

Oral Health Needs Assessment for Peoria County
Peoria City/County Health Department
May, 2010

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Poor oral health has a significant impact on the quality of life, causing pain and embarrassment, time off school and work, limiting function and is costly to treat. Maintenance of good oral health is an essential component to overall well-being and is a determinant of general health status. Oral health affects individuals both physically and psychologically, influencing how people grow, look, speak, chew, taste and socialize. Severe caries can impair the quality of life as a result of the complications that may arise. Quality of life issues that can be attributed to severe dental caries are pain, discomfort, disfigurement, acute and chronic infections, eating and sleep disruption. Poor oral health can result in a higher incidence and risk of hospitalizations, high treatment costs and loss of school or work days (Sheiham, 2005).

Poor oral health poses specific dangers for young children. Infants and toddlers are at an especially high risk for poor nutrition, growth delay and lack of weight gain as a result of dental disease, more specifically dental caries. Weight gain is a critical component of physical development for infants and can be hindered by poor oral hygiene habits and dental disease. A study comparing three year-old children who had dental caries as a result of poor hygiene habits after nursing and those who did not found that children with dental caries weighed approximately 1 kg less than control children who did not have caries. The weight difference can be attributed to toothache and infection that altered eating and sleeping habits, dietary intake and metabolic processes. (Sheiham, 2005).

There is a strong relationship between oral health and chronic disease. Individuals suffering from chronic disease may develop oral problems as a result of their condition. Dental disease or infections can result in the development of cardiovascular disease, diabetes, Alzheimer's disease, and pregnancy complications (Griffin et al., 2009). Long-term periodontitis contributes to coronary heart disease and atherogenesis. People with missing teeth or missing bone around the teeth are at greater risk of having a stroke. Periodontal diseases change the body's metabolism and contribute to the development of pre-diabetes which can ultimately lead to clinical diabetes. Other complications that can occur are kidney disease and mental health problems (Yoffee, 2009).

Social interaction and self-confidence can be compromised as a result of poor oral health. A person's sense of self may decline as a result of a dental disease that alters the appearance of oral structures such as missing or discolored teeth. One study revealed that smiling has a significant effect on overall health. Individuals who evidenced debilitating periodontal disease were found to not smile as often as those without periodontal disease. Decreased social interaction and self-confidence were noted in individuals suffering from periodontal disease (Gum disease affects a smile, 2008). Employed adults collectively lose as many as 164 million hours of work each year due to dental disease or dental visits (Department of Health and Human Services, 2010).

In the United States, oral health has become a significant area of focus. According to the Surgeon General, "oral health is essential to the general health and well-being of all Americans" (U.S Department of Health and Human Services, 2007).

Dental health has considerable impact on overall health status and systemic diseases. In the United States it has been reported that in recent years there has been an overall improvement in the oral healthcare system for adults and children. This is chiefly related to the foundation of community water fluoridation (Milgrom & Reisine, 2000). However, factors affecting both children and adults relating to poor oral health still remain a primary source of concern for public health officials who continue to explore interventions to improve the oral health of their communities.

Lack of access to dental care, sealants, and water fluoridation, dental caries and trauma and nutritional deficiencies are serious problems that affect the dental health of children in the United States today. Many of these problems are preventable through simple community and familial interventions.

One of the primary problems plaguing children with dental disease is inadequate access to oral care. Frequently, a child's oral health disparities can be related to their family's socioeconomic status and lack of insurance and transportation.

Many of the families who are of low socioeconomic status are either uninsured or underinsured. The lack of insurance prevents children from receiving preventative dental care and increases the likelihood that the child will develop dental disease. In fact, "children and adolescents without health insurance are four times more likely than those with private health insurance to have unmet oral health care needs." (Carmona, 2004). Underinsured individuals who receive Medicaid often encounter difficulties when trying to find a dentist. In the United States, there is a significantly limited number of dentists who publically advertise that they serve Medicaid recipients.

Inadequate access to dental care can be associated with the environment in which the individual resides. Individuals who live in a rural community without a public transportation system or a personal vehicle may be unable to physically access a dentist. The lack of transportation and costs associated with receiving transportation services can prevent individuals from seeking dental care. Costs associated with transportation include the purchase of a vehicle, fuel, and/or cab or bus fare (Head Start Fact Sheet, 2003).

Although there has been a decline in the occurrence of dental caries in school-aged children since the 1970s, caries still remain the most prevalent chronic disease of childhood (CDC, 2010). Over the past 20 years, the prevalence of dental caries among age groups 2-11 in primary teeth increased from approximately 40% to 42%. However, children ages 2 to 5 have had the most significant increase from approximately 24% to 28% (U.S Department of Health and Human Services, 2007). These percentages signify that serious problems related to dental caries are continuing to increase among children. Despite improvements in oral health initiatives in the United States, children still remain a primary disparity group.

Dental sealants are an effective method of prevention for dental caries. However, only 12% of children and adolescents (6 to 14) living at or below the federal poverty level have at least one dental sealant (National Maternal & Child Oral Health Resource Center, 2004). The lack of dental sealants in this age group is associated with low socioeconomic status and limited access to preventative care. Through the implementation of school-based sealant programs the incidence of dental caries among high-risk children can be decreased by approximately 60% (National Maternal & Child

Oral Health Resource Center, 2004). Topical application of fluoride has been proven to decrease the incidence of dental caries, especially in children and adults who have a moderate to high risk of developing caries (American Dental Association Council on Scientific Affairs, 2006).

By the age of 16, 35% of children and adolescents will have sustained dental trauma at least once (National Maternal & Child Oral Health Resource Center, 2004). Athletic or accidental injuries are most frequently the cause of dental trauma. Although there has not been a significant increase in dental problems related to trauma, dental injuries are easily preventable through the use of mouth guards during sporting events. Despite the availability of protective mouth guards, approximately 18% of children ages 12 to 15 years old suffer from overall incisal trauma, and children ages 16 to 19 experience 23% of overall incisal trauma (U.S Department of Health and Human Services, 2007).

Community efforts to increase the amount of fluoride in the water supply began in the 1950s and 1960s as a proactive measure to reduce tooth decay (Milgrom et al., 2000). The use of fluoridation in communities has considerably decreased dental problems in the United States. In children and adolescents it has reduced tooth decay by 29% to 51% (National Maternal & Child Oral Health Resource Center, 2004). Despite the widespread activism for fluoride programs and community water fluoridation, nearly half the United States does not receive its benefits (Milgrom et al., 2000). Lack of fluoridated water is a major factor linked to poor oral health that impacts many communities.

Proper nutrition is another serious problem facing the oral health of the nation's children. The health of children in the United States is a major concern with obesity and diabetes rates continually rising among children and adults. Practitioners must take a closer look at the effects of nutrition on health, with specific attention placed on oral health. Although many schools have eliminated soda in vending machines, they have replaced them with high sugar content sports drinks. While seemingly a positive alternative, recent research suggests that sports drinks are a poor substitute for soda. In a recent study done by the NYU dental researchers it was found that prolonged consumption of sports drinks may be linked to a condition known as erosive tooth wear (Sports drink consumption, 2009). This disease affects one in every 15 Americans and with the increasing placement of sport drink dispensers in schools and high consumption of these products, tooth damage is also increasing. Sports drinks have a high sugar content and since most children do not brush mid-day, the sugars remain on the tooth; thus creating the potential for cavity formation. In addition to consumption of sports drinks, poor overall nutrition can have a significant impact on dental health as well. Poor nutrition can cause a delay in tooth eruption, affect tooth size and enamel solubility, and cause salivary gland dysfunction (Ogata, & Trahms, 2003).

Additional risk factors leading to poor oral health outcomes in children include large family size, poverty status, and ethnicity. Individuals who live at 100% to 199% of the federal poverty level evidence the greatest number of dental problems in the United States (U.S Department of Health and Human Services, 2007). Poverty heavily affects a child's healthcare creating barriers with insurance, the ability to pay and the child's access to care.

Large families can negatively influence a child's dental health. Children living with numerous siblings or multiple adults in addition to their parents have a higher risk of dental problems than those who come from smaller families. Parents who must support their large families on a limited income must budget their resources and often dental health is not a priority. Since dental visits are costly and consume valuable time that could be spent with the family or working, the children do not see a dentist on a regular basis (Newswise, 2006).

Racial disparities pose a significant problem for an individual's dental health (CDC, 2009). Mexican-American children ages 2-11 have a 16.8% increase in the incidence of dental caries when compared with their non-Hispanic counterparts (Hilton, Stephen, Barker, & Weintraub, 2007). The combination of racial disparities, large family size and low socioeconomic status place the child is at an even higher risk for developing oral disease during childhood. Many of these risk factors continue into adulthood and lead to lifelong oral health problems.

Poor oral health has a negative impact on pregnancy and birth outcomes. Research has shown a link between periodontal disease in pregnant women and adverse birth outcomes, including preterm delivery (before 37 weeks), low birth weight (under 2500 grams), and preeclampsia (pregnancy-induced hypertension). Periodontal disease includes both gingivitis and periodontitis. During pregnancy, hormonal changes, especially estrogen, cause the gingiva to become more susceptible to bacteria. The increase in bacteria facilitates the risk of gingivitis. Gingivitis can lead to more severe forms of periodontal disease. Periodontal disease can create an inflammatory systemic effect large enough to initiate premature labor or a low birth weight newborn. Maternal

oral flora is transmitted to the newborn, increasing the risk of development of dental caries in the infant. Half of all women experience gingivitis during pregnancy and risk can be reduced by prenatal visits to a dentist and maintenance of good oral hygiene (Ressler-Maerlender, Krishna, Robison, 2005).

In the United States, oral health is an area which many adults often neglect. Although children are the current focus of dentists and dental researchers, adults experience many of the same dental concerns as children. Adults, especially the elderly, are underrepresented in current available research, though they continue suffer from the debilitating and life threatening dental conditions that plague the older population. Several oral conditions that are common in the adult population include tooth decay, periodontal disease and oral cancer. Lack of sufficient insurance is a contributing factor that most directly affects an adult's ability to receive adequate dental care and prevention.

