Promoting Dental Health for Pregnant Women, Infants, and Children in Alamance County, North Carolina

by

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Abstract:

The dental health of Americans has drastically improved over the past decade. Since 1994, there has been a drop in the percentage of children and teenagers who have cavities in their permanent teeth. The percentage of individuals with protective dental sealants has increased. More and more older adults are retaining their own teeth. Unfortunately, the news is not all good. The improvements in dental health over the past decade have predominantly been among White and upper and middle class individuals. The gap dividing races and incomes has widened for both children and adults (Centers for Disease Control, 2005).

Despite the decreases in cavities among adults since the 1960’s, it is the youngest members of our society that are suffering the ill effects of poor dental hygiene. The percentage of preschoolers (aged 2-5) with cavities in their baby teeth has risen to 28% from the 24% in the 1990’s. This is a major issue because having cavities in baby teeth increases the probability of having cavities in permanent teeth (Centers for Disease Control, 2007).

This paper will consider this ongoing and ever-increasing dental health issue in the United States. It will consider the causes of the dental health disparities. The focus will be on children’s dental health from conception through early childhood. One of the major issues still facing dental health professionals is the large number of pregnant women, infants, and children not receiving proper professional dental care or utilizing quality dental health measures at home. Primarily, the focus will be on Alamance County, North Carolina where the Alamance County Health Department (ACHD) has become acutely aware of the dental health issue for pregnant women, infants, and children. Finally, a plan will be presented on how best to improve dental health outcomes in an effort to improve overall health in Alamance County.
Introduction:

There is an area of health care that has been largely ignored by the medical community. It has been ignored by both patients and physicians. This area is that of dental health. The CDC has reported that the incidence of tooth decay in the youngest of children is on the rise. The rate of tooth decay among 2 to 5 year olds has increased from 24% between years 1988-1994 to 28% in the years 1999-2004 (Oral health, 2007). This means that over 4 million children have their first cavity between the ages of 2 and 5 (Bogges & Edelstein, 2006). The rate of tooth decay is not equal for all children across racial and economic lines. The rate of tooth decay is significantly greater among Hispanic children ages 6-11 (31%) as compared to White children of the same ages (19%), and children living under the poverty line are 3 times more likely to have tooth decay that has been left untreated (Oral health, 2007).

The negative outcomes of poor dental health are not limited to tooth decay, tooth loss, and gum disease in children. A study was done to determine if a correlation existed between the dental health of children and the overall health of children. Overall health was evaluated on the basis of parental perceptions of health. The study found that there was a significant relationship between dental health and overall health. Poor dental health was shown to create lower perceptions of overall general health as described by the children’s parents (Pahel, Rozier & Slade, 2007).

A critical issue in the realm of dental health that needs greater attention is the issue of dental care during pregnancy. Due to a change in hormones during pregnancy, pregnant women are at an increased risk for gum infections. Research is mounting to support the idea that these infections can lead to pregnancy complications including miscarriage, preterm births, and insufficient growth and development of the baby (Offenbacher, 2007). Gingivitis is common
between the second and eighth month of pregnancy due to increased levels of progesterone. The American Dental Association (ADA) recommends that pregnant women have frequent cleanings especially during the second trimester. Overgrowth of gum tissues can also occur between teeth that have to be removed after the baby is born. All of these gum problems not only cause problems for the mother but also for the unborn child (American Dental Association, 2005). These gum problems are made worse by smoking, poor nutrition, poor home care, and/or infrequent dental visits (Breedlove, 2004). Oral infections in the mother can also predispose unborn children to dental caries after birth (Bogges & Edelstein, 2006).

