Oral Health Needs Assessment, Cochise County, AZ.

November 29, 2007

"...Oral health means more than healthy teeth...oral health is integral to general health. You cannot be healthy without oral health. Oral health and general health should not be interpreted as separate entities" - Surgeon Generals Report on Oral Health, 2000

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CPH 586-Maternal and Child Health
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1. PREFACE

This report is a needs assessment focusing on the status of Maternal and Child Oral Health in Cochise County, AZ. This assessment and report have been completed in order to satisfy the requirements of “CPH 586 Maternal and Child Health,” which is a course taught by Dr. Iman Hakim at the University of Arizona Mel and Enid Zuckerman Arizona College of Public Health.

Since 1998, a variety of needs assessments have been conducted as part of this course. To our knowledge, this is the first Oral Health needs assessment to come out of this course. For ease of comparison, this report will follow a similar format to previous reports generated.

1.1 PROJECT GROUP

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1.2 ACKNOWLEDGEMENTS

This assessment would not have been possible without the guidance and support received from the following:

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Prenatal Public Health Nurse, Cochise County Health Department

Iman Hakim, M.D., PhD, MPH
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All Survey Respondents
Cochise County has a rich culture and holds a legendary place in history. Located in southeastern Arizona (Figure 1), it spans 6,219 square miles. The 2006 population was approximately 135,150 persons. It is bordered by New Mexico to the east, and the Mexican state of Sonora to the south (Figure 2). Counties that border Cochise include: Graham, Greenlee, Pima, and Santa Cruz.
Cochise County is an area known for both its mining and agriculture, and for many years the economy revolved around these industries. Today, Cochise has moved toward manufacturing, tourism, and wholesale and retail trades. Farming, ranching, tourism, and military are the major industries found in this area.

Cochise County has a diverse landscape; characterized by wide valleys, high desert grasslands, and mountains. The land is divided as: privately owned (42%), State and other public lands (37%), and U.S. Forest Service and Bureau of Land Management (21%).
2.1 DEMOGRAPHICS OF COCHISE COUNTY

In 2006, the population of Cochise County accounted for about 2% of Arizona’s 6.2 million people (AZ Vital Statistics, 2006). Approximately 25% of the people in Cochise County are younger than 18 and 7% are younger than five. Approximately, 59% of the population is between 18 and 64 years of age. This age distribution is almost comparable with Arizona, although there are slightly more people over 65 in Cochise County (16.1% versus 12.8%) (US Census Bureau, 2006). For the purposes of this report, our results focus on the maternal and child health population including children and women of child-bearing age (15-45 years).

Table 1. Population Distribution, 2006

<table>
<thead>
<tr>
<th></th>
<th>&lt;1</th>
<th>1-14</th>
<th>15-19</th>
<th>20-44</th>
<th>45-64</th>
<th>65+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>49,609</td>
<td>660,997</td>
<td>225,492</td>
<td>1,147,381</td>
<td>683,489</td>
<td>356,644</td>
<td>3,123,612</td>
</tr>
<tr>
<td>Female</td>
<td>47,504</td>
<td>632,017</td>
<td>213,698</td>
<td>1,061,924</td>
<td>718,825</td>
<td>441,902</td>
<td>3,115,870</td>
</tr>
<tr>
<td>Cochise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>962</td>
<td>13,096</td>
<td>5,700</td>
<td>20,932</td>
<td>16,389</td>
<td>10,187</td>
<td>67,266</td>
</tr>
<tr>
<td>Female</td>
<td>943</td>
<td>12,842</td>
<td>19,459</td>
<td>19,459</td>
<td>17,743</td>
<td>11,429</td>
<td>67,523</td>
</tr>
</tbody>
</table>

Adapted From: Arizona Vital Statistics

Population Growth

The map below demonstrates that between the years of 1990-2000, Cochise County’s population grew by 20.6%.

Figure 3. Population, Cochise County
Sex distribution
Based on the 2000 census, the distribution of males was 48% and females 52% in Cochise County.

Figure 4. Cochise County Male vs. Female Distribution

![Pie chart showing male and female distribution with 48% male and 52% female](chart)

Source: U.S. Census Bureau, 2000 Census

Race and Ethnicity:
A majority of the population of Cochise County are White (non-Hispanic), or Hispanic/Latino. This is almost identical to the population distribution in Arizona (60.4% White, nonhispanic, and 28.5% Hispanic/Latino) (US Census Bureau, 2006).

Figure 5. Race and Ethnicity, Cochise County, 2006

![Pie chart showing race and ethnicity distribution with 60% White, 31% Hispanic or Latino, 4% Black, 4% Other](chart)

Adapted From: US Census Bureau, 2006
Education:
In Cochise County, 79.5% of persons 25 years and older have graduated from high school and 18.8% have received a Bachelor’s Degree or higher. For Arizona as a whole, the numbers are slightly higher, at 81% and 23.5% respectively. The dropout rate (grades 9-12) in Cochise, on the other hand, is better than Arizona. The 1994 rate fell from 16 per 100 to 8 per 100 by the year 2000. Arizona’s rate has remained virtually constant over the same time period, at 12 per 100 (KidsCount, 2006; US Census Bureau, 2006).

Income:
The median household income in Cochise County is $36,585 ($43,696 for Arizona) and the per capita income is $15,988 ($20,275 for Arizona). Approximately 17% of people in Cochise County and almost 15% of persons in Arizona live below the poverty line (US Census Bureau, 2006).

Health Insurance:
Based on experimental estimates from the US Census, about 18% of persons under 18 in Cochise County are uninsured, and 21% of persons of all ages are uninsured. In Arizona the estimates for uninsured are 16% for those 18 or younger and 18% for those of all ages (US Census Bureau, 2006). The 2005 BRFSS, however, found that only 14% of Cochise County residents did not have any kind of health care coverage (BRFSS, 2005).

Household Size and Costs
In 2006, there were 51,126 households in Cochise County with an average household size of 2.5 people.

Table 2. Housing by Renter-occupied or Owner-occupied

<table>
<thead>
<tr>
<th>Housing Units</th>
<th>Number</th>
<th>Percent (Cochise County)</th>
<th>Percent (Arizona)</th>
<th>Percent (United States)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renter-occupied</td>
<td>14,347</td>
<td>28.1</td>
<td>27.8</td>
<td>30.8</td>
</tr>
<tr>
<td>Owner-occupied</td>
<td>29,546</td>
<td>57.8</td>
<td>59.1</td>
<td>60.2</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2000 Census

The median rent was $392 and the monthly mortgage cost was $846.

Table 3. Housing Units

<table>
<thead>
<tr>
<th>Housing Units</th>
<th>Number (Cochise County)</th>
<th>Number (Arizona)</th>
<th>Number (United States)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renter-Occupied</td>
<td>2.55</td>
<td>2.48</td>
<td>2.36</td>
</tr>
<tr>
<td>Average number of household members</td>
<td>392</td>
<td>538</td>
<td>519</td>
</tr>
<tr>
<td>Median rent ($)</td>
<td>24</td>
<td>27</td>
<td>26</td>
</tr>
<tr>
<td>Rent as percent of household revenue</td>
<td>846</td>
<td>1,039</td>
<td>1,088</td>
</tr>
<tr>
<td>Owner-Occupied</td>
<td>2.55</td>
<td>2.71</td>
<td>2.71</td>
</tr>
<tr>
<td>Average number of household members</td>
<td>230</td>
<td>268</td>
<td>295</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2000 Census
Marital status
For males, approximately 24% have never married, 62% were married, 3% were widowed, and 11% were divorced. For females, approximately 19% have never married, 59% were married, 5% were widowed, and 12% were divorced.

Table 4. Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number (Cochise)</th>
<th>Percent (Cochise)</th>
<th>Percent (Arizona)</th>
<th>Percent (United States)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never married</td>
<td>11,153</td>
<td>24.1</td>
<td>29.6</td>
<td>30.3</td>
</tr>
<tr>
<td>Married with spouse</td>
<td>24,843</td>
<td>53.8</td>
<td>52.3</td>
<td>52.9</td>
</tr>
<tr>
<td>Married without spouse</td>
<td>3,883</td>
<td>8.4</td>
<td>5.7</td>
<td>5.7</td>
</tr>
<tr>
<td>Widowed</td>
<td>1,283</td>
<td>2.8</td>
<td>2.6</td>
<td>2.5</td>
</tr>
<tr>
<td>Divorced</td>
<td>5,035</td>
<td>10.9</td>
<td>9.8</td>
<td>8.6</td>
</tr>
<tr>
<td><strong>Female:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never married</td>
<td>8,779</td>
<td>19.1</td>
<td>22.6</td>
<td>24.1</td>
</tr>
<tr>
<td>Married with spouse</td>
<td>24,995</td>
<td>54.3</td>
<td>51.0</td>
<td>49.5</td>
</tr>
<tr>
<td>Married without spouse</td>
<td>2,306</td>
<td>5.0</td>
<td>4.7</td>
<td>5.1</td>
</tr>
<tr>
<td>Widowed</td>
<td>4,483</td>
<td>9.7</td>
<td>9.4</td>
<td>10.5</td>
</tr>
<tr>
<td>Divorced</td>
<td>5,497</td>
<td>11.9</td>
<td>12.3</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2000 Census

Birthplace
Approximately 52% of Cochise County residents were born in a state other than Arizona, and 33% were born in the state of Arizona. Approximately 3% were born outside of the U.S., 6% were naturalized citizens, and 6% were foreign-born and not U.S. citizens.

Figure 6. Birthplace by Percentages

Source: U.S. Census Bureau, 2000 Census
Crime
Figure 6 displays the breakdown of crime committed in Cochise County in 2006.

Figure 7. Number of Crimes Committed in Cochise County

![Cochise County Crime Pie Chart]

Source: The Federal Bureau of Investigation to the National Archive of Criminal Justice Data

Language other Than English Spoken in Homes:
This figure demonstrates that approximately 29.5% of individuals age 5 and over speak another language in addition to English.

Figure 8. Percent of persons five or older who speak another language than English

![Map of Language Spoken in Arizona]

Poverty and Participation in Government Programs

In 2006:

- 18% of people were in poverty.
- 28% of related children under 18 were below the poverty level.
- 10% of people ages 65 and older were below the poverty level.
- 16% of all families had incomes below the poverty level.
- 43% of female-headed households where no husband was present had incomes below the poverty level.