Fifty three million children and adults in the United States have untreated tooth decay in their permanent teeth. Tooth decay affects approximately 90% of adults over age 40 (Centers for Disease Prevention and Health Promotion, 2010). Tooth decay left untreated becomes irreversible leading to infections of the teeth with eventual loss of tooth and gum tissue (California Society of Pediatric Dentistry, 2010). One out of every twenty middle-aged adults is missing all of their teeth (National Center for Farmworker Health, 2009). Many adults have tooth decay that has been left untreated from childhood perpetuating debilitating dental issues during adulthood. Interestingly, tooth decay seems to be linked with educational status. Those who have received a college degree have a lower incidence of tooth decay than those adults who received even a

small amount of college education (CDC, 2009). Risk factors that precipitate tooth decay include certain foods and drinks containing a large amount of sugar, frequent snacking or sipping of drinks, not brushing and flossing, older age, receding gums, dry mouth, heartburn and weak or rough fillings.

Although many older adults retain the ability to engage in physical and self-care activities, some may be at high risk for tooth decay due to physical limitations. The inability to grip a toothbrush due to pain from arthritis or tremors associated certain diseases such as Parkinson's can make it difficult for older adults to complete this self-care task. Older adults who may be experiencing dementia or other cognitive impairments may necessitate prompting from a caregiver in order to engage in tooth brushing. Those adults who live at home or in a facility without consistent care providers may neglect self-care activities placing them at a higher risk for tooth decay (Mohammad, 2009).

Periodontal disease is a condition causing inflammation of the gums. According to the National Institute of Dental and Craniofacial Research (2010), it is estimated that 80% of adult Americans have some form of periodontal disease. This disease can cause infections of the mouth which can perpetuate further systemic complications. Risk factors contributing to periodontal disease include smoking, illnesses or procedures that cause immunosuppression such as HIV and organ transplantation, hormonal changes in women, diabetes, stress and medications (NIDCR, 2010). Medications with side effects of dry mouth (xerostomia) are catalysts for periodontal disease as they can cause bacteria to flourish in the oral cavity due to the lack of saliva. In addition to medications that cause dry mouth, the pathological processes of certain diseases such

as diabetes and chronic states of stress can make the body more susceptible to infection.

Oral cancer is a condition that most often occurs in adults over the age of 40. According to the Oral Cancer Foundation (2010), over 35,000 U.S. residents are diagnosed with oral or pharyngeal cancer annually. Even though risk factors such as poor oral and dental hygiene and chronic irritation can increase a person's risk for acquiring oral cancer, tobacco use contributes to 70- 80% of oral cancers.

According to the CDC (2009), for every adult over the age of 19 without medical insurance, there are three without dental insurance. Additionally, individuals who have lower incomes than those who live above the poverty line are less likely follow through with a scheduled dental appointment every 12 months (CDC, 2006). Uninsured or underinsured adults who do not have the resources to obtain adequate dental care have an increased incidence of losing teeth, tooth decay, periodontal disease or other severe dental problems. In 2006, approximately 100 million people in the United States were uninsured for dental care, nearly three times the total number of individuals who lack health insurance. Individuals without dental insurance are generally in a lower economic status and the cost of obtaining insurance can be prohibitive. Medicaid covers dental care for low-income children, but Medicaid eligibility for adults is limited. About half of state Medicaid programs do not offer dental reimbursement for adults unless it is for emergency services. According to one study, only 18% of Medicaid-insured adults had a dental visit in 2005 (Whatcom County Health Department, 2005). Without adequate insurance, people are less likely to seek preventative care and are thus more likely to develop debilitating dental problems.

Dental problems can cause physical pain that may extend into an individual's employment, negatively affecting his or her financial income. Severe pain may prompt individuals to seek out emergency care. Severe oral problems will incur both financial and personal costs. In the United States more than 164 million hours of productivity loss at work each year (National Center for Farmworker Health, 2009). Furthermore, appearance may be a factor in determining the individual's self worth and impact the ability to find employment (Kaiser Commission on Medicaid and the Uninsured, 2009).

Oral Health in Peoria County

According to the United States Census Bureau (2008), the total population in Peoria County from 2006-2008 was estimated at 183,069. Those with lower than a 9th grade education number 4,799 and 9,637 individuals have a 9th-12th grade education without a diploma. Overall, 14,436 individuals in the county have not completed high school. Lower educational levels will have an influence on the type of job these individuals will hold or if they are able to find any employment, influencing insurance availability and affordability. Although many may have proper knowledge about the importance of oral health, care and how to access resources and locations to receive dental services, the cost to do so is prohibitive.

In 2006, 52.5% of the children, 19.7% of the adults and 15.8% of the seniors in the state of Illinois were enrolled in Medicaid (State health facts, 2006). Additionally, in 2005, between 8.2% and 11.9% of individuals ages 0-64 were uninsured while between 5.0% and 5.9% of children ages 0-18 were uninsured (Gilead Report, 2009). Data on the number of individuals who are underinsured is not readily available. "In the Peoria metropolitan area, unemployment worsened slightly to 13.2%, the worst February rate

since 1984-the last time rates stayed in double digits for a sustained period of time-and an increase from 12.9% in January. A year earlier, the rate was 9.4% in the Peoria region” (Peoria Journal Star, April 2, 2010). With the increasing unemployment rate it can be inferred that the number of children enrolling in the state Medicaid system and adults who are now uninsured or underinsured has increased significantly since 2008.

Medicaid Enrollment

Year	Child	Adult	Senior
2008	21,895	15,261	1750
2007	21,003	14,502	1744
2006	20,314	14,233	1087

Source: www.hfs.illinois.gov

As evidenced by the following table, those between ages 18 and 45 are the largest group accessing the emergency room for dental care with increasing numbers utilizing Medicaid or paying out-of-pocket for this care. Worthy of noting is that, while diagnostic and most restorative services are covered for adults over 20 by Medicaid, no preventive services are reimbursable (Doral Dental Services of Illinois, 2009).

Additionally, there is reluctance among dentists to serve Medicaid patients largely because of an increased number of missed appointments, additional documentation and low reimbursement rates. With a total of 157 dentists located in Peoria County, there is a dentist-to-population ratio of one dentist for every 1166 people. However, 62% of the total population reside within the city of Peoria and geographically dental offices are located on the far north side of the city with few operating practices in rural areas.

Emergency Department Visits by Payment Source and Age Groups

	2005	2006	2007	2008	2009
Insurance					
0-10	1	2	1	1	2
11-17		6	1	3	3
18-45	61	52	68	73	52
46-64	9	11	24	23	8
>64		1	2		
Medicaid					
0-10	13	14	39	54	34
11-17	17	34	20	44	30
18-45	356	448	602	689	701
46-64	21	40	47	47	40
>64		1			
Medicare					
0-10					
11-17			1		
18-45	36	42	61	70	72
46-64	5	13	28	10	41
>64	1	4	10	8	4
Self-pay					
0-10	2	2	3	6	1
11-17	1	1	1	4	5
18-45	172	247	347	392	405
46-64	21	36	51	44	67
>64			1		

Source: Methodist Medical Center

Free or low-cost dental services are provided at the Peoria City/County Health Department for children up to the age of 18 and Heartland Community Clinic for children and adults. Both clinics accept Medicaid payment and are located in economically disadvantaged areas within the city of Peoria.

Adults over the age of 45 account for 38.9% of the population in Peoria County. With increasing age, chronic conditions become more prevalent. Coronary heart disease accounts for 57% of the total deaths within the county, followed by cerebrovascular disease (20.2%), respiratory disease (11%) and kidney disease (5.3%). Poor overall oral health contributes significantly to the development and complications

related to chronic disease in adults. According to the Behavioral Risk Factor Surveillance System (BRFSS), almost 17% of the respondents (>18 years of age) have not seen a dentist in more than 2 years or have never seen a dentist. The percentage of respondents reporting to never have had a teeth cleaning in more than a year or have never had one at all was 16.9% and 31.8% respectively. It is recommended that a person have a teeth cleaning and a dental exam at least once per year. Without this preventative care, oral health can deteriorate and can eventually lead to additional negative health outcomes (Illinois Department of Public Health, 2007).

While much of the focus of the PCCHD dental clinic is on children, selected adult populations (correctional facilities, nursing home, disabled adults) also receive dental services and dental education through the clinic. Adult patients served at Heartland Community Clinic have not generally viewed oral health care as a part of their regular preventive health care routine; therefore they tend to come when they have an emergency and are not inclined to come back for regular care. However, if they present for something that is not a true emergency, generally they are able to see the dental hygienist for cleaning prior to treatment. Often this will result in establishing a preventive care routine. Increasingly, young adults are requiring extractions related to poor oral hygiene practices and drug abuse (personal communication, Heartland Community Clinic, 2010).

There is a strong connection between oral health and overall health, starting even before birth. Bacteria from oral disease in pregnant women can cause slow fetal growth and low birth weight in infants, and may increase poor birth outcomes and neonatal mortality. The infant mortality rate in Peoria County is 8.9/1000 births. Infants

with low birth weights (<2500 grams) account for 8.7% of all births while those with very low birth weights (<1500 grams) are seen in 2.1% of all births. Black mothers are almost twice as likely to have a low birth weight baby and more than twice as likely to have a very low birth weight baby (IDPH, 2007). While not the only risk factor for poor pregnancy outcomes, poor oral health before and during pregnancy cannot be dismissed as a contributing factor.

If untreated, oral diseases in children frequently lead to serious, costly general health problems and significant pain, interference with eating, hearing and speaking, the use of emergency rooms, lost school time and difficulty paying attention in school. Nationally, it has been estimated that 51 million school hours per year are lost because of dental-related illness alone ("Oral Health in America: A Report of the Surgeon General"). Poor children have nearly 12 times more restricted-activity days because of dental-related illness than children from higher-income families (CDC, 2002).