Researchers studied the relationship between periodontal health and pregnancy outcomes among Iranian pregnant women in 2007. The study showed a significant relationship between the two. Preterm labor was significantly more frequent in women with periodontal disease (Zadeh-Modarres, Amooian, Bayat-Movahad & Muhamds, 2007). Women are more likely to have seen a dentist during pregnancy if they are married, have dental insurance (financial issues), and have knowledge of the connection between oral health and birth outcomes (Al Habashneh, Guthmiller, Levy, Johnson, Squire, Dawson & Fang, 2005). A survey of women in Iowa who had recently given birth showed that only 43% of survey respondents were aware of the connection between oral health and birth outcomes. The study emphasized the great need to increase education among women of childbearing age on the importance of dental health during pregnancy (Al Habashneh et al., 2005).

Improving oral health in the United States is essential to improving the overall health of the population. The mouth is the entry way to the body, so dental health effects overall physical health (Bogges & Edelstein, 2006). There have long been known to be disparities in oral health. There are a number of social determinants that impact people’s utilization of dental services
including gender, income, education, occupation, social support, community structure, availability of services, and cultural beliefs and attitudes. One of the major indicators of dental health utilization is that of having dental insurance, though having insurance does not guarantee utilization. However, the RAND Health Insurance experiment showed that free dental care improved the oral health of low income preschool children (Patrick, Lee, Nucci, Grembowski, Tolles & Milgram, 2006).

Bacterial infections are passed to children during pregnancy and in their households after birth from parents and other children. There is vertical transmission of bacteria from the mouths of parents or other care providers in the home to their children, as well as, horizontal transmission of bacteria among siblings within the same household. So, the dental health of caregivers in the home and other children in the home is very important to the dental health of newborns coming into the home. Women self-report having had more dental exams than men. However, few women obtain dental health care during the critical time of pregnancy (Patrick et al., 2006). According to the CDC, only 23-43% of women received dental care during pregnancy. Women’s overall dental service usage is 67% (Bogges & Edelstein, 2006).

In addition to considering the dental health of the household, the greatest needs for children to prevent tooth decay are less sugar in their diets including juices, drinking fluoridated water, brushing their teeth under the supervision of an adult, and routine dental exams. Dental exams are the best predictors of oral health (Patrick et al., 2006).

For women, the utilization of dental care shows racial disparities, as well. In North Carolina, Hispanic women over the age of 18 are almost twice as likely to have not received dental care in the past year (Center for Women’s, 2007). There is a tie between the dental health habits of mothers and their children. A study of Puerto Rican women showed that the majority
of women were not aware that tooth decay was even possible in infants. They also found that few very young children of these women were taken for dental visits. They were more likely to, however, if their mothers maintained their own oral health (Lopez de Valle, Riedy & Weinstein, 2005).

The Hispanic population faces its own barriers to dental health care. These barriers include lack of insurance, lack of Hispanics in the dental health work force, and cultural and language barriers. Many Hispanics are resistant to enroll in public health programs out of fear of harassment or deportation by immigration officials. Hispanics who speak English predominantly in their homes are more likely to seek out dental health services as opposed to those who predominantly speak Spanish. According to Patrick, et al., from their studies, the most effective ways of targeting individuals to seek dental health services are based on the Health Belief Model. They feel that it is essential to increase the perceived threat of oral health issues and increase the mode of control. For Hispanics, in particular, they recommend greater use of Spanish in dental health clinics. This use of Spanish should not be limited to print materials. Spanish should also be spoken within the clinics, and the community should be used as a resource. By having community events and lay referrals for dental care, the overall oral health of the Hispanic community can be improved (Patrick et al., 2006).

For minorities, language may not be the only barrier to access to care. The dental health community is declining. Dentists are retiring at a greater rate than dental schools are producing new graduates. This has led to a decline in the number of dentists in rural and inner cities where more minorities reside. Further the US population is 12% African American and 11% Hispanic, while minority representation among dentists is only 5.7% for African Americans and 5.3% for Hispanics (http://ccnmtl.columbia.edu/projects/otm/pt01.html). According to a dentist at the
Children’s Dental Health Center in Alamance County, North Carolina, many Hispanic mothers report not brushing the teeth of their children because the children cry. They are also more likely to give babies a bottle, juice, or sweets to keep them happy. This is because in the Hispanic culture, women are expected to keep their babies quiet.