2.2 COCHISE COUNTY HEALTH DEPARTMENT

The information found in this section was accessed from the Cochise County Health Department website at: http://www.co.cochise.az.us/health/HealthDepartment/Default.htm.

The Cochise County Health Department (CCHD) is the leading health agency for public health in Cochise County. The CCHD offers a variety of public health programs and services distributed through offices in: Benson, Bisbee, Douglas, Sierra Vista, and Wilcox. The offices in these locations provide services to remote communities through satellite clinics. Additionally, the CCHD collaborates with other public, private, and community health agencies in Cochise County and Arizona (Cochise County Health Department, 2007).

Mission Statement:

The purpose of the Cochise County Health Department is to promote health and quality of life for all Cochise County residents through education, service and leadership.

Divisions:

Cochise County is divided into the following six areas (details of each area below):

1. Bio-Terrorism Preparedness Program
2. Environmental Health Division
3. Health Promotion and Disease Prevention
4. Nursing and Community Health Services
5. Office of Vital Records
6. Steps to a Healthier Cochise County

BIO-TERRORISM PREPAREDNESS PROGRAM

The Cochise County Health Department's Bioterrorism (BT) Preparedness Program conducts planning and training to ensure a rapid and coordinated response to public health threats and emergencies. These emergencies could include natural disasters (such as flooding), transportation accidents (such as chemical spill due to a train derailment), epidemics (such as Pandemic Flu), or a terrorist attack (such as Anthrax tainted letters).

The BT Team places an emphasis on coordinating with public health partners, local emergency response agencies, and community volunteers in training for emergencies.

Emergency Preparedness: The BT Team not only develops plans for community response but also provides education to the community on what to do in the event of a significant health
The Cochise County Health Department works closely with area emergency responders including:

- Local and Mexican fire agencies
- County, state and municipal law enforcement
- Members of the Federal, state, local and international medical community
- Volunteer communication groups
- Fort Huachuca

In addition, the Health Department works with county and municipal officials in education and partnerships resulting in efficient communication in the event of a crisis.

**Surveillance:** One of the significant responsibilities of this division is to continually monitor and report differences in disease cases throughout the county. This monitoring includes everything from influenza and salmonella to possible reports of smallpox or rare diseases. The communicable and infectious disease surveillance system operates effectively on a 24 hours per day, 7 days per week basis, and participates efficiently in statewide electronic disease surveillance programs and activities. Cochise County has established and continues to promote working relationships with hospitals, physicians, veterinarians, emergency service, and clinical service providers to ensure timely and accurate reporting.

**Planning:** BT Preparedness develops plans of action for the local, regional, statewide, and cross-border cooperation in the event of a health crisis. Since 9/11, the entire department has developed a growing relationship with counterparts in Mexico to provide cross-border assistance for any event that might affect both countries. The *Binational Prevention and Emergency Response Plan*, signed by both countries one year after 9/11, was a significant step in cross-border cooperation that will continue to enhance emergency preparedness efforts.

**ENVIRONMENTAL DIVISION**

All County public and private establishments are required to comply with the Arizona State Food Code and Cochise County Sanitary Code. Inspections and Food Handler Certifications are provided on a fee-for-services basis. Information is available on a wide range of environmental health issues including, but not limited to, food storage, well chlorination, septic tank installation and construction, swimming pool guidelines, rabies control and general public health. These services are provided on an on-going basis by Environmental Health Specialists.

**Food Safety Program:** Cochise County currently has over 800 food establishments that require periodic inspection and issuance of operating permits. All reports of food-borne illness are investigated by the Environmental Health staff. Standardized procedures are used for inspections and investigations. Training sessions can be offered to instruct food service workers in the proper methods of food storage, preparation and service. Plans for new or remodeled food service facilities are reviewed prior to construction.

**Drinking Water Program:** Local drinking water supply safety is monitored in conjunction with the Arizona Department of Health Services Laboratory, Department of Environmental Quality Drinking Water Section, and the Arizona Department of Water Resources. Permits are processed for private drinking water wells and staff members are available to advise and
assist residents to obtain a safe water supply. Reports of water-borne illness are promptly investigated.

**On-Site Sewage Investigation:** The Division assists land owners and builders by providing review services of applications for standard sewage disposal systems (septic tanks). Staff members consult with builders, developers, site evaluators and installers to assure design of the least costly and most site appropriate system for each application.

**Vector-Control Surveillance:** The Division provides surveillance for insects that could pose a public health threat including arboviruses, such as West Nile Virus, that are spread by certain types of mosquitoes. Current public education efforts involve mosquito, fly, Africanized bee and Hantavirus controls. A program to assist animal control officers with public awareness education about rabies is also a high priority. Staff members help to educate the public on its role in preventing this deadly disease.

**Nuisance-Control Program:** This program involves investigation and resolution of environmental nuisance conditions including sewage releases and solid waste issues.

**Community Sanitation and Institutional Facility Inspection Program:** The Division provides routine inspection of a variety of facilities in the County. These include RV/trailer parks, swimming pools, hotel/motel/bed & breakfast facilities, food processors and other non-restaurant food service facilities (e.g., groceries, hospitals, nursing facilities, child care facilities, temporary food service operations, festivals, etc.)

**HEALTH PROMOTION AND DISEASE PREVENTION**

The mission of the Health Promotion & Disease Prevention Division is to promote, with community involvement, a healthy lifestyle and to prevent disease and injury through culturally respectful programs of education, outreach and intervention. The important programs under this area are: Arizona Women, Infants, & Children (WIC), The Project for the Beneficial Use of Tobacco Taxes, and Nutrition and Health Promotion.

**Arizona Women, Infants, and Children (WIC)** is a federally funded program which provides Arizona residents with nourishing supplemental foods, nutrition education, and referrals. The program includes health and nutrition risk assessment, nutrition education, assistance through provision of nutritious food packages, breastfeeding education and referrals to other programs as needed.

The **Project for the Beneficial Use of Tobacco Taxes (Project B.U.T.T)** is a comprehensive prevention, education and cessation program that addresses tobacco use and the impact it has on health. Project B.U.T.T. is working to reduce tobacco use and involuntary exposure to environmental tobacco smoke for all county residents. Tobacco tax revenues fund Project B.U.T.T., and we are one of many local projects in Arizona that work to reduce tobacco use. Project B.U.T.T. now going into its seventh year, is still serving the adults and youth in Cochise County. Project B.U.T.T. is funded by state collected tobacco tax revenues and administered by the Arizona Department of Health Services’ (ADHS), Tobacco Education & Prevention Program, (TEPP). This project includes the following components: education, cessation, and prevention.
NUTRITION AND HEALTH PROMOTION:

- **Preventive Health and Health Services Block Grant (Physical Activity Program)**
  This is a physical activity program designed to promote physical activity for County residents. In an effort to achieve the goals of Healthy People 2010, the program aims to reduce the prevalence of obesity and chronic disease such as cardiovascular disease, diabetes, osteoporosis, and some types of cancer. The activities include: school-based physical activities (grades 4 thru 8), community-based special events, such as health fairs, and programs designed for special populations such as seniors. This program is funded through the Centers for Disease Control (CDC) and is part of the Arizona Community and Family Health Services, Preventive Health Block Grant administered through the Arizona Department of Health Services.

- **Community Nutrition Program (5 a Day)**
  The Cochise County Health Department has operated Community Nutrition Programs since 1973, and is the only service of its kind available in the county. The program is funded with State appropriations through the Arizona Department of Health Services. The school-based project promotes the 5-a-Day for Better Health plan, which encourages consuming at least 5 servings daily of fruits and vegetables and focuses on children ages 5-9 (K-3rd grade). A complementary program that includes similar activities for the community is also part of this program. As more children receive the 5-a-Day program in the classroom, and more food service workers are trained in 5-a-Day in the kitchen, the county sees the results in increased overall fruit and vegetable consumption by children in the cafeteria.

- **Farmer's Market Nutrition Program**
  The Farmer's Market Nutrition Program (FMNP) provides women and children who participate in WIC, $30 worth of vouchers they can redeem for locally grown fruits and vegetables at Farmer's Markets. In the past the only Farmer's Market in Cochise County was located in Bisbee. Starting this year, there will be a Farmer's Market in Sierra Vista that will participate in this program, giving WIC clients more locations to redeem their Farmer's Market vouchers. This program provides an incentive to WIC clients to utilize more fresh fruits and vegetables in their diet. This program is administered through the WIC program, and is also funded by USDA, through the ADHS, Office of Chronic Disease Prevention and Nutrition Services.

NURSING AND COMMUNITY HEALTH SERVICES

The Nursing & Community Health Services Division offers a wide variety of programs. Some of the programs and services we currently offer are:

- **Immunization Program**
  The primary mission of the Cochise County Immunization Program is to provide for complete immunization services for children aged 0 - 18 years. They offer all childhood vaccinations free of charge through the Federal Vaccines for Children Program. In addition they strive to promote vaccination throughout the lifespan by offering a variety of Adult Vaccines at a reasonable cost.
The Cochise County Immunization Program collaborates with other providers, both private and public, including concerned citizens in the Cochise County Immunization Coalition. The coalition works to educate the public and health care providers about the most current immunization strategies, guidelines and recommendations to continually improve immunization services throughout the county. A current project offered by the coalition is "VAX FAQs," a local Public Health update newsletter, offered in English and Spanish.

Family Planning
The Reproductive Health/Family Planning Program is a statewide clinic-based primary care program that provides complete reproductive health/family planning services to promote optimal health. Services include education, counseling, medical, and referral services that enable people to make voluntary, informed decisions about the quantity and spacing of their children. Family planning clinics play a key role in health care delivery. The clinics often are the entry point into the health care system, and may be the only source of health care for the young, for those with low incomes, for the uninsured, and the underinsured.

Reproductive Health/Family Planning Program services provide individuals with the information and means to exercise personal choice in determining the number and spacing of their children. The program promotes responsible and healthy lifestyles by providing accurate information, education, counseling, and medical services to people regarding their reproductive health and family planning options. Program services also help prevent:
- The spread of sexually transmitted infections by providing screening.
- Unintended pregnancy by providing access to a range of safe and reliable contraceptive methods, and education regarding the correct use of those methods.
- Disease by screening for breast and cervical cancers.

