health Faculty Toolkit* and the Smiles for Life modules. These resources provide a firm foundation for the integration of oral health into clinical practices. By integrating the HRSA Interprofessional Oral Health Core Clinical Competencies, the HEENOT approach, and the Oral Health Delivery Framework in clinical practice models, women's health care providers can use a “best practice” approach. Meeting the oral health

needs of pregnant women and their newborns will be accomplished only through collaboration among all health care professional educators and providers to promote the incorporation of oral health needs as a gold standard for educational programs and clinical practice.

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References

1. American Academy of Pediatric Dentistry
Policy on early childhood caries (ECC): Classifications, consequences, and preventive strategies.
Pediatric Dentistry. 2015; **37** (Retrieved from): 50-52
http://www.aapd.org/media/policies_guidelines/p_eccclassifications.pdf

View in Article

Google Scholar

2. American Academy of Periodontology. (n.d.). *Periodontal disease fact sheet*. Retrieved from https://www.perio.org/newsroom/periodontal-disease-fact-sheet

View in Article

Google Scholar

3. American College of Nurse Midwives
ACNM core competencies for basic midwifery practice.
2012 (Retrieved from)
http://www.midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/000000000050/Core%20Comptencies%20Dec%202012.pdf

View in Article

Google Scholar

4. American College of Obstetricians and Gynecologists Women's Health Care Physicians
Committee on Health Care for Underserved Women
Committee opinion no. 569: Oral health care during pregnancy and through the lifespan.
Obstetrics and Gynecology. 2013; **122**: 417-422
https://doi.org/10.1097/01.AOG.0000433007.16843.10

View in Article

PubMed • Crossref • Google Scholar

5. American Dental Association Council on Access, Prevention, and Interprofessional Relations
Women's oral health issues.
([white paper])2006 (Retrieved from)
http://ebusiness.ada.org/productcatalog/product.aspx?ID=2313

View in Article

Google Scholar

6. Azofeifa A. • Yeung L.F. • Alverson C.J. • Beltrán-Aguilar E.
Oral health conditions and dental visits among pregnant and nonpregnant women of childbearing age in the United States, National Health and Nutrition Examination Survey, 1999–2004.
Preventing Chronic Disease. 2014; **11**: E163
https://doi.org/10.5888/pcd11.140212

View in Article

Scopus (19) • Crossref • Google Scholar

7. Berkowitz R.J.
Mutans streptococci: Acquisition and transmission.
Pediatric Dentistry. 2006; **28**: 106-109

View in Article

PubMed • Google Scholar

8. California Dental Association Foundation •
American College of Obstetricians and Gynecologists, District IX
Oral health during pregnancy and early childhood: Evidence-based guidelines for health professionals.
2010 (Retrieved from)
http://www.cdafoundation.org/Portals/0/pdfs/poh_guidelines.pdf

View in Article
Google Scholar

9. Cigna Corporation
Healthy smiles for mom and baby: Insights into expecting and new mothers' oral health habits.
2015 (Retrieved from)
http://www.cigna.com/assets/docs/newsroom/cigna-study-healthy-smiles-for-mom-and-baby-2015.pdf?WT.z_nav=newsroom%2Fdental-study%3BBody%3BDownload%20Executive%20Summary

View in Article
Google Scholar

10. Clark M. • Douglass A. • Maier R. • Deutchman M. • Douglass J. • Gonsalves W. • Quinonez R.
Smiles for life: A national oral health curriculum.
3rd ed. Society of Teachers of Family Medicine, Washington, DC2010 (Retrieved from)
http://www.smilesforlifeoralhealth.org/

View in Article
Google Scholar

11. Corbella S. • Taschieri S. • Del Fabbro M. • Francetti L. • Weinstein R. • Ferrazzi E.
Adverse pregnancy outcomes and periodontitis: A systematic review and meta-analysis exploring potential association.
Quintessence International. 2016; **47**: 193-204

https://doi.org/10.3290/j.qi.a34980

View in Article

Scopus (34) • Crossref • Google Scholar

12. Ehlers V. • Callaway A. • Hortig W. • Kasaj A. • Willershausen B.
Clinical parameters and aMMP-8-concentrations in gingival crevicular fluid in pregnancy gingivitis.
Clinical Laboratory. 2013; **59**: 605-611
https://doi.org/10.7754/Clin.Lab.2012.120619