Illinois requires that "all children in kindergarten and the second and sixth grades of any public, private, or parochial school shall have a dental examination in accordance with the timetable set forth in Section 665.420." These children are to receive these dental examinations "within 18 months prior to May 15 of the school year" (JCAR, 2005). In the 2007/2008 school year compliance with this directive was fair with 87.4% of the Kindergartners, 85.3% of the second graders and 73.8% of the sixth graders reported to have had dental exams prior to school entry (IDPH, 2008). Those children with sealants in the second and sixth grades was 45.6% and 54.9%, respectively, while those children with untreated caries at the time of the exam for kindergarten, 2nd and 6th grades was 23.4%, 23.7% and 14.6%, respectively. Addendum I shows a breakdown of

the school districts in Peoria County with additional data. The accuracy of this data table is somewhat questionable as reporting by schools varies and it is unclear if what is being reported is correct. For example, some schools reported the number of exams as larger than the number of students enrolled (possibly children are receiving exams at different grade levels). Enrollment numbers for each grade level were retrieved from www.isbe.state.il.us for the 2007/2008 school year.

Effective dental care requires early identification of children at high risk for dental caries so that they may receive early and appropriate intervention. The American Academy of Pediatric Dentistry (AAPD,2006) recommends that by 12 months of age, every child be seen by a dentist, have a dental home and receive regular preventive checkups. The Caries-risk Assessment Tool (CAT) was created by the AAPD (2002) to assess the level of risk for caries development in children and adolescents based on a set of clinical, environmental and general health factors. Instead of only determining the presence of cavities and other irritations in the mouth, the CAT helps assess a patient's risk for oral disease by examining numerous health and lifestyle factors as part of the regular dental checkup. Factors such as caries activity, family history, sugar consumption, fluoride exposure, oral hygiene practices, and socioeconomic status are all explored to provide unique, patient-specific guidance to prevent future disease. When caught early enough, there are a number of non-invasive interventions that can be suggested that will arrest or reverse the disease process and keep the structure of the teeth intact. The table below summarizes risk factors and level of risk related to the CAT assessment.

Factor	Risk		
	Low	Moderate	High
Caries activity	None	Within 24 months	Within 12 months
Family history of decay	No decay	Low caries rate	High caries rate
Fluoride exposure	Optimal	Low to optimal	Low
Sugar consumption	With meals only	1-2 between meals	>3 between meals
Dental home	Established	Irregular use	None
Demineralized areas	No white spots	1 white spot	>1 white spot
Presence of plaque/gingivitis	None	Moderate	Visible plaque on anterior teeth

Utilizing the Caries-risk Assessment tool, a non-randomized survey of 420 children seen at the Peoria City/County Health Department Dental Clinic during February and March of 2010 was conducted and data aggregated to identify significant oral health needs of this population. Data collected was compared to a similar study completed in 2007. (See Addendum ? for complete comparisons.)

Tooth decay noted at the time of exam increased by 25% in the 2-5 year old age range to over 75% of the children seen. Significant changes in age groups 6-9 and 10-18 were not noted, however the incidence of tooth decay remains almost 90% in these age groups. Those children experiencing previous tooth decay in less than 12 months increased by 29% in the 2-5 year old group, 18% in the 6-9 year old group and only 6% in the 10-18 year old group.

The reported exposure to sugary drinks and foods (>3 times per day) decreased in all age groups, most significantly in the 10-18 year old age group (34%).

Anecdotal, the incidence of Baby Bottle Tooth Decay has decreased significantly through combined community educational efforts, however the incidence of tooth decay in the posterior teeth has increased indicating that children may be consuming significant amounts of sugary drinks and foods with poor attention being paid to brushing the posterior teeth on a regular basis. For both years, the percentage of

children aged 2-5 brushing their teeth 2-3 times per day is unchanged at only 22%, while increases in frequency are noted in both the 6-9 year old groups (19%) and the 10-18 year old age group (17%).

Overall clinical evaluation indicates that the 2-5 year old age group is at significant risk for developing caries. The presence of visible plaque and enamel defects in this age group increased by approximately 50% while the presence of gingivitis increased by 65%-nearly 85% of children in this age group. The 6-9 year old age group has experienced a slight decrease in these risk factors, however the incidence remains around 60%. While the most significant decrease in gingivitis is seen in the 10-18 year old age group (50%), the presence of visible plaque and enamel defects, although slightly decreased, remains at approximately 50%.

Possibly the most important factor in determining a child's oral health is their parent's knowledge about good oral health, dental hygiene, nutrition and how to access dental care. Many parents do not understand the strong connection between oral health and overall health. Parents may never have learned how important it is to begin taking care of children's teeth early. Of the children surveyed in 2010, only 47.1% were regularly seeing a dentist, 44.9% had a dentist but visiting irregularly and 8% reported having no dentist. Unfortunately, many children continue to consume sugary liquids and food and many children are not taught how to brush and floss teeth. Families, even those with dental insurance, may not fully understand the necessity for regular dental checkups or how to use dental insurance to access care.

Although no national studies have been conducted to determine the prevalence of oral and craniofacial diseases among the various populations with disabilities or

chronic conditions, it is estimated that 12.8% of U.S. children and adolescents ages 0-17 years of age have special health care needs. (Maternal Child Health Bureau, 2005-2008). The oral health of these children may be affected negatively by medications, therapies, special diets, or by their difficulty with cleaning teeth thoroughly on a daily basis. Conditions that may lead to special health care needs include Down syndrome, cleft lip/palate and other craniofacial defects, cerebral palsy, learning and developmental disabilities, emotional disturbances, vision and hearing impairments, diabetes, asthma, genetic and hereditary disorders with orofacial defects, or HIV infection. Children and with disabilities present unique problems and are at increased risk for oral infections, delays in tooth eruption, periodontal disease, enamel irregularities, and moderate-to-severe malocclusion. (Maternal Child Health Bureau, 2008). Some studies show that the population with mental retardation or other developmental disabilities has significantly higher rates of poor oral hygiene and needs for periodontal disease treatment than the general population, due, in part, to limitations in individual understanding of and physical ability to perform personal prevention practices or to obtain needed services. There is a wide range of caries rates among people with disabilities, but overall their rates are higher than those of people without disabilities. Providing preventative or restorative care to children or adults with special needs presents unique challenges related to mental and physical limitations, often resulting in lack of cooperation and/or combative behavior.

In Illinois, 15.1% or 318,478 school-age children have special care needs. Peoria County school enrollment for children with special needs is comparable at 16% (Illinois State Board of Education, 2008). In 2006, 28% of these families in Illinois were

reportedly at or below the 200% federal poverty level and only 59.3% reported that they had adequate private or public insurance.

In a study conducted within District 150 in 2005, parental perceptions of dental needs and dental treatments comparing the special needs (SN) and non-special needs (NSN) population found that there is no greater perception of dental needs or barriers to access to dental care in the SN population versus the NSN population, however dental needs do exist in both of the populations. Thirty-three percent of the special needs children were without a dental home and of those, 5% had not seen a dentist at all within the last year. A number of barriers were reported by parents of both SN and NSN children when seeking dental care in Peoria. The most common barriers reported were an inability to locate a dentist who accepts Medicaid, lack of finances, the lack of a dentist overall, and the inability to locate a dentist. Also noted in this study was that special needs children appear to be more compliant with mandated dental examinations than their non-special needs counterparts. Overall in this study, 42% of children with special needs are of non-white ethnic origin. Although race alone is not a determinant of poor oral health, studies have shown that the incidence of dental disease is higher in minority populations. Low socioeconomic status and low level of education are risk factors that also affect minority populations in this area and contribute to dental health disparities in the special needs population (McCarthy, 2005).

While significant barriers to positive oral health outcomes exist, Peoria County is also rich in resources working to organize community responses to oral health problems, promoting a healthy environment, developing interventions and working to eliminate health disparities. Within the professional dental community there exists the

potential to provide leadership in the development of collaborative relationships to effectively manage resources, facilitate partnerships and engage the community in an effort to promote positive oral health behaviors.

Focused on prevention, the work accomplished by the PCCHD dental clinic is a community-wide partnership integrating current service and social support delivery systems, targeting those at greatest risk for adverse oral health outcomes. The dental clinic serves Medicaid-eligible children as well as special needs children and adults in a variety of settings. Research indicates that mothers are the most influential in promoting positive health behaviors and seeking care, thus the provision of age one and two dental exams and fluoride varnish applications is facilitated through the integration of oral health education and prevention programs with existing WIC and Maternal Child Health programs, encouraging parents to understand the importance and follow-through of these activities.

School meal programs (breakfast and lunch) offered to students follow USDA guidelines and requirements. School nutrition programming includes a wellness approach with 10 minute lessons on nutrition, web-based training for staff on nutrition and exercise and a nutrition newsletter published on District 150's website and lunch menus. These programs are currently underutilized. Vending machines containing high sugar content foods and beverages are present in schools with some schools prohibiting the use of vending machines particularly during meal times. A subcommittee of Quality Quest (a continuous quality improvement task force) is developing policy recommendations for school nutrition programming, focusing on maximizing the nutrition content of foods and beverages offered to 3 target schools with the potential

expansion to all District 150 schools. Policy recommendations will likely include banning vending machines containing high sugar content foods and beverages in schools, increasing the potential for offering healthier food selections to children. While the primary focus is on combating childhood obesity, these recommendations will also positively promote good oral health outcomes.

Recognizing a variety of barriers in access to services, the Peoria District Dental Society sponsors the first Friday in February as Give Kids a Smile Day. Through this activity and throughout the year, over 105 dentists and sponsoring organizations volunteer in bringing dental health education and dental treatment of urgent needs to 3700 children at Early Head Start and school-based clinics. By meeting children's dental needs in alternate settings parents are able to work instead of taking time off and children remain in school, pain free. Twice the dental care for uninsured and Medicaid children was provided in 2009 through engaging an additional 25 volunteer dentists. Additionally, 12 area dentists have volunteered to treat students referred for emergency care at no cost to the families.

In 2009, training for physicians at Heartland Community Health Clinic to provide oral exams and fluoride varnish applications during well baby visits was provided through a collaborative effort between the PCCHD and the Illinois Association of Pediatric Physicians Bright Smiles program. Grant funding through the PARC dental program, UIC-HIV dental program and IDPH Oral Health Division has further increased access for high risk populations.

The Peoria District Dental Society, Heartland Community Health Clinic, OSF Saint Francis Hospital and the Peoria City/County Health Department have developed

and nurtured a collaborative partnership by combining efforts to design and implement a General Residency Program. This program will allow dental residents to expand from traditional clinical areas into the community setting, learning valuable concepts in public health dentistry for application to practice. The scope of the program and impact on community oral health status continues to evolve through the accreditation process with hopes of enrolling the first group of residents in the fall of 2010.