The Reproductive Health/Family Planning Program continues to increase access to health care for individuals who might otherwise not be served. In 2005, the program provided a comprehensive initial or annual visit to 5,580 women statewide and provided 9,549 referrals for further identified needs.

Teen Pregnancy Case Management
Free Pregnancy testing and guidance throughout a pregnancy is available to teens and women through the Health Start project offered by the Adolescent Maternal Child Health program (AMCH). The project focus is on having a 'lay health worker', or community person, be a guide to help women through their pregnancy and the first two years of a baby's life. There is no fee for these services and there are lay health workers throughout the county.

The lay health worker answers questions about pregnancy, childbirth, child rearing and anything that a soon-to-be mother or new mother would like to know. The lay health workers know what resources are available in the county, such as where to get car seats, who the
midwives are, and how to find parenting classes or child care. Cochise County can screen a child once he/she is born for proper development through a survey called "Ages and Stages", which can be done every two months. Plus, the county offers home safety checks to make sure a child is protected. All the lay health workers get certification training in health care and are accredited breastfeeding counselors.

**OFFICE OF VITAL RECORDS**

**Birth Certificates:** The Cochise County Health Department's Office of Vital Records has offices in Bisbee and Sierra Vista. Offices are able to provide certified copies of birth certificates for persons born from 1950 until the present.

**Death Certificates:** The Cochise County Health Department's Office of Vital Records in Bisbee provides certified copies of death certificates. In January 2008, the Sierra Vista location will also be able to provide certified copies of death certificates. The office provides certified copies of death certificates within 30 days of registration.

**STEPS TO A HEALTHIER COCHISE COUNTY**

This is part of a federally-funded program lead by the County Public Health (Prevention Services) Division and its community partners. This program focuses on the areas of asthma, diabetes, obesity, nutrition, and physical activity. The high concentration of these diseases along the border has lead to a significant push to educate citizens on the best ways to understand, prevent, and if necessary, control these growing diseases.

Steps to a Healthier Cochise County aims to:

- Reduce the impact of chronic diseases of asthma, diabetes and obesity through education that promotes prevention and control.
- Coordinate actions at the individual, family, clinical, school and community levels.
- Provide free screenings, classes, support groups and information available for all residents.

The County Steps Program helps the community understand and manage chronic health conditions – the most prevalent being diabetes, asthma and obesity, a disease resulting from poor nutrition and physical inactivity.

**3. INDICATORS AND PERFORMANCE MEASURES**

This section presents data on key maternal and child health indicators and performance measures. The first segment, "Maternal and Child Health Indicators" compares core indicators for Cochise County and Arizona. When available, data from 2004, 2005 and 2006 is presented to show general trends. The second segment examines Cochise County and Arizona’s progress towards select Healthy People 2010 goals. Finally, data on Title V performance and outcome measures is presented. Taken as a hole, these indicators are useful in assessing general MCH health and identifying important health care needs for the maternal and child population in Cochise County.
3.1 MATERNAL AND CHILD HEALTH INDICATORS

Prenatal care use and duration:
In 2006, 2.7% of women in Cochise County did not receive any prenatal care. This number has declined over recent years (from 4.3% in 2004). A majority of women (62.5%) received 13+ prenatal visits in 2006 compared with only 33% of women in 2004. In Arizona, the percentage of women receiving 13+ prenatal visits is much lower, only 27.5 percent. A majority of women (48.8%) in the state receive between 9 and 12 visits. Table 5 shows births by number of prenatal visits for Cochise County and Arizona from 2004-2006 (AZ Vital Statistics, 2006).

Table 6 shows when prenatal care was initiated, by trimester, from 2004 to 2006. Cochise County has better first trimester care initiation than Arizona (82.6% versus 77.4%). Additionally, Cochise County has seen dramatic improvements since 2004 when only 69.4% of women initiated prenatal care during the first trimester (AZ Vital Statistics, 2006).

Table 6. Births by number of prenatal visits

<table>
<thead>
<tr>
<th></th>
<th>Cochise</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>1,810</td>
<td>100</td>
</tr>
<tr>
<td><strong>No Visits</strong></td>
<td>77</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>1-4 Visits</strong></td>
<td>72</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>5-8 Visits</strong></td>
<td>360</td>
<td>19.9</td>
</tr>
<tr>
<td><strong>9-12 Visits</strong></td>
<td>697</td>
<td>38.5</td>
</tr>
<tr>
<td><strong>13+ Visits</strong></td>
<td>597</td>
<td>33.0</td>
</tr>
<tr>
<td><strong>Unknown</strong></td>
<td>7</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Adapted from: Arizona Vital Statistics
### Table 7. Births by initiation of prenatal care

<table>
<thead>
<tr>
<th></th>
<th>Cochise</th>
<th></th>
<th>Arizona</th>
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<tbody>
<tr>
<td></td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
<td>Count</td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td>1,810</td>
<td>100</td>
<td>1,769</td>
<td>100</td>
<td>1,808</td>
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<tr>
<td>No Care</td>
<td>77</td>
<td>4.3</td>
<td>40</td>
<td>2.3</td>
<td>48</td>
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</tr>
<tr>
<td>1st Trimester</td>
<td>1,257</td>
<td>69.4</td>
<td>1,500</td>
<td>84.8</td>
<td>1,494</td>
<td>82.6</td>
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<tr>
<td>2nd Trimester</td>
<td>379</td>
<td>20.9</td>
<td>175</td>
<td>9.9</td>
<td>219</td>
<td>12</td>
</tr>
<tr>
<td>3rd Trimester</td>
<td>84</td>
<td>4.6</td>
<td>52</td>
<td>2.9</td>
<td>45</td>
<td>2.5</td>
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<tr>
<td>Unknown</td>
<td>13</td>
<td>0.7</td>
<td>2</td>
<td>0.1</td>
<td>2</td>
<td>0.11</td>
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<tr>
<td></td>
<td>83,396</td>
<td>100</td>
<td>95,788</td>
<td>100</td>
<td>102,042</td>
<td>100</td>
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<tr>
<td></td>
<td>2,633</td>
<td>2.8</td>
<td>2,248</td>
<td>2.3</td>
<td>2,401</td>
<td>2.4</td>
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<tr>
<td></td>
<td>71,268</td>
<td>8</td>
<td>74,453</td>
<td>3</td>
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<td>15,006</td>
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<td>15,401</td>
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<td>4,082</td>
<td>4.4</td>
<td>3,606</td>
<td>3.8</td>
<td>3,797</td>
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<td>407</td>
<td>0.4</td>
<td>90</td>
<td>0.1</td>
<td>78</td>
<td>.08</td>
</tr>
</tbody>
</table>

**Adapted from:** Arizona Vital Statistics

### Birth rates by age and ethnicity:

The birth rate in Cochise County in 2006 was 13.4 per 1,000, which is lower than the overall rate for Arizona (16.6 per 1,000). In Cochise County the rate has declined steadily over the past decade, from 16.0 births in 1995. The birth rate for those ages 15 to 17 is 26.4 per 1,000 in Cochise County and 34.0 per 1,000 in Arizona (Arizona Vital Statistics, 2006).

As evidenced in the tables and figure below (Table 8 & Figure 9), there are important differences in births by race/ethnicity and age. In both Cochise County and Arizona a higher proportion of young Hispanics/Latinos give birth than young White non-Hispanics. For instance, 76% of births to girls between 15 and 17 are to Hispanic or Latinos in Cochise County while only 19.8% are to White, non Hispanics.
Table 8. Births by age and ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>&lt;15</th>
<th>15-17</th>
<th>18-19</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35-39</th>
<th>40-44</th>
<th>45+</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>102,0</td>
<td>170</td>
<td>4,450</td>
<td>8,296</td>
<td>28,250</td>
<td>28,577</td>
<td>20,300</td>
<td>9,876</td>
<td>1,999</td>
<td>120</td>
</tr>
<tr>
<td>White, non-hispanic</td>
<td>43,01</td>
<td>19</td>
<td>852</td>
<td>2,338</td>
<td>10,356</td>
<td>13,144</td>
<td>9,900</td>
<td>5,304</td>
<td>1,033</td>
<td>66</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>44,86</td>
<td>123</td>
<td>2,923</td>
<td>4,692</td>
<td>13,959</td>
<td>11,714</td>
<td>7,578</td>
<td>3,188</td>
<td>656</td>
<td>28</td>
</tr>
<tr>
<td>Black or Af. Am.</td>
<td>3,864</td>
<td>7</td>
<td>187</td>
<td>407</td>
<td>1,255</td>
<td>997</td>
<td>646</td>
<td>302</td>
<td>59</td>
<td>4</td>
</tr>
<tr>
<td>Am Indian/Alaska Native</td>
<td>6,364</td>
<td>19</td>
<td>430</td>
<td>767</td>
<td>2,075</td>
<td>1,569</td>
<td>922</td>
<td>456</td>
<td>124</td>
<td>2</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>3,136</td>
<td>1</td>
<td>28</td>
<td>63</td>
<td>425</td>
<td>936</td>
<td>1,078</td>
<td>511</td>
<td>87</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>803</td>
<td>1</td>
<td>30</td>
<td>29</td>
<td>180</td>
<td>217</td>
<td>176</td>
<td>115</td>
<td>40</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>&lt;15</th>
<th>18-19</th>
<th>25-29</th>
<th>28,250</th>
<th>30-34</th>
<th>35-39</th>
<th>40-44</th>
<th>45+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,808</td>
<td>0</td>
<td>128</td>
<td>616</td>
<td>324</td>
<td>117</td>
<td>37</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>White, non-hispanic</td>
<td>841</td>
<td>0</td>
<td>50</td>
<td>282</td>
<td>274</td>
<td>155</td>
<td>54</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>774</td>
<td>0</td>
<td>68</td>
<td>263</td>
<td>197</td>
<td>128</td>
<td>46</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Black or Af. Am.</td>
<td>94</td>
<td>0</td>
<td>8</td>
<td>37</td>
<td>23</td>
<td>16</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Am Indian/Alaska Native</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>59</td>
<td>0</td>
<td>1</td>
<td>21</td>
<td>16</td>
<td>16</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other/</td>
<td>29</td>
<td>0</td>
<td>1</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Birth outcomes, complications
Since 2004, Cochise County has seen some important improvements in regards to birth outcomes and complications. For example, the rate of births with complications of labor and/or delivery has dropped from 53 in 2004 to 32.6 in 2006. Unfortunately, this is still higher than Arizona’s 28.5 and 27.6 respectively. Other categories where the rates have improved include: births with medical risk factors reported, births with abnormal conditions reported and births with congenital anomalies reported. Despite these important improvements, the rates of pre-term and low birthweight births have increased in recent years. Furthermore, Cochise County only has better outcomes than Arizona in the category of infants admitted to newborn care units where the rates are 3.4 and 5.1 respectively.