View in Article

Scopus (4) • Crossref • Google Scholar

13. Eke P.I. • Dye B.A. • Wei L. • Thornton-Evans G.O. • Genco R.J.
Prevalence of periodontitis in adults in the United States: 2009 and 2010.
Journal of Dental Research. 2012; **91**: 914-920
https://doi.org/10.1177/0022034512457373

View in Article

Scopus (909) • PubMed • Crossref • Google Scholar

14. Ferullo A. • Silk H. • Savageau J.A.
Teaching oral health in U.S. medical schools: Results of a national survey.
Journal of the Association of American Medical Colleges. 2011; **86**: 226-230
https://doi.org/10.1097/ACM.0b013e3182045a51

View in Article

Scopus (50) • Crossref • Google Scholar

15. Figuero E. • Carrillo-de-Albornoz A. • Martín C. • Tobías A. • Herrera D.
Effect of pregnancy on gingival inflammation in systemically healthy women: A systematic review.
Journal of Clinical Periodontology. 2013; **40**: 457-473
https://doi.org/10.1111/jcpe.12053

View in Article

Scopus (43) • Crossref • Google Scholar

16. Gogeneni H. • Buduneli N. • Ceyhan-Öztürk B. • Gümüş P. • Akcali A. • Zeller I. • Özçaka Ö.
Increased infection with key periodontal pathogens during gestational diabetes mellitus.
Journal of Clinical Periodontology. 2015; **42**: 506-512
https://doi.org/10.1111/jcpe.12418

View in Article

Scopus (22) • Crossref • Google Scholar

17. Guimarães A.N. • Silva-Mato A. • Siqueira F.M. • Cyrino R.M. • Cota L.O.M. • Costa F.O.
Very low and low birth weight associated with maternal periodontitis.
Journal of Clinical Periodontology. 2012; **39**: 1024-1031
https://doi.org/10.1111/jcpe.12000

View in Article

Scopus (11) • Crossref • Google Scholar

18. Ha J.E. • Jun J.K. • Ko H.J. • Paik D.I. • Bae K.H.
Association between periodontitis and preeclampsia in never-smokers: A prospective study.
Journal of Clinical Periodontology. 2014; **41**: 869-874
https://doi.org/10.1111/jcpe.12281

View in Article

Scopus (18) • Crossref • Google Scholar

19. Haber J. • Hartnett E. • Allen K. • Hallas D. • Dorsen C. • Lange-Kessler J. • Wholihan D.
Putting the mouth back in the head: HEENT to HEENOT.
American Journal of Public Health. 2015; **105**: 437-441
https://doi.org/10.2105/AJPH.2014.302495

View in Article

Scopus (26) • PubMed • Crossref • Google Scholar

20. Hashim R. • Akbar M.
Gynecologists' knowledge and attitudes regarding oral health and PD leading to adverse pregnancy outcomes.
Journal of International Society of Preventive & Community Dentistry. 2014; **4**: S166-S172
https://doi.org/10.4103/2231-0762.149028

View in Article
Crossref • Google Scholar

21. Hummel J. • Phillips K.E. • Holt B. • Hayes C.
Oral health: An essential component of primary care.
([white paper]) Qualis Health, Seattle, WA2015 (Retrieved from)
http://www.safetynetmedicalhome.org/sites/default/files/White-Paper-Oral-Health-Primary-Care.pdf

View in Article
Google Scholar

22. Hwang S.S. • Smith V.C. • McCormick M.C. • Barfield W.D.
Racial/ethnic disparities in maternal oral health experiences in 10 states, pregnancy risk assessment monitoring system, 2004-2006.
Maternal and Child Health Journal. 2011; **15**: 722-729
https://doi.org/10.1007/s10995-010-0643-2

View in Article
Scopus (26) • Crossref • Google Scholar

23. Institute of Medicine
Advancing oral health in America.
The National Academies Press, Washington, DC2011
https://doi.org/10.17226/13086