Conclusion

Oral diseases are one of the most common and easily preventable diseases that we encounter. While often slow in their development, dental problems can cause severe pain and discomfort to the individual and can affect their quality of life. The cost of treating dental disease rather than preventing it drives up the cost of all dental insurance coverage. The growing cost of dental treatment is also reflected in expenses to publicly supported programs such as Medicaid. When an individual with severe dental disease finally gets to the dental chair, the age or severity of condition can dictate the need for sedation or general anesthesia in a hospital. Hospitalization and the need for an anesthesiologist or other specialist can drive the costs even higher. An additional cost to the community is reflected in missed school or work days related to dental disease and costly treatment that could be saved by preventing dental problems in the first place.

Many children in Peoria County enjoy good oral health with only infrequent need for intervention treatments. But for a significant number of children, poor oral health is a painful and ongoing problem. These children are affected unnecessarily by this preventable disease, falling behind in school and social development, and suffering

painful bouts of toothache and infection. Often poor oral health and dental disease continue throughout the life span with resulting complications later in life.

Monitoring children's oral health, taking steps to prevent disease, treating problems early, raising public awareness, and devoting sufficient resources are key to improved oral health outcomes. Low-income children suffer the most tooth decay and intensive case management programs focusing on preventative interventions such as practiced by Head Start have shown to be very effective in reducing the incidence of tooth decay in these children. These prevention efforts will result in a dramatic cost savings and reduction in oral health problems in our community.

Traditionally, there has been an emphasis on dental health education, either with individuals or groups, which has focused on imparting knowledge on prevention of dental disease. It is estimated that approximately ninety percent of oral health is achieved through what people do for themselves and only ten percent is achieved by what is done by the dental team. Thus it is imperative that parents make the connection between their own oral health behaviors and that of their children. It is accepted that the acquisition of knowledge does not necessarily result in behavior change. Current concepts of oral health promotion acknowledge the importance of environment (both physical and social), lifestyle/individual behaviors and access to services. The common risk factor approach acknowledges that many oral diseases have common predisposing risk factors. Individuals' efforts to change their own health behavior are often constrained by economic, social and cultural influences. Low educational status, lack of time, energy and money, and exposure to family and friends who frequently engage in health-damaging behavior are all factors which may act to constrain individual's efforts

to promote their health or that of their children. In recognition of the fact that individuals live within a community, current oral health promotion initiatives must increasingly have more community participation and development as key elements. Collaboration holds the promise of allowing progress on issues that any one or two organizations alone could never budge. It is recommended that the public and private community providers within the Oral Health Advisory Committee continue to focus efforts toward solving the problem of poor oral health outcomes in Peoria County.

Finally, the data gathered in this needs assessment is a patchwork from many different sources. The data is often nonexistent, lacks consistency over time, is difficult to compare from year to year, and frequently does not tell the complete story. If this community is to effectively mobilize to make improvements in oral health, one of our most powerful tools is accurate local data. Opportunities to make significant improvements in gathering and tracking local data need to be explored.

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[smart&utm_campaign=article&utm_term=Oral+Cancer&ask_return=Oral+Cancer](http://www.healthline.com/adamcontent/oral-cancer?utm_medium=ask&utm_source=smart&utm_campaign=article&utm_term=Oral+Cancer&ask_return=Oral+Cancer)

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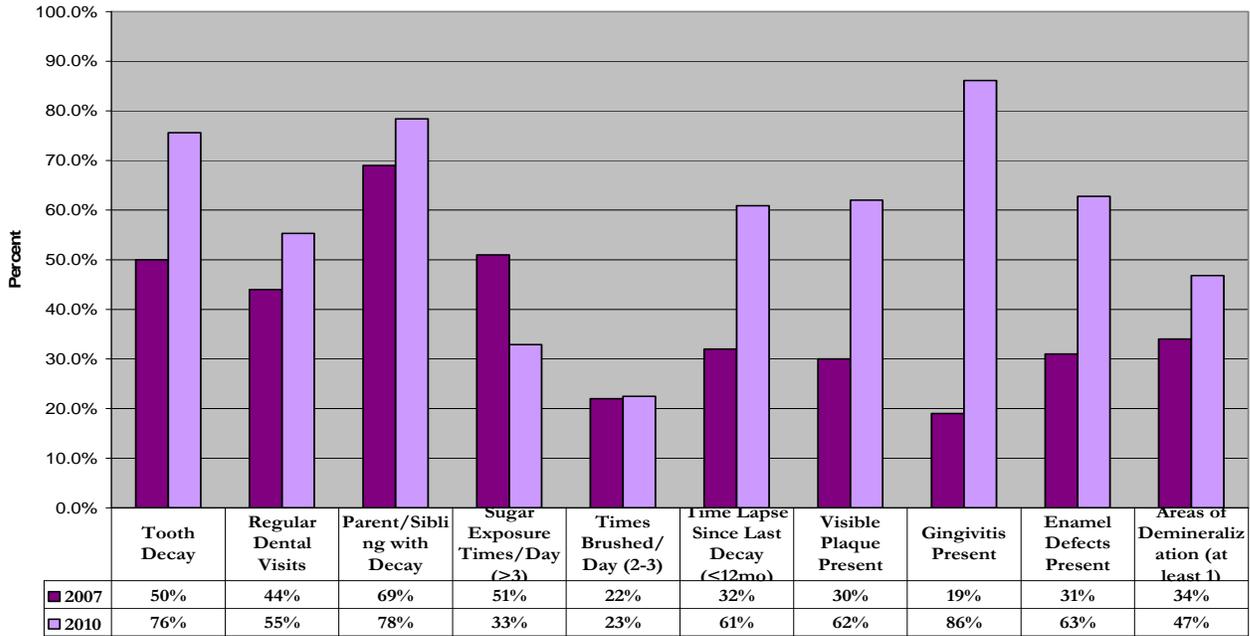
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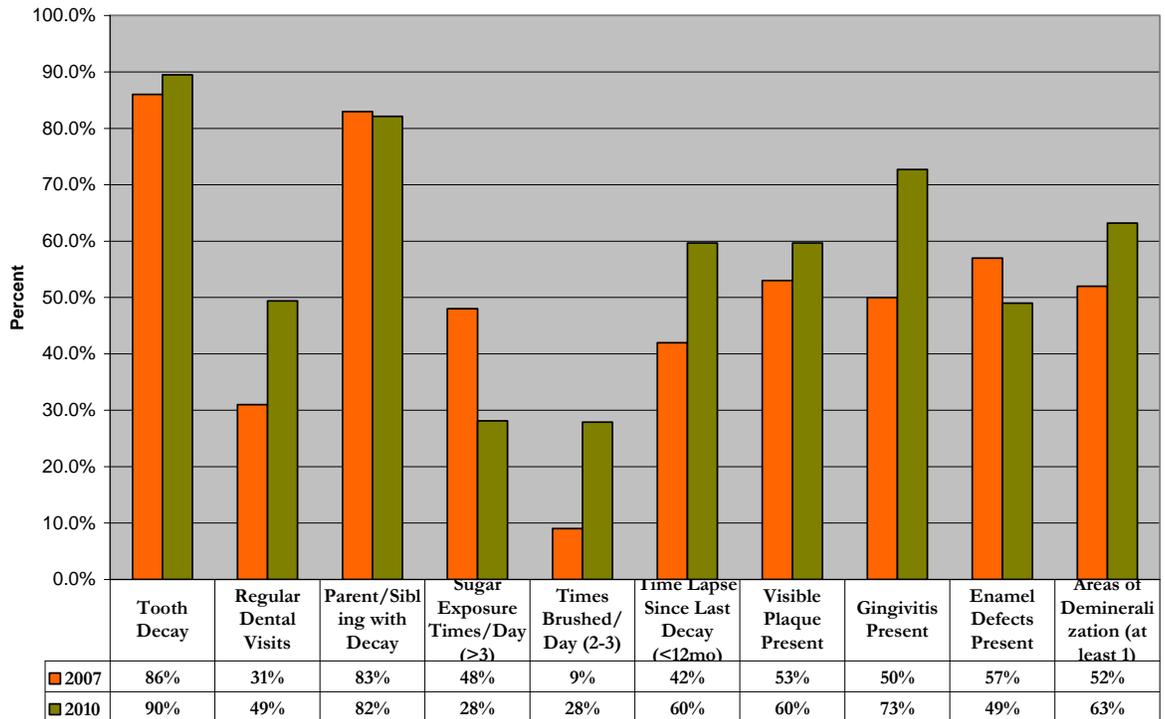
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Peoria County Caries-risk Assessment

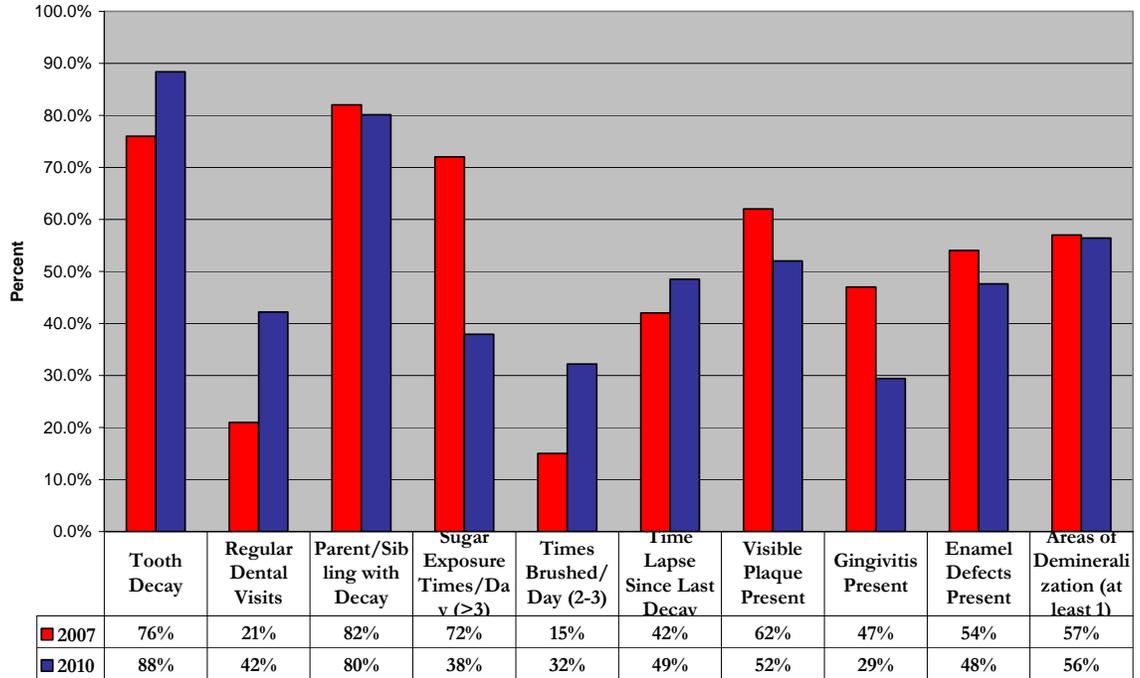
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Ages 2-5**