Table 9. Rates for selected characteristics of newborns and mothers

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Births with complications of labor and/or delivery</td>
<td>53.0</td>
<td>53.1</td>
<td>32.6</td>
<td>28.5</td>
<td>28.6</td>
<td>27.6</td>
</tr>
<tr>
<td>Births with medical risk factors reported *</td>
<td>54.5</td>
<td>44.3</td>
<td>31.9</td>
<td>28.0</td>
<td>27.6</td>
<td>27.4</td>
</tr>
<tr>
<td>Preterm births (gestational age &lt;37 weeks)</td>
<td>9.8</td>
<td>9.6</td>
<td>10.2</td>
<td>11.0</td>
<td>10.7</td>
<td>10.6</td>
</tr>
<tr>
<td>Births with abnormal conditions reported</td>
<td>25.8</td>
<td>31.8</td>
<td>13.0</td>
<td>7.7</td>
<td>7.5</td>
<td>6.2</td>
</tr>
<tr>
<td>Low birthweight births (&lt;2,500 grams)</td>
<td>7.1</td>
<td>8.1</td>
<td>9.5</td>
<td>7.2</td>
<td>6.9</td>
<td>7.1</td>
</tr>
<tr>
<td>Very low birthweight births (&lt;1,500 grams)</td>
<td>1.2</td>
<td>1.3</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Births with congenital anomalies reported</td>
<td>4.9</td>
<td>7.8</td>
<td>2.3</td>
<td>1.0</td>
<td>1.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Infants admitted to newborn intensive care units</td>
<td>3.3</td>
<td>3.2</td>
<td>3.4</td>
<td>5.7</td>
<td>5.7</td>
<td>5.1</td>
</tr>
</tbody>
</table>

Adapted From: Arizona Vital Statistics
The second table shows the complications of labor and delivery for mothers in Arizona and Cochise County. In Cochise County, over the past three years, there was a percentage increase in the categories of febrile births, placenta previa, other bleeding, precipitous labor, breech malpresentation and fetal distress. There was a percentage decrease in the categories of ruptured membranes, prolonged labor, dysfunctional labor and other causes. The categories accounting for most of the complications in 2006 were meconium, precipitous labor, breech malpresentation and other causes (ADHS, 2006).

Table 10. Complications of Labor and Delivery

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>count %</td>
<td>count %</td>
<td>count %</td>
<td>Count %</td>
<td>Count %</td>
<td>Count %</td>
</tr>
<tr>
<td>Total</td>
<td>960 100</td>
<td>939 100</td>
<td>589 100</td>
<td>26,651 100</td>
<td>23,376 100</td>
<td>28,199 100</td>
</tr>
<tr>
<td>Febrile</td>
<td>1 10</td>
<td>1 10</td>
<td>6 1.0</td>
<td>1,016 4.0</td>
<td>1,107 4.7</td>
<td>1,264 4.5</td>
</tr>
<tr>
<td>Meconium</td>
<td>108 11.3</td>
<td>38 4.0</td>
<td>68 11.5</td>
<td>3,385 13</td>
<td>3,726 15.9</td>
<td>4,617 16.4</td>
</tr>
<tr>
<td>Rupture of Membrane</td>
<td>65 6.8</td>
<td>58 6.2</td>
<td>34 5.8</td>
<td>1,676 6.3</td>
<td>1,718 7.3</td>
<td>1,670 6.0</td>
</tr>
<tr>
<td>Abruptio Placenta</td>
<td>14 1.4</td>
<td>10 1.1</td>
<td>7 1.1</td>
<td>364 1.4</td>
<td>419 1.8</td>
<td>449 1.6</td>
</tr>
<tr>
<td>Placenta Previa</td>
<td>18 1.2</td>
<td>10 1.1</td>
<td>14 2.4</td>
<td>262 1.0</td>
<td>282 1.2</td>
<td>294 1.0</td>
</tr>
<tr>
<td>Other bleeding</td>
<td>2 0.2</td>
<td>1 0.1</td>
<td>11 1.9</td>
<td>348 1.3</td>
<td>356 1.5</td>
<td>333 1.0</td>
</tr>
<tr>
<td>Seizures</td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
<td>21 0.1</td>
<td>33 0.1</td>
<td>20 0.1</td>
</tr>
<tr>
<td>Precipitous Labor</td>
<td>20 2.1</td>
<td>39 4.2</td>
<td>39 6.6</td>
<td>808 3.0</td>
<td>993 4.0</td>
<td>1,142 4.0</td>
</tr>
<tr>
<td>Prolonged Labor</td>
<td>21 2.2</td>
<td>7 0.8</td>
<td>8 1.4</td>
<td>664 2.5</td>
<td>655 3.0</td>
<td>632 2.2</td>
</tr>
<tr>
<td>Dysfunctional Labor</td>
<td>181 16.9</td>
<td>105 11.2</td>
<td>3 .5</td>
<td>670 3.3</td>
<td>1,190 5.1</td>
<td>975 3.5</td>
</tr>
<tr>
<td>Breech malpresentation</td>
<td>45 4.7</td>
<td>44 4.7</td>
<td>51 8.7</td>
<td>3,036 11.4</td>
<td>3,098 13.3</td>
<td>3,191 11.3</td>
</tr>
<tr>
<td>Cephalopelvic disp.</td>
<td>24 2.5</td>
<td>22 2.3</td>
<td>32 5.4</td>
<td>667 2.5</td>
<td>686 3.0</td>
<td>736 2.6</td>
</tr>
<tr>
<td>Cord prolapse</td>
<td>1 0.1</td>
<td>4 0.3</td>
<td>3 .5</td>
<td>130 0.3</td>
<td>148 0.6</td>
<td>128 0.5</td>
</tr>
<tr>
<td>Anesthetic Complication</td>
<td>1 0.1</td>
<td>0 0.0</td>
<td>0 0</td>
<td>85 0.3</td>
<td>52 0.2</td>
<td>53 0.2</td>
</tr>
<tr>
<td>Fetal Distress</td>
<td>10 1.0</td>
<td>10 1.1</td>
<td>14 2.3</td>
<td>1,966 7.4</td>
<td>2,850 12.2</td>
<td>3,127 11.1</td>
</tr>
<tr>
<td>Other</td>
<td>765 81.8</td>
<td>769 81.9</td>
<td>381 56</td>
<td>16,628 62.4</td>
<td>15,895 68.0</td>
<td>15,266 54.1</td>
</tr>
</tbody>
</table>
Service utilization:

The Cochise County Health Department provides many important services to the maternal and child population of the county. As previously discussed, there are six divisions in the Cochise County Health Department. While each division impacts MCH in important ways, two divisions crucial to MCH service provision are the Health Promotion and Disease Prevention Division and the Nursing and Community Health Services Division. The Health Promotion and disease prevention division runs the Nutrition and Health Promotion Program, Commodity Supplemental Food Program and the WIC program.

The WIC program has had a difficult two years. In 2006, the caseload was cut by 7.7% (from 5,000 to 4,500 clients a month) because fewer eligible persons sought WIC services. Experts at the county health department feel the decline in clients might be related to Border Patrol activities and changes in market basket foodstuffs that can be purchased using WIC vouchers. Unfortunately, it is estimated that funding for Cochise County’s WIC program will be cut again next year because they were only able to see an average of 4,000 clients per month (89%). The state contract is for 97% (Harik, 2007).

The Nursing and Community Health Services Division provides immunization programs, family planning programs, teen pregnancy case management and teen-women pregnancy and early childhood services. In FY 06/07, the division had many internal changes. The Nursing Director resigned as did her replacement less than a year later. Of the eight RNs on staff, four resigned from September to February. Three of the four positions have since been filled (Harik, 2007).

Despite challenges and restructuring, the Nursing Division has provided many important services. For instance, the Reproductive Health/Family Planning Program, which provides complete, clinic-based reproductive health and family planning services, served 1,172 clients. In Cochise County, Family Planning services, including pregnancy tests, birth control, STD treatment and education services, are always free for those under 19 without medical coverage. For those over 19, eligibility for free services is based on monthly or annual income.

Lay health workers also provide teenage mothers with guidance during their pregnancy and for the first two years of a babies life. The service is available through Health Start offered by Adolescent Maternal and Child Health. In FY 06/07, the lay health workers “surpassed their annual goals of client care” (Harik, 2007).

Newborn Intensive Care Program

In Arizona, the High Risk Perinatal Program/Newborn Intensive Care Program is “a comprehensive, statewide system of services dedicated to reducing maternal and infant mortality (deaths) and morbidity (abnormalities that may impact a child’s growth and development)” (ADHS, 2006). The program includes Maternal and Neonatal Transport Services (discussed below), Hospital and Inpatient Physician Services, Community Nursing Services and Developmental Follow-up Services. In 2006, 5,203 infants were enrolled in the program.

The program claims some important achievements. For instance, in 2006, 92% of all Arizona
births took place in Arizona Perinatal Trust (APPT)/ Arizona Perinatal Regional System (APRS) certified hospitals. Additionally, 88% of very low birthweight infants (350-1500 grams) were delivered in APT/APRS Level III or Level I EQ certified hospitals. County specific percentages were not available for this measure.

The Table below shows newborns admitted to intensive care units by gestational age and birthweight, 2004-2006. It is clear, that most babies admitted are preterm infants weighing less than 2,500 grams.