One of the major barriers to proper dental care for pregnant women and children is that of education. However, it is not just parents who need to be educated. All women of childbearing age need to be educated about the importance of proper oral health for their own benefit as well as the benefit of their future children. Health care providers are in need of education, as well. Proper dental care is often ignored by obstetricians and pediatricians. In addition, many dental health professionals are reluctant to treat pregnant women. Major dental procedures have long been limited to the second trimester because there are fewer risk factors than in the first trimester, and the mother is more comfortable in the exam chair than she will be during the third trimester. The limitations of these trimester-based treatment restrictions reinforces the need for comprehensive preventative dental care for all women of childbearing age to avoid the need for procedures that can only be done within such a small window of time (Bogges & Edelstein, 2006).

Another barrier to dental health treatment is lack of insurance. Half of all Americans currently do not have dental insurance. This is more than triple the number of Americans who do not have medical insurance. Seventy-two percent of individuals who report that they have not obtained dental care within one year report financial limitations as the reason. In most states, Medicaid dental benefits are limited to children and adolescents under the age of 21. Only in some states is dental coverage extended to pregnant women over the age of 21. In 2005, only eight states had comprehensive dental coverage under Medicaid. Even in states with Medicaid
coverage, there are very few dentists who accept Medicaid as a form of payment. Only one third of dentists provide services to Medicaid recipients (http://ccnmtl.columbia.edu/projects/otm/pt01.html).

The Alamance County Health Department (ACHD) in North Carolina has been working toward rectifying this problem. In a press release earlier this year, Dr. Robby Osborn, Dentist with the ACHD addressed the issues of periodontal disease and its adverse effects on unborn children (Alamance, 2007). Alamance County’s infant death rate is 11 per 1,000 live births, which is significantly higher than the North Carolina average of 8.8. In 2005, the rate of infant deaths in Alamance County among minorities was 17.2, whereas the rate in Caucasians was 9.5 (Alamance, 2007). It is the belief of the ACHD, that bettering the dental health of women of childbearing age will reduce the death rate of infants in Alamance County.

Alamance County, North Carolina:

The North Carolina Women’s Health Report Card from the Center for Women’s Health Research analyzes behaviors and health choices of women of childbearing age. Racial and economic differences can been seen as an issue statewide. In 2005, 16.6% of all women in North Carolina did not have health insurance (11.4% White, 17.9% Black, and 63.8% Hispanic). Another 16.6% lived below the poverty line (13.2% White, 26.4% Black, and 27.2% Hispanic). In 2004, 30.1% of North Carolina women had not seen a dentist within the last 12 months (26.6% White, 38.7% Black, and 46.9% Hispanic) (Center for Women’s Health, 2007).

Alamance County had a 2006 infant mortality rate of 9.4, higher than the state rate of 8.1 per 1,000 live births. There were 2,301 pregnancies in Alamance County in 2004 resulting in 1,769 live births. Almost 18% of Alamance County residents are uninsured (www.ncruralcenter.org/databank/profile.asp?county=Alamance). There has been a growing
concern amongst the leaders of the Alamance County Health Department (ACHD) about the higher than state average infant mortality rate. Through their own research, they have found that dental health is an avenue to help combat the infant mortality rate within the county. By utilizing facilities and resources already in existence in the community, they believe they can begin to reduce the infant mortality rate by simply providing and encouraging the use of dental health services by pregnant women.

The Children's Dental Health Center is operated in conjunction with the ACHD to serve children without insurance or on Medicaid. Two days a week, the Health Center has interpreters available to assist with Spanish speaking patients. Some of the Health Center’s patients have very serious dental problems; many of which will require extensive treatments. Many of these patients because of their young ages and behavioral concerns must be referred to pediatric oral surgeons or the University of North Carolina's Dental Clinic for treatment under sedation or in the operating room.