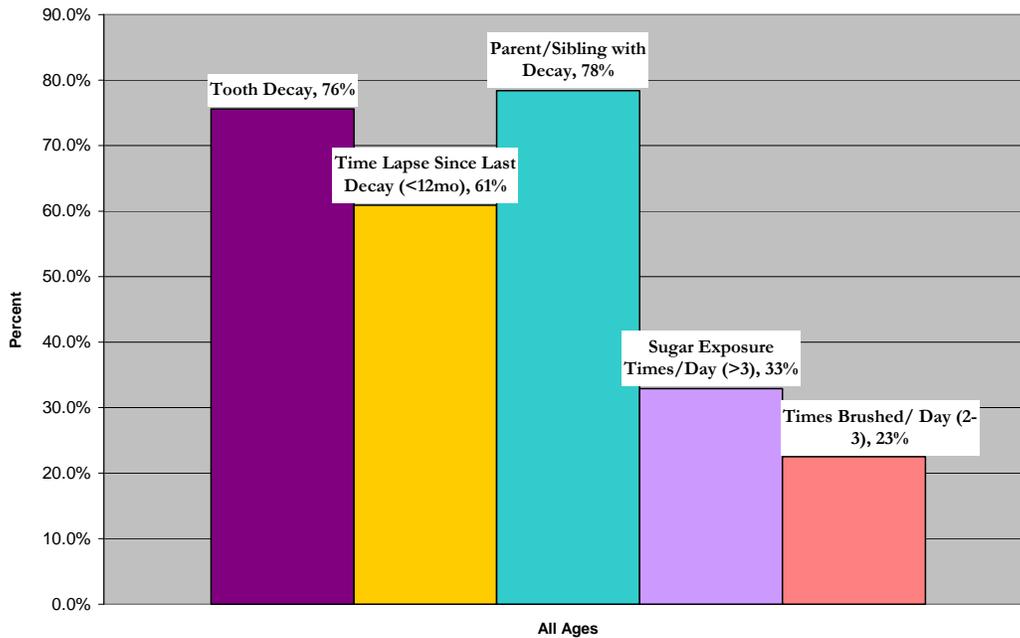
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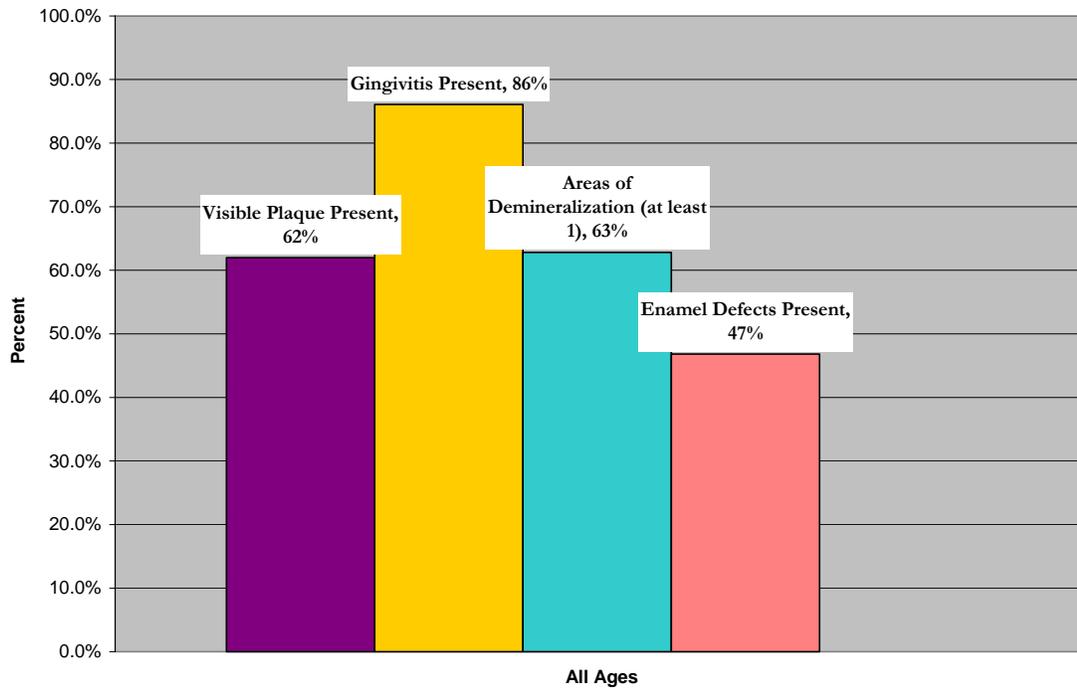
Caries Risk Assessment 2010
Ages 10-18



Caries Risk Indicators History 2010



2010 Caries Risk Indicators Clinical Evaluation



Dental Examination Data (K, 2nd and 6th Grades)
2007-2008

School District	% Compliance with Dental Exams	% with sealants	% with sealants unknown	% with caries experience	% with untreated caries	% needing urgent care	% low income	
Bartonville #66							47	
K	-	-	-	-	-	-		
2 nd	-	-	-	-	-	-		
6th	86	44	0	31	13	0		
Brimfield #309	Inaccurate date							13
K								
2 nd								
6th								
Dunlap #323							5	
K	80	3	1	13	16	2		
2 nd	59	26	1	26	15	0		
6th	31	18	0	8	8	1		
Elmwood #222							14	
K	80	6	0	11	13	0		
2 nd	60	17	0	36	17	0		
6th	36	23	12	16	4	2		
Hollis #328	Inaccurate data							10
K								
2 nd								
6 th								
Ill. Valley Central #321							20	
K	100	15	0	26	24	NA		
2 nd	84	45	0	40	16	NA		
6th	-	-	-	-	-	-		
Illini Bluffs #327							17	
K	77	55	6	28	26	NA		
2 nd	63	48	5	24	25	2		
6th	15	10	0	8	0			
Limestone #310							28	
K	Inaccurate data							
2 nd	Inaccurate data							
6 th	-	-	-	-	-	-		
Monroe #70							26	
K	-	-	-	-	-	-		
2 nd	-	-	-	-	-	-		
(total for school) 6th	58	32	0	21	14	3		
Norwood #63							45	
K	72	32	0	21	14	3		
2 nd	96	54	0	35	26	0		
6th	100	51	0	42	29	4		
Oak Grove #68							23	
K	45	6	NA	6	18	0		
2 nd	53	28	6	30	19	NA		
6th	-	-	-	-	-	-		
Peoria Heights #325							47	
K	97	3	0	10	15	0		
2 nd	39	25	0	21	14	0		
6th	15	14	0	6	9	0		
Peoria District 150							70	
K	41	3	1	9	12	1		
2 nd	74	38	NA	31	22	2		
6th	78	20	1	11	21	1		
Pleasant Hill #69							73	
K	100	10	0	10	24	0		
2 nd	100	41	0	18	29	0		
6th	96	38	0	33	16	NA		
Pleasant Valley #62							68	
K	100	24	0	28	33	NA		
2 nd	83	49	NA	40	28	8		
6th	-	-	-	-	-	-		
Princeville #326							21	
K	No enrollment data							
2 nd	52	11	0	24	5	0		
6th	60	25	0	31	5	0		

NEEDS ASSESSMENT GOALS					
To what extent do you hope to accomplish each of the following through your assessment? (circle the most appropriate number for each item)					
	NOT AT ALL		MODERATE		HIGH
Fulfill Grant IDPH Requirements	1	2	<u>3</u>	4	5
Network with other programs / agencies / organizations	1	2	3	4	<u>5</u>
Build a constituency for oral health issues	1	2	3	4	<u>5</u>
Update existing data	1	2	3	4	<u>5</u>
Establish a baseline data	1	2	3	4	<u>5</u>
Prioritize programs	1	2	3	4	<u>5</u>
Justify budget (maintenance / expansion / reallocation)	1	2	3	4	<u>5</u>
Increase visibility of oral health program in agency	1	2	3	<u>4</u>	5
Target resources to specific populations	1	2	3	<u>4</u>	5
Fulfill expectations of local governing authority	1	2	3	<u>4</u>	5
Educate decision makers	1	2	3	<u>4</u>	5
Collect data in timely fashion	1	2	3	<u>4</u>	5
Collect valid (accurate) / reliable (reproducible) data	1	2	3	<u>4</u>	5
Generalize findings to target population	1	2	3	<u>4</u>	5
Evaluate existing programs	1	2	3	4	<u>5</u>
OTHER					
	1	2	3	4	5

DATA SUMMARY				
*US Census Bureau 2006/2008				
Variable	Number		%	Data Source
Population (County) Peoria 183,069				
Total	88,296	94,773		www.census.gov - ACS (2006-2008 estimate)
By Age / Gender	Male	Female		
< 1 year				
1 - 4 years	6,534	6,444	7.1	www.census.gov
5 - 14 years	12,626	11,647	13.4	www.census.gov
15 - 24 years	14,039	13,648	15.1	www.census.gov
25 - 44 years	22,781	23,693	25.3	www.census.gov
45 - 64 years	21,986	23,978	25.1	www.census.gov
65+ years	11,037	15,164	13.8	www.census.gov
By Race	Total			
Black	30,510		16.7	www.census.gov
White	141,078		77.1	www.census.gov
Other				www.census.gov
By Ethnicity	Total			
Hispanic	5,218		2.9	www.census.gov
Non-Hispanic	177,851		97.1	www.census.gov
Poverty Level (County)				
Children (<18 years old)			%	
Male	22,698		16.3	www.census.gov (% of all people below federal poverty level)
Female	25,446		13.9	www.census.gov (% of all people below federal poverty level)