### Table 11. Newborns Admitted to Intensive Care Units

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Preterm, &lt;37 weeks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>42</td>
<td>47</td>
<td>3,198</td>
<td>3,315</td>
<td>3,256</td>
</tr>
<tr>
<td>&lt;2,500 grams</td>
<td>36</td>
<td>30</td>
<td>39</td>
<td>2,426</td>
<td>2,491</td>
<td>2,589</td>
</tr>
<tr>
<td>2,500+ grams</td>
<td>9</td>
<td>12</td>
<td>8</td>
<td>766</td>
<td>822</td>
<td>866</td>
</tr>
<tr>
<td>unknown</td>
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<td>0</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>37 weeks or more</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>15</td>
<td>14</td>
<td>2,142</td>
<td>2,154</td>
<td>1,958</td>
</tr>
<tr>
<td>&lt;2,500 grams</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>187</td>
<td>165</td>
<td>159</td>
</tr>
<tr>
<td>2,500+ grams</td>
<td>12</td>
<td>12</td>
<td>13</td>
<td>1,948</td>
<td>1,995</td>
<td>1,797</td>
</tr>
<tr>
<td>unknown</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

**Maternal transport program**

The “Maternal and Neonatal Transport Services” program is part of the High Risk Perinatal Program/ Newborn Intensive Care Program. ADHS describes the project as a way to “provide medical consultation and case management related to treatment/stabilization and, if needed, maternal and/or neonatal transport to available higher level(s) of care. Infant transport back to the community hospital near the family after the acute hospitalization allows families to visit and learn to care for their baby” (ADHS, 2006).

In Arizona in 2006, 1,479 critically ill pregnant women and 1,096 critically ill newborns received transport to the appropriate level of care. Also, 315 infants were transported closer to home when “medically indicated.” In Cochise, there were 69 neonatal transports, 72 maternal
transports and 16 newborns transported back to Cochise when medically indicated (Eagleton, 2007).

**Mortality of target population**

There are data for years as recent as 2006 but only for numbers of deaths and not rates. For this reason, earlier years are used here (ADHS, Community Health Profiles 2001-2003). Cochise has higher rates of infant deaths compared to Arizona and the U.S. in all three years. Across all three levels of community organization mortality rates decrease until the 5-14 year age range and then sharply increase among 15-24 year olds (see Figures XX – XX). Cochise and Arizona have higher rates of mortality among 15-24 year olds compared to the U.S.

<table>
<thead>
<tr>
<th>Table 12. Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Number of deaths</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Infants (per 1000 births)</td>
</tr>
<tr>
<td>Cochise</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>(7.3)</td>
</tr>
<tr>
<td>1-4 year olds (per 100,000)</td>
</tr>
<tr>
<td>Cochise</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>(30.7)</td>
</tr>
<tr>
<td>5-14 year olds (per 100,000)</td>
</tr>
<tr>
<td>Cochise</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>(33.0)</td>
</tr>
<tr>
<td>15-24 year olds (per 100,000)</td>
</tr>
<tr>
<td>Cochise</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>(70.7)</td>
</tr>
</tbody>
</table>

**Figure 10. Infant and Child Mortality**

![Infant and Child Mortality for Cochise County](image-url)
Maternal deaths reported by ADHS in Arizona from the years 1999-2001 per 100,000 were 5.9 for women under 20, 2.2 for women 20-29 and 9.3 for women over 30. In any period women over 30 are more at risk for maternal mortality than younger age groups.
Immunizations

Cochise County offers free childhood vaccinations for children aged 0-18 years. The County offers vaccinations to adults at low cost. They have monthly immunization clinics in Benson, Bisbee, Douglas, Sierra Vista, Wilcox and San Simon High School (Immunization Program webpage). In 2001, 77.7% of Cochise County’s 2 year olds were immunized. This was above Arizona’s overall percentage of immunized 2 years olds at 72.9% in the same year. In 2002 the percentage of immunized 2 year olds decreased to 56.2% in Cochise County and 69.5% for Arizona overall. There was a slight increase in 2003 to 58.8% and 79.8% for Cochise and Arizona, respectively. Nationally, there was an upward trend for immunized children from 74.5% in 2001, 77.5% in 2002 and 80.3% in 2003.

Domestic Violence

Though there are no actual domestic violence rates given for Cochise County there are some statistics for Arizona and the U.S. reported by ADHS and other organizations. Spousal or child abuse resulting in injury is generally classified as aggravated or simple assault and not differentiated (Access Integrity Unit, 2006). For 2000-2001 there were approximately 1300 domestic violence fatalities in the U.S. and 90 of these occurred in Arizona (Arizona Coalition Against Domestic Violence, 2002). Aside from domestic violence fatalities, there is assault, endangerment, custodial interference, kidnapping, sexual assault, trespassing, criminal damage, disorderly conduct and stalking among other types. In 2000-2002 there were 161 convictions for domestic violence misdemeanor assault in Cochise County and 6041 in Arizona. In Cochise County 42.9% of individuals convicted for domestic violence charges served jail time and in Arizona 55.3% served jail time (Wells, 2002). Compared to other counties in Arizona Cochise has a relatively low percentage of convicted individuals serving jail time.

Infant and Child Hospitalization

The ADHS hospital inpatient and emergency room statistics by first-listed diagnosis (2006, 2005, 2004) report that in 2006, 41,404 children under the age of 15 were hospitalized with a rate of 297.8 per 10,000. In 2005, 41,710 children under the age of 15 were hospitalized with a rate of 309.5 per 10,000. And in 2004, 38,949 children under the age of 15 were hospitalized with a rate of 299.5 per 10,000. The five most common diagnoses at time of admission for infants and children in Arizona were diseases of the respiratory system, injury and poisoning, conditions originating in the perinatal period, diseases of the digestive system, and symptoms, signs and ill-defined conditions for 2004. In 2005 and 2006 pneumonia replaced symptoms, signs and ill-defined conditions among the top five most common diagnoses for infants and children.

A common cause of injury involves motor vehicle accidents. ADHS reports that in 2005, 744 children under age 18 were hospitalized due to motor vehicle-related injuries as driver or passenger of a motor vehicle. 38 percent of these hospitalizations were for children under 10 years and 62 percent were children 10-17 years old. 6,367 children under age 18 were seen in
the emergency room for motor-vehicle related injuries as driver or passenger in a motor vehicle. 29 percent of these were under 10 years and 71 percent were children 10-17 years old.

**Hospitalization for other ambulatory sensitive conditions**

Ambulatory sensitive conditions are conditions that can be prevented with good outpatient care or mitigated with early intervention. These conditions would probably not require hospitalizations if treatment came early and can be used as a proxy for access to primary care. Examples of ambulatory care sensitive conditions are congenital syphilis, immunization preventable conditions, convulsions, severe ear, nose and throat infections, pulmonary tuberculosis, COPD, bacterial pneumonia, asthma, iron deficiency anemia, pelvic inflammatory disease and dental conditions (ADHS, Appendix B). Asthma hospitalization rates in Arizona have gone from 20.8 to 18.4 to 18.7 per 100,000 (ADHS hospital inpatient and emergency room statistics by first-listed diagnosis, 2004, 2005, and 2006).

The Arizona Adolescent Health Coalition (2004) reports that in 2001, there were 5354 inpatient hospital admissions for ambulatory care sensitive conditions among children aged 1-14 years. Asthma, bacterial pneumonia, dehydration, diabetes, and kidney/urinary infections accounted for over 80 percent of hospitalizations. There were 482.5 hospitalizations per 100,000 for children ages 1-14 for ambulatory care sensitive conditions. The rate has been decreasing since 1991 with males having higher rates than females.

**Child Abuse and Neglect**

In 2004, Arizona had 35,993 referrals of child abuse and neglect almost all of which were referred for investigation (Arizona’s Children 2007). 4.7 children per 1000 were indicated as abused or neglected. This is a 51.8% increase from 2003. In 2003, there were 33,964 referrals of child abuse and neglect. 3.2 per 1000 children were indicated as abused or neglected. In 2002, 52,288 children were referred for investigation of child abuse and neglect. 3.5 per 1000 children were indicated as abused or neglected. Over all three years, the majority of these children were neglected, about a quarter were physically abused and less than 10% were sexually abused.

In the CPS Semi-Annual Report, Cochise responded to a total of 426 reports of child abuse and neglect from October 2006 through March 2007. Of these 426, there were 10 cases of emotional abuse, 270 (63.3%) cases of neglect, 127 (29.8%) cases of physical abuse and 19 (4.5%) cases of sexual abuse. From April 2006 until September 2006 there were 387 reports of child abuse and neglect. Of these 387 cases, 9 were emotional abuse, 244 (63.0%) neglect, 120 (31.0%) physical abuse and 14 (3.6%) sexual abuse (Child Welfare Reporting Requirements, 2007). These percentages in Cochise are comparable to the overall percentages for Arizona. The percentages for neglect are slight lower in Cochise compared to Arizona and the percentages for physical abuse are slightly higher.
As demonstrated in the table above, neither Cochise nor Arizona has reached the 2010 targets. It is important to note, however, that Arizona is performing better than Cochise on all measures except for "Increasing the proportion of pregnant women who receive prenatal care in the first trimester" and "Reducing preterm births." (Cochise County and Arizona have the same rate for "Reduce VLBW"). Trend data suggests that since 2000 Cochise has shown improvement overtime in the areas of "Reducing neonatal deaths," "Increasing the proportion of pregnant women who receive prenatal care in the first trimester," "Reducing VLBW," and "Reducing Preterm Births." It is concerning that not all measures have shown improvement since 2000.
3.3 Healthy People 2010 Oral Health Objectives

The goal of oral health under Healthy People 2010 is to prevent and control oral and craniofacial diseases, conditions, and injuries and improve access to related services. Healthy People 2010 described 17 objectives related to oral health; however this report will only focus on 6 based on the relevance to Maternal, Infant, and Child oral health issues, as well as the availability of data to address them.