A little over a year ago, the Children's Dental Health Center expanded its services to provide care for pregnant women referred from ACHD's maternity clinic in an attempt to reduce the county's infant mortality rate. Between July 2005 and August 2007, 641 women were referred to the Children's Dental Clinic from the ACHD. Of those, only 150 or 23% of the referred women came in for an initial dental evaluation. The Health Center is currently seeing an average of 6 pregnant women per month. The Health Center has been seeking ways of better reaching pregnant women and increasing the percentage of women referred who are actually seen and treated.

As a result of their concerns for pregnant women and their unborn children, as well as their ongoing concern and vested interest in the dental health of children of all ages, the
Children's Dental Health Center in cooperation with the ACHD created a Dental Health Initiative in the middle of 2007. The goal of this initiative was to:

- Increase the numbers of children receiving dental care both at home and from a dental health professional,
- Increase the percentage of pregnant women being referred from ACHD being seen and treated in a dental health facility,
- Increase the overall number of pregnant women receiving dental care during pregnancy,
- Educate pregnant women on how best to care for their own teeth to protect themselves and their babies, and
- Educate parents on how best to care for the teeth of their children.

In the hopes of achieving these goals, it is important to evaluate past and current efforts to achieve similar goals around the country.

**Current Efforts:**

The American Academy of Pediatric Dentistry (AAPD) and the Children's Dental Health Project (CDHP) have been collaborating on a project to target pregnant women, infants, and children. The project goals are as follows:

**Goal I:** Expand availability of prenatal oral health care
- Objective 1: Disseminate resources on dental care for pregnant women to clinicians, health educators, and patients.
- Objective 2: Promote policymakers' action to expand access to perinatal dental services.

**Goal II:** Expand availability of infant oral health care
- Objective 1: Expand adoption of the age-one dental visit and dental home policies by pediatric and general dentists.
- Objective 2: Expand dental care for infants at greatest risk for early oral disease.

**Goal III:** Raise public awareness regarding dental care for pregnant women and infants
- Objective 1: Target AAPD's public awareness campaign (Good Health Starts Here) to pregnant women.
- Objective 2: Promote inclusion of perinatal oral health components in public health campaigns (www.cdhp.org/Projects/PPMCH.asp).
This project is primarily focused on dentists at the local and state level. It is designed to equip dentists with the information they need to best serve their communities. There is a twelve step process involved including research and determining where the gaps in care are and how best to create new ways of closing those gaps (www.cdhp.org/Projects/PPMCH.asp).

The Institute of Healthcare Improvement (IHI) launched a project in 2005 targeting community health centers as the ideal location to reach pregnant women and children. Since so many low income women receive their prenatal care through these health centers, it makes referrals easier, and women are more likely to follow through with dental cleanings for themselves, as well as, their children (www.ihi.org/IHI/Topics/BetterOralHealthforMothersandChildren.htm).

Efforts have begun to extend dental benefits to pregnant women. California was the first state to extend dental benefits to pregnant women over the age of 21. Since that time, many other states have extended Medicaid benefits to pregnant women, as well. However, there are still several states with no benefits for pregnant women (http://ccnmtl.columbia.edu/projects/otm/pt01.html).

The North Carolina Hispanic Student Dental Association (NCHSDA) was established in 2002 as a student chapter of the larger national Hispanic Dental Association (HDA). Its goals are to provide continuing education to oral health professionals servicing the Hispanic community, encouraging more Hispanic individuals to become oral health professionals, and promote Hispanic oral health in North Carolina (www.dent.unc.edu/student/orgs/nchsda/). The HDA attempts to help oral health professionals better serve members of the Hispanic community by providing Spanish literature and consent forms, bilingual telephone operators, and translators on the premises (www.hdassoc.org/site/epage/8138_351.htm). By providing these services,
pregnant Hispanic women and Hispanic parents will feel more comfortable with the oral health experience and be more likely to utilize services.