View in Article
Scopus (5) • Crossref • Google Scholar

24. Institute of Medicine

Oral health literacy: Workshop summary.
The National Academies Press, Washington, DC2013 (Retrieved from)
http://iom.nationalacademies.org/Reports/2013/Oral-Health-Literacy.aspx

View in Article
Google Scholar

25. Institute of Medicine & National Research Council
Improving access to oral health care for vulnerable and underserved populations.
The National Academies Press, Washington, DC2011
https://doi.org/10.17226/13116

View in Article
Scopus (6) • Crossref • Google Scholar

26. Kurien S. • Kattimani V.S. • Sriram R.R. • Sriram S.K. • Prabhakara Rao V.K. • Bhupathi A. • Patil N.
Management of pregnant patient in dentistry.
Journal of International Oral Health. 2013; **5**: 88-97

View in Article
Google Scholar

27. Langelier M.H. • Glicken A.D. • Surdu S.
Adoption of oral health curriculum by physician assistant education programs in 2014.
The Journal of Physician Assistant Education. 2015; **26**: 60-69
https://doi.org/10.1097/JPA.0000000000000024

View in Article
Scopus (18) • Crossref • Google Scholar

28. Le M. • Riedy C. • Weinstein P. • Milgrom P.
An intergenerational approach to oral health promotion: Pregnancy and utilization of dental services.
Journal of Dentistry for Children. 2009; **76**: 46-52

View in Article

Google Scholar

29. Marchi K.S. • Fisher-Owen S.A. • Weintraub J.A. • Yu Z. • Braveman P.A.
Most pregnant women in California do not receive dental care: Findings from a population-based study.
Public Health Reports. 2010; **125**: 831-842
https://doi.org/10.2307/41434849

View in Article

PubMed • Crossref • Google Scholar

30. Medicaid-CHIP State Dental Association. (n.d.). *National profile of state Medicaid and CHIP oral health programs*. Retrieved from http://www.msdanationalprofile.com

View in Article

Google Scholar

31. Morgan M.A. • Crall J. • Goldenberg R.L. • Schulkin J.
Oral health during pregnancy.
The Journal of Maternal-Fetal & Neonatal Medicine. 2009; **22**: 733-739
https://doi.org/10.3109/14767050902926954

View in Article

Crossref • Google Scholar

32. National Commission on Certification of Physician, Assistants • Accreditation Review Commission on Education for the Physician Assistant • American Academy of Physician Assistants • Physician Assistant Education Association
Competencies for the physician assistant profession.
2012 (Retrieved from American Academy of Physician Assistants Web site:)
https://www.aapa.org/WorkArea/DownloadAsset.aspx?id=2178

View in Article

Google Scholar

33. National Health Law Program
Dental coverage for low-income pregnant women.
2012 (Retrieved from)
http://www.healthlaw.org/publications/dental-coverage-for-low-income-pregnant-women#.VjjiuLerTct

View in Article
Google Scholar

34. National Maternal and Child Oral Health Policy Center
Improving the oral health of pregnant women and young children: Opportunities for policymakers.
2012 (Retrieved from)
http://nmcohpc.net/2012/improving-oral-health-pregnant-women

View in Article
Google Scholar

35. National Organization of Nurse Practitioner Faculties
Nurse practitioner core competencies with suggested curriculum content.
2014 (Retrieved from)
http://c.ymcdn.com/sites/nonpf.site-ym.com/resource/resmgr/Competencies/NPCoreCompsContentFinalNov20.pdf

View in Article
Google Scholar

36. Oral Health Care During Pregnancy Expert Workgroup
Oral health care during pregnancy: A national consensus statement—Summary of an expert workgroup meeting.
2012 (Retrieved from)
http://mchoralhealth.org/PDFs/OralHealthPregnancyConsensus.pdf

View in Article
Google Scholar

37. Patient Protection and Affordable Care Act • 42 U.S.C. § 18001

(Retrieved from)
http://legcounsel.house.gov/Comps/Patient%20Protection%20And%20Affordable%20Care%20Act.pdf
Date: 2010