OBJECTIVES:

1. Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth:
   Ages 2-4 years with dental caries experience:
   Target: 11%
   U.S. baseline: 18%
   Arizona: 37%
   Cochise: 38%
   
   Ages 6-8 years with dental caries experience:
   Target: 42%
   U.S. baseline: 52%
   Arizona: 46%
   Cochise: 64%

2. Reduce the proportion of children, adolescents, and adults with untreated dental decay.
   Children 2-4 years with untreated dental decay
   Target: 9%
   U.S. baseline: 16%
   Arizona: 37%
   Cochise: 38%
   
   Children aged 6-8 years with untreated tooth decay
   Target: 21%
   U.S. baseline: 29%
   Arizona: 40%
   Cochise: 46%

3. Increase the proportion of children who have received dental sealants on their molar teeth.
   Children aged 8 years
   Target: 50%
   U.S. baseline: 23%
   Arizona: 28%
   Cochise: 18%
4. Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water.
   Target: 75%
   U.S. baseline: 62%
   Arizona: 54%
   Cochise: Only 1 community has fluoridated water (Bisbee)

5. Increase the proportion of children and adults who use the oral health care system each year.
   Persons aged 2 years and older who visited a dentist during the previous year
   Target: 56%
   U.S. baseline: 44%
   Arizona: 54% (elementary school); 79% (middle school); 76% (high school)
   Cochise: 49% (elementary school); Not available (middle and high school)

6. Increase the proportion of low-income children (0-19 years) and adolescents who received any preventative dental service during the past year.
   Target: 57%
   U.S. baseline: 20%
   Arizona: Data not available
   Cochise: Data not available

3.4 TITLE V PERFORMANCE MEASURES

In Arizona the Office of Women’s and Children’s Health administers the Title V Maternal Child Health Block Grant. As part of the application process, Title V requires a five-year needs assessment of progress. This needs assessment tracks the eighteen national core indicators, six national outcome measures and seven maternal child health performance measures. Much of the information in this report regarding Arizona’s efforts to meet 2010 goals came from the Public Input, 2005 Needs Assessment Document. Additional data was retrieved from: https://perfdata.hrsa.gov/mchb/mchreports/TVISReports/UI/Snapshot/snapshot.aspx?statecode=AZ.

At the county level, there is not a comprehensive assessment of progress towards MCH performance measures. This is in part due to limitations of surveillance systems. For instance, the State and Local Area Integrated Telephone Survey (SLAITS), which provides data on measures related to children with special health care needs (Performance Measures 2-6) cannot be disaggregated to the county level. (SLAITS data also provides the state rank for Arizona).

In Cochise County, data from the Cochise County Health Department, particularly the Annual Report for Fiscal Year 2006-2007, was helpful in identifying some of the key successes and barriers towards meeting the 2011 goals. Supplemental information was obtained from Arizona Vital Statistics. Additionally, Cochise is one of only three counties in Arizona where sample sizes for the Behavioral Risk Factor and Surveillance System (BRFSS) and Youth Risk Factor
Surveillance System (YFRSS) are large enough to provide reliable county estimates. (Local Level Data, 2006).

EIGHTEEN NATIONAL CORE INDICATORS:

1. The percent of newborns who are screened and confirmed with condition(s) mandated by their state-sponsored Newborn Screening Programs (e.g. Phenylketonuria and Hemoglobinopathies) who receive appropriate follow up as defined by their state.

   State 2011 Goal=100%
   Arizona Status, 2006= 100%

Arizona: In Arizona, there is a statute requiring newborn screening for eight inherited disorders. The Newborn Screening Program is responsible for screening infants one time prior to hospital discharge and once at the two-week well-baby doctor visit. If an infant is diagnosed with Sickle Cell Disease, staff from the Office for Children with Special Health Care Needs will maintain contact with parents for three months, while providing information and education (Public Input, 2006).

2. The percent of children with special health care needs age 0 to 18 years whose families partner in the decision making at all levels and are satisfied with the services they receive.

   State 2011 Goal= 59%
   Arizona Status, 2006= 51.4%
   Arizona Rank, 2002= 46

<table>
<thead>
<tr>
<th></th>
<th>Arizona</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families partner in decision making and are satisfied with services</td>
<td>51.4%</td>
<td>57.5%</td>
</tr>
<tr>
<td>Doctors usually or always make the family feel like a partner</td>
<td>82.2%</td>
<td>84.3%</td>
</tr>
<tr>
<td>Family is very satisfied with the health care services received</td>
<td>54.4%</td>
<td>54.4%</td>
</tr>
</tbody>
</table>

Source: Public Input, 2006

Arizona: The Office for Children with Special Health Care Needs supports 10 community action teams throughout Arizona. These teams are composed of parents and youths who are paid to create trainings, interview staff and assist with the 5-years needs assessment (Public Input, 2006).
3. The percent of children with special health care needs age 0 to 18 who receive coordinated, ongoing, comprehensive medical care within a medical home

State 2011 Goal= 54%
Arizona Status, 2006= 50.5%
Arizona Rank, 2002= 39

<table>
<thead>
<tr>
<th>C/YSHCN receive care in a medical home</th>
<th>Arizona</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective care coordination is received when needed</td>
<td>51%</td>
<td>53%</td>
</tr>
<tr>
<td>The child receives family-centered care</td>
<td>31%</td>
<td>40%</td>
</tr>
<tr>
<td>The child has a usual source of care</td>
<td>64%</td>
<td>67%</td>
</tr>
<tr>
<td>The child has a personal doctor or nurse</td>
<td>91%</td>
<td>91%</td>
</tr>
<tr>
<td>The child has no problems obtaining referrals when needed</td>
<td>88%</td>
<td>89%</td>
</tr>
</tbody>
</table>

Source: Public Input, 2006

Arizona: In Arizona, the regional Children’s Rehabilitative Services contractor is responsible for submitting a description of the Medical Home implementation and evaluation plan to the Office for Children with Special Health Care Needs. An e-learning system is being developed so interested parties can participate in online learning activities related to medical home issues (Public Input, 2006).

4. The percent of children with special health care needs age 0 to 18 whose families have adequate private and/or private insurance to pay for services they need

State 2011 Goal= 61%
Arizona Status, 2006= 60.8%
Arizona Rank, 2002= 23
Arizona: The Office for Children with Special Health Care Needs provides education and referrals to help ensure all eligible youth have appropriate coverage. There have been efforts to collaborate with other agencies to develop a Universal Eligibility Form. (Public Input, 2006).

5. The percent of children with Special Health Care Needs age 0 to 18 whose families report the community-based service systems are organized so they can use them easily.

\[
\text{State 2011 Goal}= 78\% \\
\text{Arizona Status, 2006}= 70.9\% \\
\text{Arizona Rank, 2002}= 41
\]

Arizona: There are 121 outreach clinics in the state of Arizona. These are provided by Children’s Rehabilitative Services and primarily serve Native American Communities. Trained staff and medical specialists travel to these remote clinics to provide community based services (Public Input, 2006).

6. The percent of youths with Special Health Care Needs who received the services necessary to make transition to all aspects of adult life.

\[
\text{State 2011 Goal}= 6\% \\
\text{Arizona Status 2006}= 5.8\% \\
\text{Arizona Rank, 2002}= 45
\]
Arizona: The Office of Women’s and Children’s Health Teen Pregnancy Prevention Project works in two Arizona counties to reduce teen pregnancy rates. Additionally, the project has developed a media campaign. There are 10 Abstinence Education projects in the state (Public Input, 2006).

Cochise: Through the statewide Reproductive Health/Family Planning Program, Cochise County provides clinic-based health and family planning services. Family Planning Clinics are held bimonthly at Health Department clinics. In FY 06/07 clinics in Cochise served 1,172 clients. There is a particular focus on preventing pregnancy in youth ages 14 to 18. The program is marketed to teens via school nurse referrals and Teen Maze activities. Services are free to those under-19 (Harik, 2007).

9. The percent of third grade children who have received protective sealants on at least one permanent molar.

State 2011 Goal=37%
Arizona Status, 2006 = 36.2%,

Arizona: In the past, state data for this measure was estimated by randomly sampling 80 communities in Arizona. In 2004, the surveying methodology was changed. Data is now collected from schools in five counties where 65% of students are on the Free and Reduced Lunch Plan. Second grade children are the target population. Dental sealant programs (including screening, sealant application and referrals for dental care) are provided for school children through Title V funds (Public Input, 2006).

Cochise: The Adolescent and Maternal Child Health program in the Division of Nursing, is responsible for, amongst other things, oral health services. One of the annual activities conducted by AMCH was the varnish project, which focused on providing services to 1-3 year olds (Harik, 2007). Also, the Flouride Varnish Program was initiated in 2005. (More information on oral health in Cochise County is provided in detail in Section 4.)

10. The rate of deaths to children aged 14 years and younger caused by motor vehicle crashes per 100,000 children.

State 2011 Goal= 3.5
Arizona Status, 2006 =4.2
Arizona Rank, 2002= 35

Arizona: Arizona Safe Kids and the Office of Women’s and Children’s Health work together to distribute safety seats to low-income families, provide safety seat education and operate a safety seat inspection station (Public Input, 2006)

11. The percentage of mothers who breastfeed their infants at six months

State 2011 Goal=39%
Arizona Status, 2006= 36.8%
Arizona: There are many efforts in Arizona to encourage breastfeeding. These include a breastfeeding hotline where women can speak with trained lactation consultants, a health marketing campaign that promotes worksite breastfeeding and local level lactation consultants (Public Input, 2006).

Cochise: In Cochise County the Health Promotion Division coordinates the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). In addition to providing breastfeeding support through WIC activities, there are three lay health workers in Cochise County that help to support and educate new mothers. (Harik, 2007).

12. The percentage of newborns who have been screened for hearing before hospital discharge

State 2011 Goal=99%
Arizona Status, 2006= 96.3%
Arizona Rank, 2002= 14

Arizona: Although statutes in Arizona ensure all newborns are screened for metabolic disorders, no explicit statute exists for hearing screening. Nevertheless, as evidenced by the numbers above, most infants are screened for hearing, usually at the same time as their metabolic screenings. (Public Input, 2006).

13. The percentage of children without health insurance

State 2011 Goal=15.7%
Arizona Status, 2006= 16.7%
Cochise Status, 2006= 18%
Arizona Rank, 2002= 46

Arizona: In Arizona the estimates for uninsured are 16% for those 18 or younger and 18% for those of all ages. (US Census Bureau, 2006). Numerous programs in the Office of Women’s and Children’s Health help families obtain health insurance. According to the Public Input Session, these include: “The Pregnancy and Breastfeeding Hotline, Children’s Information Center, County Prenatal Block Grant, Health Start, Reproductive Health/Family Planning Program and High Risk Perinatal Program.” (Input Session, 2006).