A program was developed in Northern California with a growing Hispanic population, instituted a plan to educate parents on the importance of oral health. In this particular school district, it had been noted that a large percentage of immigrant students were not performing well in school, were suffering from low self esteem, were having difficulty eating and speaking, and were experiencing tooth pain. The district put together a two part plan to educate parents on the importance of oral health. Pre-tests and post-tests of parental knowledge of oral health were given before and after the two part sessions. The sessions proved to greatly increase parental awareness of the importance of proper oral health and the dangers of improper dental care (Brown, Canhem & Cureton, 2005). This reiterates the importance of education and is a reminder that a large number of individuals do not recognize the importance of proper oral health for themselves or their children.

The New York State Department of Health has created a set of guidelines for health care providers who are directly involved with the care of pregnant women, infants, and children. These guidelines set forth a list of recommendations for obstetricians, pediatricians, and dental health professionals when treating and advising patients with regard to dental health. By educating these health care professionals and having them work in conjunction with one another, the dental health of these individuals can be improved at both the prenatal and postnatal stage (New York, 2006). Figure 2 is a sample of directive for obstetricians to use in their offices when treating prenatal patients.
Do you have bleeding gums, toothache, cavities, loose teeth, teeth that do not look right or other problems in your mouth?

**YES**
Refer patient to a dentist
Stress importance of a timely visit (within one month).
Assist in accessing dental care as needed.

**NO**
Ask: Have you had a dental exam in the last 6 months?

**YES**
Encourage patient to keep next appointment
Reassure that dental care during pregnancy is essential for her and her fetus.

**NO**
Encourage patient to make a dental appointment as soon as possible.

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**Figure 2:** New York State Department of Health (2007) Guidelines for Dental Health Professionals – Sample Chart for Use during Prenatal Visits

**Current Recommendations:**

The following are the American Dental Association’s (ADA’s) recommendations for pregnant women in maintaining proper dental health for both the protection of mother and child:

- Proper tooth brushing at least twice a day
- Regular flossing
- Maintaining a healthy diet, limiting carbohydrate snacks and other sugars
- Maintaining routine dental exams every 6 months during pregnancy and more often if experiencing any tooth or gum pain or discomfort (ADA, 2005).

The following are the American Academy of Pediatric Dentistry’s (AAPD’s) recommendations for infants and children are as follows:
• Using a soft bristled toothbrush or wet washcloth to wipe clean the infant’s gums and emerging teeth at least once a day

• A child should have his/her first professional dental cleaning after the first tooth emerges or no later that the child’s first birthday and should continue routine cleanings at least every 6 months

• As teeth come in, a toddler’s teeth should be brushed with a toothbrush and water twice a day

• Avoid putting a baby to bed with a bottle or to sleep while nursing

• Provide a balanced diet for children while limiting sugary foods including juices

• Make sure child is receiving enough fluoride through water or supplements

• Fluoridate toothpastes should begin being used in pea-sized amounts between the ages of 2-3 (American Academy of Pediatric Dentistry, 2007).

Alamance County Dental Health Initiative Plan:

I. Education of Health Care Providers:

The first step in providing quality dental health care for the protection of pregnant women, infants, and children is to educate the healthcare professionals who work with these populations. This can be accomplished by putting together a plan similar to that of the New York State Department of Health outlining the responsibilities of obstetricians, pediatricians, and oral health professionals in screening and advising their patients. A large responsibility must fall upon obstetricians and pediatricians if mothers-to-be and children are to ever make it to oral health professionals in the first place. A set of guidelines will be created for these health care providers in Alamance County to refer to when treating patients similar to the one discussed previously created by the New York State Department of Health.
Dental health concerns should be on the regular list of questions for pregnant women when receiving their routine obstetric care. From their initial visit, women should be screened and questioned about their dental health and routine utilization of dental health care.