View in Article
Google Scholar

38. Petersen P.E.
World Health Organization global policy for improvement of oral health—World Health Assembly 2007.
International Dental Journal. 2008; **58**: 115-121
https://doi.org/10.1111/j.1875-595X.2008.tb00185.x

View in Article
PubMed • Crossref • Google Scholar

39. Silk H. • Douglass A. • Douglass J.
Prenatal oral health pocket card.
2012 (Retrieved from)
http://www.smilesforlifeoralhealth.org/buildcontent.aspx?pagekey=62954&lastpagekey=62948&userkey=12230708&sessionkey=2743160&tut=555&customerkey=84&custsitegroupkey=0

View in Article
Google Scholar

40. Silk H. • Douglass A. • Douglass J. • Silk L.
Oral health during pregnancy.
American Family Physician. 2008; **77**: 1139-1144

View in Article
PubMed • Google Scholar

41. U.S. Department of Health and Human Services
Oral health in America: A report of the Surgeon General.
2000 (Retrieved from)

http://silk.nih.gov/public/hck1ocv.@www.surgeon.fullrpt.pdf

View in Article

Google Scholar

42. U.S. Department of Health and Human Services • Health Resources and Services Administration
Integration of oral health and primary care practice.
2014 (Retrieved from)
http://www.hrsa.gov/publichealth/clinical/oralhealth/primarycare/

View in Article

Google Scholar

43. Weintraub J.A. • Prakash P. • Shain S.G. • Laccabue M. • Gansky S.A.
Mothers' caries increases odds of children's caries.
Journal of Dental Research. 2010; **89**: 954-958
https://doi.org/10.1177/0022034510372891

View in Article

Scopus (67) • PubMed • Crossref • Google Scholar

44. Wrzosek T. • Einarson A.
Dental care during pregnancy.
Canadian Family Physician. 2009; **55**: 598-599

View in Article

Google Scholar

45. Wu M. • Chen S.-W. • Jiang S.-Y.
Relationship between gingival inflammation and pregnancy.
Mediators of Inflammation. 2015; **2015**: 623427
https://doi.org/10.1155/2015/623427

View in Article

Scopus (39) • Crossref • Google Scholar

46. Xiong X. • Elkind-Hirsch K.E. • Vastardis S. • Delarosa R.L. • Pridjian G. • Buekens P.
Periodontal disease is associated with gestational diabetes mellitus: A case-control study.
Journal of Periodontology. 2009; **80**: 1742-1749
https://doi.org/10.1902/jop.2009.090250

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Scopus (58) • Crossref • Google Scholar

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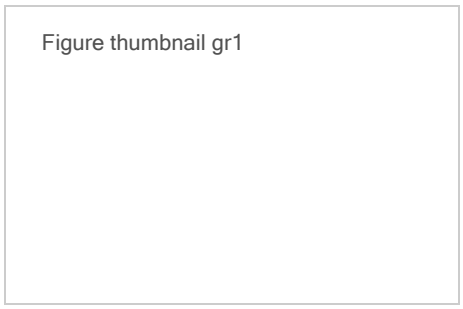

Figure 1 Oral Health Deli…
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Twitter

Pregnancy Oral Health Resources

National Maternal and Child Oral Health Resource Center. 2019. Promoting Oral Health During Pregnancy: Update on Activities— December 2019

https://www.mchoralhealth.org/PDFs/oralhealthpregnancyupdate_12_2019.pdf

Oral Health Care During Pregnancy: A National Consensus Statement

http://mchoralhealth.org/PDFs/OralHealthPregnancyConsensus.pdf

Tips for Good Oral Health During Pregnancy

http://www.mchoralhealth.org/PDFs/OralHealthPregnancyHandout.pdf

Two Healthy Smiles; Tips to keep You and Your Baby Healthy

http://mchoralhealth.org/PDFs/pregnancybrochure.pdf

American Academy of Pediatrics (AAP) HealthyChildren.org: Give Your Baby the Best Possible Start

https://healthychildren.org/English/ages-stages/prenatal/Pages/Protect-Tiny-Teeth.aspx