DATA SUMMARY (Continued)			
Variable	Number	%	Data Source
Family Composition (County)			
Single Parent Households	13,010	17.5	www.census.gov
Employment Status (County)			
Unemployment Rate	19,975	13.6	IDES, Feb. 2010 (non-seasonally adjusted-calculated value)
Major Industries / Employers (e.g., agriculture, Insurance Companies)	37,205	20.3	List: CAT, OSF, MMCI, Bradley, Keystone, Proctor, District 150 (www.illinois.biz 2008)
Educational Programs (County)			
Head Start enrollment	745		Head Start Annual Report
Schoolchildren receiving free or reduced payment lunch program	31,346		http://www.isbe.net/nutrition/excel/FY10_eligibility.xls .
Other day care facilities			
Non-High School Graduates	16,853	12.2	www.census.gov
High School Drop-Outs		1.7	www.isbe.net/ (interactive report card-average for Peoria County Public Schools)
Fluorides (County) Required			
Community water systems: Number of people/households served	27		www.cdc.gov , 2002
Community water systems fluoridating and are connected: Number of people/households served	173,892	95.6	www.idph.state.il.us , IPLAN data system, 2005
CWS with optimal fluoridation: Number of people/households served	According to US Public Health Service, during cooler weather, optimal fluoridation is 0.7 ppm; during warmer weather optimal fluoridation should be 1.2 ppm		www.flouridealert.org www.idph.il.state.us

DATA SUMMARY (Continued)				
Variable	Number		%	Data Source
Children receiving a school-based, fluoride mouthrinse				
Supplemental fluoride prescriptions filled				
Local Health Department participates in private water well water fluoride testing	YES	NO		
Tobacco Use (County)				
Spit	Adults		Children	
	Male	Female	Male	Female
Cigarettes	Male	Female	Male	Female
Tobacco Use (general)	14.5%			BRFSS (2007)
Dental Sealants (County)				
Children with 1+ dental sealants	5,566			IDPH (2007-2008)
Dental Services Under Medicaid (County)				
Dentists treating Medicaid patients	PCCHD Heartland Community Clinic			www.medicaiddentistry.com
Dentists treating >50 unduplicated Medicaid patients during the year	PCCHD			
Oral Health Care Providers (County)				
Dentists	157			www.illinoisbiz.biz (2009) Peoria Community Profiles
Dental Hygienists	4,365			www.isds.org (2007)

DATA SUMMARY (Continued)				
Variable	Number		%	Data Source
	YES	NO		
Federally designated Health Professional Shortage Areas, dental				
National Health Services Corps Dentists	0			
City/County health clinics	PCCHD Heartland			
City/County health clinics with public dental programs offering clinical services	PCCHD Heartland			
Hospitals with outpatient clinical dental services	3			
Dental schools	0			
Dental hygiene schools	ICC			
Migrant health centers	Friendship House			
Community health centers	Heartland			
Homeless health centers				
Public School System (County)				
Schools requiring an oral examination for entry	34			www.publicschoolreport.com (2005-2007)
Schools with an oral health component				
Public Dental Facilities (State and Federal)				
Mental Health Department				
Department of Corrections				
Primary Care / State Cooperative Agreement (Agency)				
Migrant Health Centers				
Community Health Centers				

DATA SUMMARY (Continued)			
Variable	Number	%	Data Source
Homeless Health Centers	0		
National Health Service Corps	0		
Indian Health Service	0		
Other			
Countywide Mouthguard Programs	0		
Medicaid Enrollees (2008)	All	38,906	www.gileadcenter.org See table in text
	Less than 21 years	21,895	
Infants with Low Birthrates *	<2500 grams (low birth weight) <1500 grams (very low BW)	8.7% 2.1%	IPLAN, 2007
Infant Mortality (19)	8.9/1000 live births		IPLAN, 2007
Founded Child Abuse Cases	726 (14.9/1000)		www.state.il.us/DCFS (2006)
Cerebrovascular Disease Mortality	138	20.2%	www.idph.state.il.us (2006)
Coronary Heart Disease Mortality	390	57%	www.idph.state.il.us (2006)
Kidney Disease Mortality	36	5.3%	www.idph.state.il.us (2006)
Respiratory Disease Mortality (COPD)	75	11%	www.idph.state.il.us (2006)
Hospitalization for Diabetes			
*Low Birth weight by race	LBW	Black 13.2% White 7.3%	
	VLBW	Black 3.7% White 1.6%	

COMMUNITY HEALTH PLAN: WORKSHEET	
<p>Health Problem:</p> <ul style="list-style-type: none"> • Poor Oral Health Outcomes 	<p>Outcome Objective:</p> <ul style="list-style-type: none"> • Reduce the incidence of dental disease in the Peoria County community.
<p>Risk Factor(s) (may be many):</p> <ul style="list-style-type: none"> • Knowledge Deficit 	<p>Impact Objective(s):</p> <ul style="list-style-type: none"> • Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.(HealthyPeople2010)
<p>Contributing Factors (Direct/Indirect) (may be many):</p> <ul style="list-style-type: none"> • Low Education <ul style="list-style-type: none"> ○ Access ○ Money ○ Location ○ Transportation ○ Family History • Low Motivation <ul style="list-style-type: none"> ○ Family History ○ Awareness of Oral Health Needs • Lack of Resources • History of Poor Family Hygiene Habits 	<p>Proven Intervention Strategies:</p> <ul style="list-style-type: none"> • Education: Proper oral cleaning techniques should be implemented at a young age. Oral health education should focus on prevention and proper cleaning techniques. (Head Start Fact Sheet, 2003) • Transportation: Provide transportation to clients who lack transportation resources. (Head Start Fact Sheet, 2003). • History of Poor Family Hygiene: Reduce the transmission of oral bacteria through familial education. (Best Practice Approach, 2010)
<p>Resources Available (governmental/nongovernmental):</p> <ul style="list-style-type: none"> • PCCHD • Heartland Community Clinic • Medicaid • Head Start • WIC 	<p>Barriers:</p> <ul style="list-style-type: none"> • Lack of funding • Lack of public transportation • Lack of education retention

COMMUNITY HEALTH PLAN: WORKSHEET	
<p>Health Problem:</p> <ul style="list-style-type: none"> • Poor Oral Health Outcomes 	<p>Outcome Objective:</p> <ul style="list-style-type: none"> • Reduce the incidence of dental disease in the Peoria County community.
<p>Risk Factor(s) (may be many):</p> <ul style="list-style-type: none"> • Lack of Prevention 	<p>Impact Objective(s):</p> <ul style="list-style-type: none"> • Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year. (HealthyPeople2010) • Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.(HealthyPeople2010)
<p>Contributing Factors (Direct/Indirect) (may be many):</p> <ul style="list-style-type: none"> • Lack of Education • Fluoride Treatment/Sealants <ul style="list-style-type: none"> ○ Available at some schools, but not all • Lack of Regular Check-ups <ul style="list-style-type: none"> ○ Insurance ○ Physician/Dentist Discord ○ Money ○ Perceived Need 	<p>Proven Intervention Strategies:</p> <ul style="list-style-type: none"> • Education: Primary care providers will instruct patients on proper oral health care. (Kagihara, Niederhauser, and Stark, 2009) • Insurance: Promote community health resources available to children who are uninsured or underinsured. Children and adolescents without health insurance are 4 times more likely to have unmet oral health needs than those with private insurance (Carmona, 2004) • Money: Extend dental services to low income children. Low income children lag behind in optimal use of dental service compared to other children (Milgrom, Mancl, King, et. al., 1998)
<p>Resources Available (governmental/nongovernmental):</p> <ul style="list-style-type: none"> • PCCHD • Heartland Community Clinic • Medicaid • WIC • Head Start 	<p>Barriers:</p> <ul style="list-style-type: none"> • Lack of funding • Lack of providers publically accepting Public Aid

COMMUNITY HEALTH PLAN: WORKSHEET	
<p>Health Problem:</p> <ul style="list-style-type: none"> • Poor Oral Health Outcomes 	<p>Outcome Objective:</p> <ul style="list-style-type: none"> • Reduce the incidence of dental disease in the Peoria County community.
<p>Risk Factor(s) (may be many):</p> <ul style="list-style-type: none"> • Diet 	<p>Impact Objective(s):</p> <ul style="list-style-type: none"> • Increase the proportion of children that meet the daily recommended nutrition requirements
<p>Contributing Factors (Direct/Indirect) (may be many):</p> <ul style="list-style-type: none"> • Education <ul style="list-style-type: none"> ○ Motivation ○ Money ○ Lack pertinent classes ○ Transportation ○ Lack of internet • Lack of access to healthy food <ul style="list-style-type: none"> ○ Transportation ○ School foods (soda, snack) ○ Grocery Stores ○ Income ○ Environment/Residence • Culture <ul style="list-style-type: none"> ○ Traditional foods ○ Hygiene habits • Substance abuse <ul style="list-style-type: none"> ○ Family history ○ Poverty ○ Gangs ○ Psychosocial/Mental Disorders • Medications <ul style="list-style-type: none"> ○ Dry mouth ○ GI upset ○ Malnutrition ○ Mal-absorption of vitamins 	<p>Proven Intervention Strategies:</p> <ul style="list-style-type: none"> • Substance Abuse: Seek counseling for substance abuse parents. Children brought up in substance abuse households are more likely to have poor dental hygiene. (Cornelius, et. al., 2004) • Communities should encourage schools and local grocery store to provide health food options. Poor diet is has been show to be a risk factor for dental disease. (Giffin, et. al., 2009) - JADA Flurosis Magazine • Utilize educational resources available in various languages. Lack of knowledge and beliefs about primary teeth created barriers to early preventive care in all culture groups. (Hilton, et. al., 2005) • Recommend dental care to patients taking certain medications. Medications that cause dry mouth or vomiting negatively impact oral health (Calvo, 2002).