Cochise: Experimental estimates from the US Census found about 18% of persons under 18 in Cochise County are uninsured and 21% of persons of all ages are uninsured (US Census Bureau). The 2005 BRFSS, however, found that only 14% of Cochise County residents did not have any kind of health care coverage (BRFSS, 2005).

14. The percentage of children 2 to 5 years, receiving WIC services with a Body Mass Index (BMI) at or above the 85th percentile.

State 2011 Goal=35.6%
Arizona Status, 2006= 34%
Cochise: Although there is not specific data available for WIC participants with a BMI at or above the 85th percentile, general information on the WIC program in Cochise County is available. In FY 06/07, there were 49,797 WIC appointments serving about 5,500 families. It is estimated that funding for Cochise County’s WIC program will be cut again because they were only able to see an average of 4,000 clients per month (89%), which is below the 97% caseload required by the state. The breakdown of clients is presented in the table below:

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition interventions/ Children &amp; Adults</td>
<td>2,899</td>
</tr>
<tr>
<td>WIC Contacts (Participating)</td>
<td>48,534</td>
</tr>
<tr>
<td>Women</td>
<td>12,383</td>
</tr>
<tr>
<td>Infants</td>
<td>12,388</td>
</tr>
<tr>
<td>Children</td>
<td>23,767</td>
</tr>
<tr>
<td>Nutrition Education</td>
<td>21,001</td>
</tr>
<tr>
<td>WIC Case File Review for High Risk</td>
<td>931</td>
</tr>
<tr>
<td>WIC Formula Changes</td>
<td>456</td>
</tr>
<tr>
<td>WIC Direct Counseling</td>
<td>426</td>
</tr>
</tbody>
</table>

Source: Hank 2007

15. The percentage of women who smoke in the last three months of pregnancy

State 2011 Goal=5.1%
Arizona Status, 2006 = 4%

Cochise County: In Cochise County, the Project for the Beneficial Use of Tobacco Taxes (Project B.U.T.T), in the Division of Health Promotion & Disease Prevention provides smoking prevention and cessation services to residents in the county. In FY 06/07, cessation services were provided to 102 individuals in Cochise County, although it is unclear how many were pregnant women.

16. The rate (per 100,000) of suicide deaths among youths aged 15 to 19

State 2011 Goal=10
Arizona Status, 2003= 9.7
Cochise Status, 2006= 27.8
Arizona Rank, 2002= 37

Arizona: The Office of Women’s and Children’s Health provides money to supports depression screening and pediatric checklists at community mental health organizations. The “Child Fatality
Review Program reviews circumstances surrounding suicides and develops recommendations to reduce suicide fatalities.” (Public Input, 2006).

**Cochise:** South East Arizona Behavioral Health Services (SEABHS), an NGO, is the most substantial provider of mental health service for the county. The Health Department only covers: (1) the adjudication of claims for Title 36 commitments, and 2. The provision of counseling services for detainees in the Juvenile Detention facility” (Harik, 2007, p. 34).

17. **The percent of very low birth weight infants delivered at facilities for high risk deliveries and neonates**

   State 2011 Goal=84%
   Arizona Status, 2006=77.6%,
   Arizona Rank= 29

**Arizona:** The High Risk Perinatal Program provides services to high-risk pregnant women including referrals, consultations and transportations. Perinatal care centers are also certified by the Office of Women’s and Children’s Health. (Public Input, 2006).

**Cochise County:** The AMCH (Adolescent & Maternal Child Health) Program within the Division of Nursing & Community Health Services provides “health education to high risk pregnant and postpartum mothers. A Public Health Nurse III, a Program Coordinator, and three Lay Health Workers staff this highly successful program.” (Harik, 2006)

18. **The percent of infants born to pregnant women receiving prenatal care beginning in the first trimester.**

   State 2011 Goal=80%
   Arizona Status, 2006= 77.7%,
   Cochise Status, 2006= 82.6%
   Arizona Rank, 2002= 4

**Arizona:** The Office of Women’s and Children’s Health supports numerous projects to provide early prenatal care. These include the Health Start Program that relies on lay health workers to reach women. Also, the Pregnancy and Breastfeeding Hotline helps eligible women apply for Medicaid (Public Input, 2006).
Table 15. Title V- MCH National Outcome Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>State 2006 Results</th>
<th>Cochise County</th>
<th>State 2011 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>The infant mortality rate per 1,000 live births</td>
<td>6.8</td>
<td>9.4</td>
<td>6.1</td>
</tr>
<tr>
<td>The ratio of black infant mortality rate to white infant mortality rate</td>
<td>2.1</td>
<td>.89</td>
<td>1.8</td>
</tr>
<tr>
<td>The neonatal mortality rate per 1,000 live births</td>
<td>4.4</td>
<td>6.6</td>
<td>4</td>
</tr>
<tr>
<td>The postneonatal mortality rate per 1,000 live births</td>
<td>2.4</td>
<td>2.8</td>
<td>2</td>
</tr>
<tr>
<td>The perinatal mortality rate per 1,000 live births plus fetal deaths</td>
<td>6.1</td>
<td>7.2</td>
<td>5.8</td>
</tr>
<tr>
<td>The child death rate per 100,000 children aged 1 through 14</td>
<td>22.7</td>
<td>11.6</td>
<td>22</td>
</tr>
</tbody>
</table>

Source: Arizona Vital Statistics, 2006

Table 16. Arizona’s State Performance Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>State 2006 Results</th>
<th>Cochise Results</th>
<th>State 2011 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of low-income women who receive reproductive health/family planning services</td>
<td>49.2%</td>
<td>~</td>
<td>51%</td>
</tr>
<tr>
<td>The percent of high school students who are overweight or at-risk for overweight</td>
<td>25.5%</td>
<td>14.8%*</td>
<td>24%</td>
</tr>
<tr>
<td>The percent of preventable fetal and infant deaths out of all fetal and infant deaths</td>
<td>25.8%</td>
<td>~</td>
<td>31%</td>
</tr>
<tr>
<td>Emergency department visits for unintentional injuries per 100,000 children age 1-14</td>
<td>7174.4</td>
<td>~</td>
<td>7476</td>
</tr>
<tr>
<td>The percent of women entering prenatal care during the first trimester in underserved primary care areas</td>
<td>47.2%</td>
<td>~</td>
<td>46%</td>
</tr>
<tr>
<td>Percent of Medicaid enrollees age 1-18 who received at least one preventative dental service within the last year</td>
<td>30.9%</td>
<td>~</td>
<td>44.5%</td>
</tr>
<tr>
<td>Percent of parents and youth participating with state agencies in community development initiatives who completed the parent youth leadership training</td>
<td>93.3%</td>
<td>~</td>
<td>90%</td>
</tr>
</tbody>
</table>

Source: Arizona Vital Statistics

* Source: YRBSS. 2005
4. ORAL HEALTH

Oral health is an essential and integral component of health throughout life. No one can truly be healthy unless he or she is free from the burden of oral and craniofacial diseases and conditions (Healthy People, 2010). Poor oral health and untreated oral diseases and conditions can have a significant impact on quality of life. Millions of people in the United States are at high risk for oral health problems because of underlying medical conditions, and untreated chronic or acute conditions. Oral and facial pain affects a substantial proportion of the general population (Health People, 2010).

According to the National Institute of Dental Research, dental caries is the most common, preventable disease in children (Oral Health America, 2000). Children can avoid cavities entirely if given early and proper dental care, but not all children get this attention. In 5-17 year-old children, 80 percent of cavities are found in those at the lowest 25th percentile of the socioeconomic scale (Oral Health America, 2000). Problems with oral health among children start early, and are often irreversible if not caught early enough. Healthy People 2000 reported that 18 percent of 2 to 4 year olds have visible tooth decay, and the numbers keep climbing (Oral Health America, 2000). More than half of elementary school children have dental decay, and by the time they graduate from high school, it has risen to 84 percent. By the time children reach the age of 45, more than 99 percent of this population has dental decay.

Many oral diseases have been linked to other medical problems (Rural Healthy People, 2010). These medical problems include preterm babies, low birth weight babies, cardiovascular disease, diabetes, and respiratory disease. The impact of oral disease may extend beyond a woman's oral health to the health of her infant and child (Jeffcoat, 2001; NIDCR, 2000). Therefore, oral disease among pregnant women is an area of risk that needs to be addressed. The hormonal changes that occur during puberty and pregnancy are related to an increased incidence of gingivitis and may exacerbate chronic conditions (Zeeman, 2001). Maternal periodontal disease and progression may contribute to an infant's risk for being born preterm, with a low birth weight, or with a low weight for gestational age (Jeffcoat, 2001). Retrospective studies have shown that expectant mothers with periodontal disease have three to seven times greater chance of having a preterm low birth weight baby than mothers who did not have periodontal disease (Jeffcoat, 2001). Prospective studies have suggested that mothers with periodontal disease may have a higher risk for preterm low birth weight babies (Jeffcoat, 2001). The need for health care during pregnancy is evident, however currently many women do not receive the proper oral health education during prenatal visits.

Many persons in the United States do not receive essential dental services, and the disparities in oral health care are widening (Healthy People 2010). Barriers include: cost, lack of dental insurance, public programs, lack of providers from underserved racial and ethnic groups, and fear of dental visits. Cochise County is no exception to experiencing disparities and barriers to dental health care. Since Healthy People 2010 was published, there has been persistent poor oral health for citizens of Cochise County (Cochise Smiles, 2007). The poor dental health in Cochise County is especially evident when examining the state of children's oral health. Therefore, the remainder of this report will be devoted to defining the current situation in Cochise County and providing public health recommendations for addressing these dental health issues.
4.1 ARIZONA ORAL HEALTH PROFILE
The Arizona Department of Health Services (ADHS), Office of Oral Health (OOH) conducted a state-wide dental survey from 1999-2003 in order to determine the oral health status of Arizona’s children (ADHS, 2005). More than 13,000 children were screened in kindergarten, first, second, and third grade. Results were compared to a similar dental survey conducted in 1987-1990 and it was found that in 2003 tooth decay continues to be a pervasive problem for Arizona’s children (ADHS, 2005). Key findings from this survey are listed below:

- 39% of Arizona’s third grade children have untreated tooth decay.
- 9% of Arizona’s children in kindergarten through third grade have urgent dental care needs.
- 31% of Arizona’s eight year-old children have at least one sealant, 81% need initial or additional sealants.
- Only 57% of Arizona’s children in kindergarten through third grade visited the dentist in the last year.
- Oral health status varies among children with different types of dental insurance, and among children with and without dental insurance.
- Arizona has substantial disparities in oral health. Low-income children, Hispanic children, and children of racial minority have more dental treatment needs.
- Arizona falls far short of Healthy Arizona 2010 and Healthy people 2010 oral health objectives.