Obstetricians need a list of treating dental health professionals whom they can refer patients to as needed regardless of insurance status. Obstetricians and gynecologists should be advising all of their patients of childbearing age to obtain routine dental care to prevent future complications during pregnancy.

Dentists at the Children’s Dental Health Center have already met with local obstetricians to discuss their role in protecting pregnant women and newborns. Many obstetricians are not even aware of the ill effects of poor dental care during pregnancy. By continuing to educate obstetricians and provide them with the literature and questionnaires they need to educate and monitor their own patients, they can become effective allies in the fight against infant mortality and poor birth outcomes.

Pediatricians currently monitor the number of teeth infants and small children are obtaining in their first years of life. They do currently ask parents whether or not they have fluoridated water to ensure that all children are exposed the fluoride they need. They also encourage healthy eating habits, though this is not really due to the dental benefits but just the overall health benefits. However, pediatricians need to begin encouraging parents to brush teeth and gums from the very first well baby visit. They also need to encourage parents to begin routine dental health care with a dentist beginning after the immersion of the first tooth and certainly before the first birthday (American Academy of Pediatric Dentistry, 2007).

Pediatricians have also met with dentists from the Children’s Dental Health Center. These dental health updates should be maintained to keep pediatricians apprised of the most up
to date information. Pediatricians also need to be provided with educational literature for parents and with a list of dentists to make referrals of patients to without regard for insurance coverage.

Many dental health professionals still adhere to past guidelines and do not see children before the age of three regardless of when teeth began to emerge. Dentists need to be educated on new ADA standards. Dentists can also assist by encouraging their pregnant patients to continue routine dental care and proper at-home dental hygiene during the course of their pregnancies and teaching their pregnant patients about how to take care of the teeth and gums of their new babies. Dentists can also help by encouraging their patients to bring in their children for routine dental care and teach them how to take care of their children's teeth at home through proper diet and tooth brushing.

All of these healthcare professionals need to be more conscious of cultural sensitivity, as well. They need to ensure that they are providing education, both written and oral, in a language that their patients understand. It is important that they have individuals on staff who speak Spanish especially when answering the phones to schedule appointments (www.dent.unc.edu/student/orgs/nchsdal).

Further, to encourage healthcare providers to attend seminars on dental health and continue to stay updated on ADA recommendations, incentives need to be put into place for the physicians. Continuing education credits could be attached to seminars to encourage attendance and participation.

II. Education of Patients:

Healthcare providers are certainly not the only ones who need to be educated. It has been shown in countless studies that pregnant women and parents of small children are largely naïve to the very dangerous health effects of poor dental health. It has also been largely documented
that when pregnant women and parents do have knowledge of the importance of dental health, they make the necessary changes to improve outcomes for themselves and their children (Al Habashneh et al., 2005).

By first educating the health care providers, they can then in turn educate their patients. At the ACHD, pregnant women are automatically referred to the Children's Dental Health Center for evaluation and treatment. Also, in recent months, educational materials about dental health during pregnancy have been provided to expectant mothers at child birthing classes by the Healthy Mothers/Healthy Babies Coalition. A video being shown to postpartum women in the hospital on shaken baby syndrome will be added onto to include a section on proper care of newborns' gums and teeth.

Within the Hispanic community, in particular, community events will be organized to educate pregnant women and parents. By using a community approach, Hispanic individuals will feel less intimidated and be more likely to participate and gain knowledge. The NC Baptist Men already coordinated such an event at a local Hispanic church by bringing in their dental van to screen and treat patients and distribute educational information. By using a community approach, those who attend can take the information they learn back to their families and friends to spread knowledge throughout the community (www.hdassoc.org/site/epage/8138351.htm).