COMMUNITY HEALTH PLAN: WORKSHEET	
<p>Health Problem:</p> <ul style="list-style-type: none"> • Poor Oral Health Outcomes 	<p>Outcome Objective:</p> <ul style="list-style-type: none"> • Reduce the incidence of dental disease in the Peoria County community.
<p>Risk Factor(s) (may be many):</p> <ul style="list-style-type: none"> • Oral Hygiene 	<p>Impact Objective(s):</p> <ul style="list-style-type: none"> • Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.(HealthyPeople2010)
<p>Contributing Factors (Direct/Indirect) (may be many):</p> <ul style="list-style-type: none"> • Parental Influence • Access to/Money for Equipment • Proper Education • Baby Bottle Tooth Decay 	<p>Proven Intervention Strategies:</p> <ul style="list-style-type: none"> • Educate parents on proper oral hygiene and diet. Children's dietary habits and dental hygiene reflect the habits of their parents (Mattila, Rautava, Sillanpaa & Paunio, 2000). • Educate families about proper dental care and provide families with supplies (toothbrush, toothpaste, floss). Dental caries can be prevented with proper use of toothpaste and fluoride. Brushing teeth at least once a day has been shown to decrease dental caries (Pinto & Capo, 2010).
<p>Resources Available (governmental/nongovernmental):</p> <ul style="list-style-type: none"> • PCCHD • Heartland Community Clinic • Medicaid • Head Start • WIC 	<p>Barriers:</p> <ul style="list-style-type: none"> • Lack of funding • Lack of education retention • Lack of equipment to donate

COMMUNITY HEALTH PLAN: WORKSHEET	
<p>Health Problem:</p> <ul style="list-style-type: none"> • Poor Oral Health Outcomes 	<p>Outcome Objective:</p> <ul style="list-style-type: none"> • Reduce the incidence of dental disease in the Peoria County community.
<p>Risk Factor(s) (may be many):</p> <ul style="list-style-type: none"> • Chronic Disease 	<p>Impact Objective(s):</p> <ul style="list-style-type: none"> • Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth.(HealthyPeople2010)
<p>Contributing Factors (Direct/Indirect) (may be many):</p> <ul style="list-style-type: none"> • Diabetes • Heart Disease • Cancer • Cleft Palate/Lip • Nutritional Deficiencies • Periodontal Disease 	<p>Proven Intervention Strategies:</p> <ul style="list-style-type: none"> • People with chronic disease should pay close attention to their oral health in order to prevent dental problems. Chronic disease can increase the risk of developing dental disease (Griffin et al., 2009).
<p>Resources Available (governmental/nongovernmental):</p> <ul style="list-style-type: none"> • PCCHD • Heartland Community Clinic • Medicaid 	<p>Barriers:</p> <ul style="list-style-type: none"> • Lack of funding • Lack of education retention • Lack of health insurance

COMMUNITY HEALTH PLAN

Description of the health problem, risk factors and contributing factors (including high risk populations and current and projected statistical trends:

Despite the fact that there are limited Medicaid providers in Peoria County, access to preventative oral health services for children is adequate. Numerous efforts by many community agencies are being made to provide prevention education in schools as well as dental exams and sealants. A primary contributing factor to poor oral health outcomes in children can be related to under- and/or mis-utilization of services, particularly those that are preventative. Although providers cite low Medicaid reimbursement rates as a deterrent, a major barrier is large numbers of missed appointments among this population. This indicates a lack of motivation from parents to obtain available services for their children. Inadequate access for adults to preventative care is apparent: those between 18 and 45 years of age utilize the emergency department for restorative care at a tremendous cost to government-supported programs for payment that is nonexistent for preventative services. Funding for operational costs associated with establishing any new programs for adults or children is illusive.

Corrective actions to reduce the level of the indirect contributing factors:

Oral disease and many chronic health conditions share common predisposing factors influenced by economic, social and cultural differences which often constrain efforts in health promoting lifestyles. Increasing outreach and case management services that focus on prevention education, reduction of identified risk factors and responsible use of resources, particularly to families with children, has the potential to decrease dependence on costly treatment options and improve overall health status. The development, nurturing and utilization of a diverse and skilled workforce provides for a multidisciplinary skill set approach increasing the capacity to serve the needs of high-risk populations and decrease access barriers. Integration of this oral health needs assessment with the current community MAPP process lends itself to further development and implementation of additional strategies within a 5-year plan for improvement.

Proposed community organization(s) to provide and coordinate factors:

The Oral Health Advisory Committee was designed to provide representation from community agencies having a vested interest in improving oral health outcomes. There is significant cross over between this committee and current MAPP steering and planning committees. Considerable and continued efforts must be made to consolidate agendas to foster collaboration among private and public community providers to reach high-risk populations with all agencies willing to participate in planning and implementing strategies that will lead to improved oral and overall health outcomes.

Evaluation plan to measure progress towards reaching objectives:

To effectively evaluate improvements in oral health, accurate, consistent and timely local data is needed. As strategies are identified, so must methods of collecting and analyzing data be addressed with respect to reduction in risk factors, utilization of resources, changes in behavior and improved oral health outcomes for targeted populations. Cost effective methods to improve data collection should be woven into an evaluation plan with a repeat oral health needs assessment conducted in year 4 of a 5-year community plan.

EVALUATION CHECKLIST I		
Worksheet Items	Original Score	For those items originally scored as either a 4 or 5, did the needs assessment accomplish this intent? Any pertinent comments?
Fulfill grant requirements	3	Yes
Network with other programs / agencies / organizations	5	Yes
Build a constituency for oral health issues	5	Yes
Update existing data	5	Yes
Establish baseline data	5	Yes
Prioritize programs	5	Yes
Justify budget (maintenance / expansion / reallocation)	5	Yes
Increase visibility of oral health program in agency	4	Yes
Target resources to specific populations	4	Yes
Fulfill expectations of local governing authority	4	Yes
Educate decision makers	4	Yes
Collect data in a timely fashion	4	Yes
Collect valid (accurate) / reliable (reproducible) data	4	Yes
Generalize findings to target population	4	Yes
Evaluate existing programs	5	Yes
Others (Note: Must be the same items as those determined on Worksheet #2, "Needs Assessment Goals," other section)		

EVALUATION CHECKLIST II			
Data Items / Types of Information	Did you accomplish this?	Needs Assessment Method Used	Would you recommend using this method for the next needs assessment? Any other pertinent comments relating to this item/type of information?
1. Description of Population	Yes	US Census, County Data	
2. % of children with 1+ carious primary or permanent teeth (Required)	Yes	Caries-risk Assessment, IDPH	
3. % of children served by community water systems with optimal fluoride (Required)	Yes	CDC, IPLAN, IEPA	
4. % of people served with sealant on 1+ permanent teeth	No		
5. % children with sealant on 1+ permanent teeth	Yes	IDPH	
6. # of dental providers in a state (by county or other division)	Yes		
7. Dentist participation in Medicaid program (number participating and level of participation)	Yes	Doral Dental, expert knowledge	
8. % of eligible children who receive dental services through EPSDT	No		
9. Description of public resources for dental care	Yes	Advisory committee knowledge	
10. % children entering school programs for first time who have received an oral screening, referral and follow-up	Yes (screening only)	IDPH	
11. Perceived oral health needs of consumers and their assessment of accessibility, acceptability and appropriateness of oral health care received	No		

EVALUATION CHECKLIST III			
Questions which don't conform to a Yes/No Response are indicated by an asterisk (*).			
Question	Yes	No	Comments
STEP 1: Identify Partners / Form Advisory Committee			
Did the majority of the Advisory Committee serve an active role throughout the needs assessment?	Yes		
Were members asked and willing to assist in the collection of data?	Yes		
What specific issues did the dental health program address which had not been part of their programmatic activities previously? *			Adult access to preventative and restorative care
Did the Advisory Committee consist of appropriate representatives (e.g., for MCH) <ul style="list-style-type: none"> ➤ consumers ➤ advocates for children with special health needs ➤ other health disciplines; and ➤ maternal and child health programs? 	Yes		
Were the minutes from the Advisory Committee meetings shared with other interested parties (e.g., MCH director, dental organizations, local dental society, health department administrators)?	Yes		Administrative staff, Board of Health
Was the Maternal and Child Health program given adequate opportunity to coordinate efforts in collecting mutually beneficial information?	Yes		
Did the dental health staff have an opportunity to provide input into the process?	Yes		
Was the size of the Advisory Committee manageable?	Yes		
Did the Advisory Committee feel that they had ownership of the needs assessment project?	Yes		
Did the dental program staff feel that they had ownership of the needs assessment project?	Yes		
Approx. how many new organizations did your staff meet during the process? *			No new organizations, however representation of current organizations interested in collaborative efforts was of benefit

EVALUATION CHECKLIST III			
Questions which don't conform to a Yes/No Response are indicated by an asterisk (*).			
Question	Yes	No	Comments
Which of these do you plan to work with collaboratively on other projects? *		All	
Was the Advisory Committee realistic about the expectations of the needs assessment?	Yes		
Have local health departments asked for your cooperation in conducting a needs assessment for their community?	Yes		Local Health Department convened community advisory group and is leading the process
How prepared are you to participate in this activity? *		Very prepared.	
Have you offered it?			
STEP 2: Conduct Self-Assessment to Determine Goals			
Did you periodically return to <i>Worksheet #2</i> to remind yourself of the goals?	Yes		
Which goals were re-ranked because of the return to <i>Worksheet #2</i> ? *		None	
STEP 3: Plan the Needs Assessment			
Of the core data items - <ul style="list-style-type: none"> ➤ Which were successfully collected? Why? * ➤ Which were not successfully collected? Why? * 			Most were successfully collected. See text.
Of the optional data items - <ul style="list-style-type: none"> ➤ Which were successfully collected? Why? * ➤ Which were not successfully collected? Why? * 			Most were successfully collected. See text.
Were the timelines reasonable?	Yes		
Were the estimates for human resources reasonable?	Yes		

EVALUATION CHECKLIST III			
Questions which don't conform to a Yes/No Response are indicated by an asterisk (*).			
Question	Yes	No	Comments
STEP 4: Collect Data			
Were you able to collect some information for all of the core items?	Yes		
Did data collection for some of the optional items come at the expense of seeking information about core data items?		No	
STEP 5: Organize and Analyze Data			
If you collected primary data, did you have input from an expert in sample design and statistical analysis?		No	
Were these people involved at the outset of the project?			
STEP 6: Report Findings			
Who did you report your findings to? *	Advisory Committee members, Health Department administrative staff, Board of Health		
Have specific findings and recommendations from the needs assessment been clearly articulated to appropriate interested parties?	Yes		
Has the dental director and Maternal and Child Health director determined which findings should be incorporated into the Block Grant Application?		No	
How was this determination made? *			
What would have influenced other dental health findings to be incorporated into this document? *	Improved availability of accurate, timely and local data		
To what other professional and community organizations have you communicated the findings? *	All members of the Advisory Committee		
Did you produce a separate oral health needs assessment document?		No	

EVALUATION CHECKLIST III

Questions which don't conform to a Yes/No Response are indicated by an asterisk (*).