AAP Tiny Teeth: Art of For-Two'ing (30-second video geared toward pregnant women)

https://youtu.be/Ub9HC1DX4Mg

Practice Guide for Virginia's Prenatal and Dental Providers (and other resources)

https://www.vdh.virginia.gov/oral-health/resources/

Oral Health Anticipatory Guidance
Pre-natal

General Health and Oral health

1. Provide information that relates the pregnant woman's oral health to her general health.
2. Poor oral health may increase risk of poor birth outcomes, such as premature deliveries and low birth-weight babies.
3. Because of hormonal changes that occur during pregnancy, there is an exacerbated response from the gum tissues to irritants, such as food debris and bacteria, increasing the risk of pregnancy gingivitis.

Oral Hygiene:

1. Counsel the pregnant woman about her oral hygiene.
    a. Brush after eating/snacking (minimum 2X/day) with a fluoride toothpaste.
    b. Floss daily.
    c. Rinse and brush more often if having frequent vomiting.
2. Meticulous oral hygiene habits can decrease the risk of tooth decay for herself and her baby and reduce oral infections, such as gingivitis.

Nutrition:

1. If snacking eases nausea and vomiting symptoms, the mother should make healthy choices, such as fruits, vegetables, whole grains, yogurt and cheese.
2. Snacking on sugary and starchy food should be limited, as this increases the risk of tooth decay.
3. Nutrients such as calcium, phosphorus and folic acid promote the formation of sound primary teeth in the developing fetus.
4. Drink fluoridated water.

Dental Care:

1. During pregnancy, the woman should seek routine dental care for an examination, cleaning and restoration of active tooth decay, as recommended by the dentist.
2. The pregnant woman should tell the dentist/dental hygienist of her pregnancy.
3. Other needed dental services will be evaluated by the dental provider, and may be postponed until after delivery.

Breast-feeding Counseling:

1. Research shows that breast-feeding is associated with reducing the risk of early childhood caries.
2. Breastfeeding should not be used to sooth or pacify the baby, if the baby is not hungry.

Dental Resources in Virginia

WHAT IS *SMILES FOR CHILDREN*?

Smiles For Children (SFC) is Virginia's Medicaid and FAMIS dental program. SFC provides comprehensive dental benefits to members under 21, medically appropriate dental benefits to pregnant members and limited benefits to non-pregnant members over 21.

WHAT SERVICES ARE COVERED UNDER THE *SMILES FOR CHILDREN* PROGRAM?

(members under 21)

- Regular dental checkups (every six months)
- X-rays (when necessary)
- Cleaning and fluoride (every six months)
- Sealants
- Information and education about oral care
- Space maintainers
- Braces (if necessary)
- Anesthesia
- Extractions
- Root canal treatment
- Crowns

PREGNANCY BENEFIT

Pregnant women who are 21 years old and older in Medicaid or FAMIS can get dental benefits. These dental benefits will be available through the ***Smiles For Children*** program. Benefits include cleanings, exams, fillings, crowns. Root canals, x-rays, and anesthesia are also covered. Braces are not covered. These benefits will stop at the end of the month following the 60th day after you have had the baby. Pregnant members who are under 21 years old can get full benefits through Virginia's ***Smiles For Children*** dental program. Braces are included.

You will be able to get a ride to the dentist under this new program. If you are in one of the managed care organizations (MCOs), {excluding FAMIS enrollees} call them to make transportation reservations. If you are not in an MCO, call LogistiCare at (866) 386-8331.

For information about *Smiles For Children* or to find a dental provider in your area, call toll-free:
1-888-912-3456
8 AM - 6 PM (Mon-Fri)

For specific questions case workers may contact Jackie wake at Jacqueline.Wake@DentaQuest.com.