III. Expansion of Services/Encouragement of Utilization:

One major shift that needs to occur is for more dentists in Alamance County to begin seeing patients without insurance or on Medicaid. North Carolina does extend Medicaid benefits, including dental coverage, to pregnant women in the state. However, many women and parents have trouble finding dentists who will accept Medicaid or offer reductions in cost to those without insurance. Currently the Children's Dental Health Center only has the capacity to
serve pregnant women referred directly from the ACHD in addition to their regular juvenile patients. So, it is essential that more dentists be encouraged to join the effort. Parents also need to be aware of the dental benefits Medicaid affords their children (www.dhhs.state.nc.us/DMA/dental.htm). Additionally, for families who do not qualify for Medicaid, parents need to be aware of NC Health Choice which provides insurance including two dental exams a year to eligible children (www.dhhs.state.nc.us/DMA/cpcont.htm). With more private dental offices accepting Medicaid and NC Health Choice, the Children’s Dental Health Center would be better able to serve as a safety net for those without insurance of any kind who can not afford the high cost of dental exams in a private clinic.

The Children’s Dental Health Center has applied for additional funding to expand and improve their prenatal services. They are hoping to be able to obtain more adult appropriate equipment and make their pregnant patients more comfortable in an environment more routinely geared toward children. One additional change that needs to be made to better serve adult patients is to provide some privacy for pregnant patients. Currently there is no division between patients in the Children’s Dental Health Center. This means that pregnant women receive cleanings alongside pediatric patients with no regard to privacy. This may lead to feelings of disrespect by the provider and lead them to not maintain further appointments. A 2004 study cited that one of the three main reasons patients do not keep medical appointments is the feeling that they are disrespected by the medical community (Lacy, Paulman, Reuter & Lovejoy, 2004). Having increased privacy would likely make pregnant women feel more comfortable and respected, making them more likely to return for follow up appointments.

Because the percentage of women referred from ACHD who are actually seen at the Children’s Dental Health Center is so low, ways have been being explored to encourage women
to both make and keep appointments. The Children’s Dental Health Center plans to begin offering incentives to ACHD patients. All women who keep their first appointment will be given a diaper bag with educational materials on dental health, toothbrushes, swabs to wipe baby’s gums, etc. All women will also be entered in a drawing for a car seat. Every three months a winner will be drawn to receive a car seat.

Partnerships are another great way to increase utilization of dental services. Obviously, there is a need for partnerships between health care providers as described previously. There need to be partnerships with community groups and leaders, as well. Especially with regard to minority groups who might be distrustful of healthcare providers, lack insurance or other means of payment, or have other language or cultural barriers, community groups may be the best means of educating these individuals and encouraging them to utilize services. By using venues of individuals and leaders in the community they trust, community members will be more likely to trust medical advice and seek evaluation and treatment for themselves and their children (www.hdassoc.org/site/epage/8138_351.htm).

There are partnerships that incorporate local resources, as well as, national ones like the Give Kids A Smile that partnered the Children’s Dental Clinic, local dentists, the ADA, and the Colgate-Palmolive corporation. This event in February of this year provided free dental care to 100 children from kindergarten through eighth grade who do not qualify for Medicaid but can not afford dental health care otherwise (One hundred, 2008). Many organizations like Colgate-Palmolive and Crest sponsor educational materials and literature in various languages that are available on their websites (www.colgate.com/app/ColgateTotal/US/EN/HomePage.cvsp, www.dentalcare.com/drn.htm). Events like Give Kids A Smile are great, but they are only a
temporary solution. These events provide an opportunity for children to be screened, but they do not solve the problems of long-term care.

Partnerships have been established with the local hospital also. Alamance Regional Medical Center is distributing educational materials at child birthing classes. Efforts are continuing to further this partnership by introducing the video for new moms described previously. The biggest detraction from furthering the hospital relationship is that the hospital already feels so overwhelmed with information to give and share with their maternity patients. This may mean that more of the burden will need to fall upon the pediatricians and pediatric nurses who visit new moms in the hospital as they are teaching and informing new moms about basic baby care.