Question	Yes	No	Comments
Of those data elements not collected during this cycle of the needs assessment, what arrangements have been made to complete these activities? *	Pending Advisory Committee input		
Have external reviewers been asked to review and comment about the needs assessment process and findings?		No	
What would you do differently to improve the needs assessment process? *			

Oral Health Community Advisory Group Contact List

Name	Affiliation
Claire White	Crittenton Centers
Victoria Thompson	Children's Home/Good Beginnings
Marilyn Ragler	PCCEO Head Start
H.L. Waldrop, DDS	Dental Residency, OSF
Dr. Sangeeta Wadhawan	IFLOSS
Lynn Mauer, RDH, MS	ICC Dental Hygiene Program
Rick Thomas, RN, MBA	St. Francis Medical Center
Sara Dill	Children's Hospital of Illinois
Anne Howerton	Hult Center for Health Education
Beth Cullen, RN, MSN	Bradley University
Farrell Davies	Heartland Community Health Clinic
Kathleen Thacker, RDH, MS	IDPH
Nancy Neel	Heartland Community Health Clinic
Lucy Alafogianis, DDS	Heartland Community Health Clinic
Don Johnson	Heart of Illinois United Way
Nora Sullivan, MS, RN	Peoria County Board of Health
Dr. Edward Rick	
Greg Chance, LEHP, MPH, CPHA	Peoria City/County Health Department
Sue Bishop, DDS	Peoria City/County Health Department
Shannon Fowler, MS	Peoria City/County Health Department
Brian Tun	Peoria City/County Health Department
Dr. Laura Donlan	
Paula Trone	Early Headstart
Dr. John Cho	
Dr. Christa Spates	
Terry Polanin	OSF College of Nursing
Dr. Chris Couri	

Dr. Stephen Roehm	Midwest Orthodontic Associates
Karyn Dean	Headstart
Bonnie Cohrs	DSCC
Andrea Parker	IDPH
Dan Oliver	Crittenton Crisis Nursery
Jan Benson	IDPH
Dr. Tim Miller	OS St. Francis Medical Center
Kim Ritchart	ICC
Susannah Dintzis	Harrison Primary School
Kim Cornwell	PARC
Marcy Coppernoll	Hult Health Education Center
Lisa Dallmeyer	Peoria City/County Health Department
Diana Scott	Peoria City/County Health Department
Dr. Clifford Brown	
Donna O'Day	
Curt Fenton	Peoria City/County Health Department

Oral Health Advisory Committee
 March 4, 2010

Kathy Thacker (IDPH) provided a brief overview of the Oral Health Needs Assessment Process (OHNAP) utilizing the ASTDD (Association of State and Territorial Dental Directors) 7-step model. In any planning process there are four basic steps: assessment, planning, implementation and evaluation. The seven steps in the ASTDD model include: 1) identify partners and form advisory committee; 2) conduct self-assessment to determine goals and resources; 3) plan the needs assessment; 4) collect data; 5) organize and analyze data; 6) utilize needs assessment for program planning, advocacy and education; and 7) evaluate needs assessment. A comprehensive needs assessment does not occur in isolation, therefore the primary purpose of the advisory committee is to encourage community engagement to begin planning strategies and make recommendations. Activities for the advisory committee include: identifying available data and what data is still needed to provide a complete picture of oral health needs in the community; identify and prioritize problems that exist within the community; develop goals and objectives for a proposed plan and provide ongoing evaluation of the process and plan.

Planning process to date has included work done by nursing students from Illinois Wesleyan and Bradley University. Illinois Wesleyan students presented a flow sheet depicting oral health problems and associated factors, direct and indirect. Direct risk factors are those that have been scientifically established, indirect are those risk factors that are community specific. Indirect risk factors are supported by local data that will be collected. Direct risk factors contributing to overall dental disease include knowledge deficit, lack of prevention, oral hygiene, diet and other health conditions.

Previous needs assessments include the IFLOSS statewide oral health plan completed in 2007 and a local needs assessment plan completed in 2005. The statewide plan, endorsed by IDPH, provides a framework for a local collaborative approach for development and implementation on a community-wide level. Local level data is lacking in some areas and more prevalent in others:

Available	Unavailable or limited
<ul style="list-style-type: none"> • Dental exams for children • ED information on urgent needs (ICD-9 codes) • early childhood caries risk assessment • Medicaid enrollment and use of dental services • dental practices accepting Medicaid • demographics 	<ul style="list-style-type: none"> • special needs population • adults, especially those over 60 • DD, MI population data • long-term care facilities • uninsured population

Strengths and weaknesses were initially identified within the current system and service delivery. Strengths are found within different agencies/programs.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Oral health education program (WIC) • Prenatal education • Home visits up to 1st year • Data available through schools, hospitals • Headstart – targets 3-5 year olds with oral health education, healthy snacks and meals provided • Dental Society performs skits, etc for oral health education in schools • 100% of needed follow-up care taken care of • Availability of fluoride treatments for children • Oral health care and prevention in schools provided by the Health Dept. • Number of dentists in the area (189) and active regional dental society aware of needs in community <ul style="list-style-type: none"> ○ Healthy Smiles Program ○ Give Kids a Smile Day ○ Children’s Health Education Month ○ Bright Smiles Program • Dentists active in school programs, provide quality care and are committed • Access to PCPs • Medicaid program • Committed boards within community organizations/agencies • Health department demonstrates success in many areas of children’s overall oral health • Most District 150 schools have dental health program. Toothbrush, toothpaste and floss is provided • Information is distributed to OB offices • Dental Dollar Program • Pending General Practice Residency Program 	<ul style="list-style-type: none"> • Catching-up children and keeping them returning for oral care • Transition from Medicaid at age 18 limiting access • Inadequate ability to transition DD to adult care • Limited number of providers accepting Medicaid • Lack of motivation for care and follow-up-inability of parents to get care that is needed for children and themselves • Anxiety/phobias in adults • Loss of 9th grade dental exam mandate-loss of teens in the system • Inadequate referrals from OB practices • Data not adequately recorded, therefore not factored into available data • Lack of facilities for urgent care • Education process-graduates in huge debt and it is difficult to start in practice. Providing care to Medicaid or indigent populations is costly • <u>Distribution</u> of providers locally • Preventative care vs. treatment; inadequate support for education and prevention • Transportation availability • Inadequate long-term delivery of care, coordination of care • Need a community focus, partnerships between providers and hospitals

The committee discussed key organizations/participants needed to represent specific populations within the community. Efforts to encourage participation will continue.

Next meeting: 1) review existing data, establish baseline; 2) identify gaps, determine feasibility of obtaining additional data; 3) begin to identify indirect risk factors specific to this community.

Oral Health Advisory Committee
April 15, 2010

Illinois Wesleyan nursing students presented a brief analysis of data collected throughout the semester. Potential data needed to complete the assessment included more comprehensive information on the oral health status/needs of special needs children as the study presented included only families enrolled in District 150. A complete analysis of collected data will be provided to committee members at the next meeting.

Discussion following presentation of data:

It was noted that increasing numbers of individuals, particularly the adult age group 18-45, are utilizing the emergency room for dental care. The current economic climate indicates that numbers of uninsured and those enrolling in Medicaid is likely increasing. Of particular concern is that only 20% of children under the age of 18 actually access dental services. Those children whose parents have experienced a negative encounter with a dentist are less likely to be seen by a dentist. The present lack of Medicaid payment for adult preventative services is a legislative issue that should be pursued.

The role of primary care physicians in providing education on the value and importance of good oral health care needs to be emphasized and increased.

School-based exam/sealant program

Increasing receptivity, participation and return rate of permission slips: It was suggested that oral health education on the process be provided to the children prior to sending information home to parents, potentially decreasing fear and apprehension for both the child and the parents. Potential barrier-additional time away from the classroom may not be well accepted by school personnel. It would be important to provide the information to the school district and gain acceptance of this practice, particularly for those groups of children needing required exams.

Identified restoration/extractions: Currently a form is sent home to the families of children needing care. Children are referred to their own dentist or the Health Department dental clinic for an appointment. Those parents with children needing urgent care (approximately 3-4%) receive a separate form emphasizing the importance of follow-up and intervention. A pilot project providing follow-up to families who have not sought care within thirty days is underway, however the lack of a responsible, dedicated individual to provide this is a barrier.

Case Management

A comprehensive case management system to improve care and follow-up for children is worthy of pursuing. The model utilized by Head Start (provision of significant follow-up to assure care is received) should be considered, although other models exist that may also be effective. In particular, a model that integrates disciplines (dietitians, hygienists, nurses, dentists, physicians, etc.) emphasizes collaborative efforts to increase preventative services and the reduction of oral health problems among children. While there is no formal research available, an observed decrease in the incidence of anterior decay (BBTD) is attributed to the combined efforts of nutritionists and public health nurses intervening with families enrolled in WIC and case management programs. Additional emphasis is now being placed on 2nd primary molar decay frequency and interventions for prevention.

The connection of existing case management programming is imperative in expanding access to families. Of primary concern is convincing parents of the need for oral health prevention activities. Discussion at the next meeting will center on proposed issues in seeking funds through the Illinois Children's Health Foundation for the development and implementation of a case management model to improve access and usage of oral health resources.

The next meeting of the advisory committee will be in two months.