OTHER RESOURCES

Mission of Mercy

- Mobile dental clinics that provide free dental care to those with limited access
- Visit www.vdaf.org for more information or call Barbara Rollins at 1-804-620-4032

Donated Dental Services

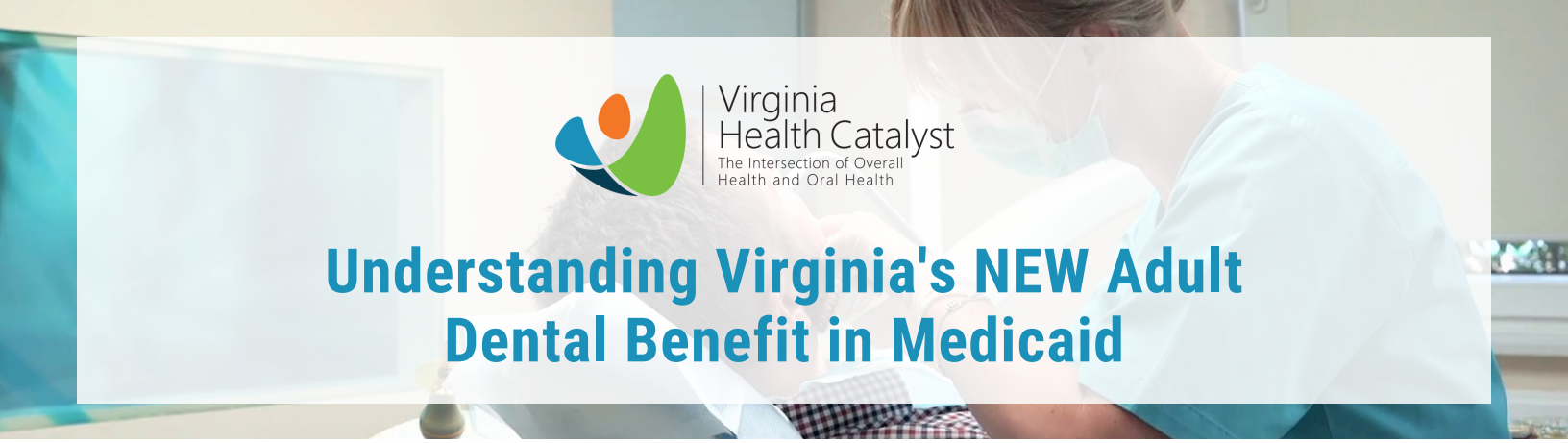
- Provides comprehensive dental care through a network of volunteer dentists, specialists, and laboratories to individuals who are 62+ years of age or older, or permanently disabled throughout Virginia
- Contact VDAF at (804) 523-2180 for more information

Safety Net Clinics

Visit http://www.vhcf.org/ and click on the map on the right. This will help to locate clinics and other Safety Net programs.

Smiles For Children℠
Improving Dental Care Across Virginia

DentaQuest®



Virginia Health Catalyst
The Intersection of Overall Health and Oral Health

Understanding Virginia's NEW Adult Dental Benefit in Medicaid

Starting July 1, 2021, all adults that are full Medicaid members (Medallian 4.0 and CCC+) have a comprehensive dental benefit.

DENTAL BENEFIT COVERAGE

- Teeth Cleanings
- Exams
- X-Rays
- Fillings
- Root Canals
- Extractions
- Anesthesia
- Dentures
- Gum Treatment
- and more!

COST

There is no copay or deductible for this benefit; and no annual cost limit for coverage. For more information on benefit design and limitations, contact DentaQuest. Transportation services are available.

INSURANCE

There is one dental benefits administrator, DentaQuest, and the dental program is ***Smiles for Children***. Managed Care Organizations (MCOs) (Aetna, Anthem, Magellan, Optima, UnitedHealthcare, VA Premier) value-add dental benefits were replaced by this new benefit. All full Medicaid members have dental insurance through DentaQuest and the ***Smiles for Children*** program.

ENROLLMENT

Adult Medicaid members are automatically enrolled in the new dental benefit. No new paperwork is required. Children and pregnant individuals enrolled in Medicaid, FAMIS and FAMIS MOMS are already eligible to receive dental care.

INSURANCE CARD

Adult Medicaid members will use their blue and white Medicaid card or your managed care health plan ID card as proof of insurance. There is not a new dental insurance card.

Smiles For Children
Improving Dental Care for Children and Adults

To find a dental provider or learn more about specific coverage, contact DentaQuest!

DentaQuest

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