The hope is that with the expansion of community events, distribution of print materials, partnerships, and encouragement by health care providers, there will be an increase in the total numbers of individuals seeking professional dental care, specifically an increase in the numbers of pregnant women and children being seen. Also, with the distribution of these materials, hopefully, pregnant women will take better care of their teeth and gums at home, as well as, parents better caring for the teeth and gums of their infants and children.

Conclusion:

Dental health in the United States has improved greatly over the years. However, as improvements have been made, the gap in dental care has grown. Those left behind have included members of low socioeconomic status, minority groups, uninsured, and children. Of great concern, are the long-term overall health detriments to those who ignore proper dental care. Two groups at great risk are pregnant women and children.
Pregnancy is a time when women are especially attuned to their bodies and health needs. Most women seek out and maintain prenatal care throughout their pregnancies. They find a hospital or birthing center to manage their labor and delivery. They find a pediatrician to care for their newborn. They install car seats and baby proof their homes. However, they very often ignore their own teeth during pregnancy. This is largely due to their lack of knowledge of the increased importance in maintaining healthy teeth and gums during pregnancy. They do not know that their mouths are more susceptible to disease and infection during pregnancy. They are certainly unaware of the risks to their babies of ignoring their teeth. They do not realize that proper dental care and routine dental exams can help prevent miscarriage, preterm labor, low birth weight babies, developmental disabilities, and even infant mortality.

For children, parental education is once again one of the largest barriers to care. Parents are unaware of the risks that they place their infants and children in by ignoring oral health. Parents are not being guided to seek out dental care for their children early enough by pediatricians or even oral health care providers. They are misguided in how to care for their children’s teeth at home by cultural beliefs. Further, children are put at greater risk by having parents who do not take care of their own teeth, are uninsured, are members of a minority group, and/or are members of a lower socioeconomic status. Parents do not realize that poor care of baby teeth can lead to problems with permanent teeth, as well. They also do not realize the damage they are doing by allowing their children access to soda, juice, and candy that can lead to dental caries. Parents are unaware that poor dental care can lead to pain, infection, surgery, difficulty eating, difficulty talking, and can lower performance at school.

Barriers to dental care also exist due to insurance status and cultural beliefs. There are a great number of children who fall through the cracks with regard to dental health because they do
not qualify for either Medicaid or NC Health Choice benefits. Many women are not aware of the
dental benefits that Medicaid pregnancy coverage affords them. Because the professional dental
community is largely Caucasian with such a low percentage of minorities, particularly Hispanics,
there is a distrust of the dental health community among minority groups. There are cultural
beliefs about how children should be treated and how best to keep them quiet.

The best way to decrease the gap in dental care and improve the health of pregnant
women, infants, and children is to begin with education. Education must go beyond educating
pregnant women and parents to the ill effects of poor oral health. Education must extend to
health care providers, so they can become more active members of the team to improve health
outcomes. They need to become partners in the process as do community groups and other
outside sources including school boards that need to remove soda machines from their school
buildings. Health care providers, especially dental health providers, need to improve their
cultural sensitivity. Dental offices need to provide more assistance to pregnant women and
children without insurance. The Dental Health Center is working on plans to provide incentives
for making and keeping appointments and a more comfortable situation for examinations,
themselves.

With all these improvements and partnerships, Alamance County, North Carolina should
see greater improvements in health outcomes for its citizens. Birth outcomes should be
improved with the infant mortality rate decreasing. By starting with prenatal dental care,
children should fare better in the long-term. By treating children earlier and maintaining care,
their permanent teeth and gums will be in better health. The earlier proper dental care begins,
the better the results will be for everyone as this generations children move into adulthood, have
their own children, and both model good dental health habits and properly care for the teeth of
their children from conception through childhood.
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