Details of the 1999-2003 ADHS/OOH Dental Health Survey
The survey shows that nearly half of kindergartners and six out of every ten first graders have had tooth decay (ADHS, 2004). Tooth decay is the most common chronic disease among children, 5 times more common than asthma. The distribution of tooth decay among children in Arizona is not uniform. Approximately 60% of children have at least one tooth with a filling and/or an untreated cavity (Figure 13).
Not only does the percent of children who experienced tooth decay vary by county, this variation is also evident in the distribution of ages of children affected, with increasing percentages of dental decay occurring among older age ranges (Figure 14).
Figure 14. Distribution of Tooth Decay by Age

Percent of Children who have Experienced Decay by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 yr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-8 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-13 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 yrs</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>


Cost
It is estimated that Arizonans have spent more than $44 million on restorative dental services for children in grades kindergarten through third, with another $30 million required for treatment of current decay. Key points from the above projections:

- Cost estimates do not include regular exams, fluoride treatments, or cleanings necessary to prevent tooth decay and keep a child healthy.
- Cost estimates do not account for time away from school or work to seek dental treatment.
- A cavity only grows larger and more expensive to repair the longer it remains untreated.

Severity of Tooth Decay
Although tooth decay is the most common chronic condition in children, it is largely preventable. The tooth decay profile in Arizona is worse than for children in the nation as a whole and Figure 15 depicts a breakdown of the county profiles for tooth decay. Key facts about Arizona include:

- Arizona children on average have 5 teeth affected by tooth decay (cavities).
- This is three times higher than the national average of 1.4 teeth with decay or fillings (Beltran-Aguilar, 2005).
- This equates to about 1 out of every 4 teeth in a child’s mouth.
- 34% of children have 1-2 teeth with decay or fillings.
- 23% of children have 3-4 teeth with decay or fillings.
- 43% of children have 5 or more teeth with decay or fillings.
- Some children are severely affected and have as many as 20 teeth with decay or fillings.
Arizona children in kindergarten through third grade have some of the most severe dental treatment needs (Figure 16):

- 22% of children with tooth decay have urgent needs. This means they have decay with pain and/or infection needing dental treatment within 24 hours.
- 78% of children have early treatment needs and require dental care within the next several weeks.
Filling Needs
On average, children in Arizona currently need 6 fillings (Figure 17). While some children only need one filling, other children may need fillings on nearly all 20 of their teeth.

Figure 17. Average Number of Cavities Children Need by County

Disparities in Arizona
The burden of tooth decay is not evenly distributed across all segments of society which is evidenced by: (ADHS, 2004).

- 23% of children experience 74% of the decay.
- 43% of children with decay have 5 or more decay and or filled teeth.

Socioeconomic Status (SES)
One indicator for risk of tooth decay is socioeconomic status (SES). Participation or eligibility to participate in the Arizona’s free and reduced meal program is a reliable indicator of socioeconomic status of a school. Children in Arizona who attend schools with a high free and reduced lunch participation (FRL), have a higher prevalence of tooth decay (ADHS, 2004). The prevalence rate is nearly one and a half times higher among lower SES children.
Figure 18. Tooth Decay Among Arizona Children in Free and Reduced Lunch Programs

Percent of Arizona Children Who Have Experienced Decay by School Free & Reduced Lunch (FRL) Participation

<table>
<thead>
<tr>
<th>School Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High FRL (Low SES)</td>
<td>45%</td>
</tr>
<tr>
<td>Mid FRL</td>
<td>46%</td>
</tr>
<tr>
<td>Low FRL (High SES)</td>
<td>37%</td>
</tr>
</tbody>
</table>


Race/Ethnicity

Another indicator of risk is race and ethnicity. 83% of Native Americans and 68% of Hispanic ethnicity have experienced decay (Figure 19).

Figure 19. Tooth Decay By Race/Ethnicity

Percent of Arizona Children Who Have Decay Experience by Race and Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native American</td>
<td>83%</td>
</tr>
<tr>
<td>Other</td>
<td>67%</td>
</tr>
<tr>
<td>Asian</td>
<td>61%</td>
</tr>
<tr>
<td>Black</td>
<td>54%</td>
</tr>
<tr>
<td>White</td>
<td>52%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>61%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>66%</td>
</tr>
</tbody>
</table>

Dental Insurance Status
Not all children have equal access to dental treatment. Nearly one out of every two children (47%) without dental insurance need dental treatment, and nearly three out of ten children on government or private dental insurance need treatment. All children, either covered by private or government insurance, and children without dental insurance, exceed the Health People 2010 objective of 21% for untreated decay.

Figure 20. Dental Treatment Profile for Arizona Children

Percent of Arizona Children Who Need Dental Treatment by Type of Dental Insurance


Dental Coverage
According to a needs assessment published in April 2007, 70% of respondents reported affordable dental care was a “serious problem” (Cochise Smiles, 2007; REF) Telephone directories and faith communities were the most popular sources of advice regarding dental care. Additionally, the following was reported regarding child and adolescent dental health:

- 23% of 6-8 year olds in the county have dental insurance.
- 11% of 6-24 month olds, 38% of 2-5 year olds, 64% of 6 year olds, and 70% of 11-13 year old have experienced tooth decay.
- Only 18% of 2-4 year olds and 6% of 11-13 year olds have had a sealant application.

4.2 SUMMARY OF COCHISE COUNTY ORAL HEALTH INDICATORS

Dental Health Status of Infants 6-24 months

<table>
<thead>
<tr>
<th>Oral Health Indicators</th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Decay Experience</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td>With Untreated Tooth Decay</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td>With Urgent Treatment Needs</td>
<td>5%</td>
<td>3%</td>
</tr>
</tbody>
</table>
### Dental Health Status of Toddlers 2-4 years

<table>
<thead>
<tr>
<th>Oral Health Indicators</th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Decay Experience</td>
<td>38%</td>
<td>37%</td>
</tr>
<tr>
<td>With Untreated Tooth Decay</td>
<td>35%</td>
<td>33%</td>
</tr>
<tr>
<td>With Urgent Treatment Needs</td>
<td>2%</td>
<td>4%</td>
</tr>
</tbody>
</table>

### Dental Health Status of Children 6-8 years

<table>
<thead>
<tr>
<th>Oral Health Indicators</th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Decay Experience</td>
<td>64%</td>
<td>62%</td>
</tr>
<tr>
<td>With Untreated Tooth Decay</td>
<td>46%</td>
<td>40%</td>
</tr>
<tr>
<td>With Urgent Treatment Needs</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>With Dental Sealants (8 years)</td>
<td>18%</td>
<td>28%</td>
</tr>
</tbody>
</table>

### Dental Health Status of Children 11-13 years

<table>
<thead>
<tr>
<th>Oral Health Indicators</th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Decay Experience</td>
<td>70%</td>
<td>65%</td>
</tr>
<tr>
<td>With Untreated Tooth Decay</td>
<td>38%</td>
<td>32%</td>
</tr>
<tr>
<td>With Urgent Treatment Needs</td>
<td>21%</td>
<td>5%</td>
</tr>
<tr>
<td>With Dental Sealants (8 years)</td>
<td>6%</td>
<td>16%</td>
</tr>
</tbody>
</table>

### Access to Care: Dental Utilization/Visits to Dentist or Clinic

#### Elementary School

<table>
<thead>
<tr>
<th></th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>within past year</td>
<td>49%</td>
<td>54%</td>
</tr>
<tr>
<td>one or more year</td>
<td>32%</td>
<td>27%</td>
</tr>
<tr>
<td>never</td>
<td>14%</td>
<td>16%</td>
</tr>
</tbody>
</table>

#### Middle School Grades

<table>
<thead>
<tr>
<th></th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>within past year</td>
<td>NA</td>
<td>79.5%</td>
</tr>
</tbody>
</table>

NA: Not Available
<table>
<thead>
<tr>
<th>High School Grades</th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>five or more years</td>
<td>NA</td>
<td>16%</td>
</tr>
<tr>
<td>never</td>
<td>NA</td>
<td>76.2%</td>
</tr>
<tr>
<td>within past year</td>
<td>NA</td>
<td>3.4%</td>
</tr>
<tr>
<td>five or more years</td>
<td>NA</td>
<td>2.6%</td>
</tr>
<tr>
<td>never</td>
<td>NA</td>
<td>16%</td>
</tr>
</tbody>
</table>

**Dental Insurance Coverage**

<table>
<thead>
<tr>
<th>Access to Care</th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children 6-8 years with dental insurance</td>
<td>23%</td>
<td>23%</td>
</tr>
</tbody>
</table>

**Number of Oral Health Professionals**

<table>
<thead>
<tr>
<th>Oral Health Professionals</th>
<th>Cochise County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensed or Certified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dentists</td>
<td>55</td>
<td>2,870</td>
</tr>
<tr>
<td>Dental Hygienists</td>
<td>23</td>
<td>2,299</td>
</tr>
<tr>
<td>Denturists</td>
<td>NA</td>
<td>10</td>
</tr>
<tr>
<td>AHCCCS Dentists</td>
<td>13</td>
<td>840</td>
</tr>
</tbody>
</table>

**4.3 CURRENT PROGRAMS IN COCHISE COUNTY**

1. Water Fluroridation

According to the CDC, Bisbee is the only town in Cochise County that has chosen to adjust the fluoride levels in water (CDC, 2007). No other data is available on the CDC’s website for the other 52 waters systems in Cochise County pertaining to fluoride adjustment. However, schools in areas with sub-optimal fluoride levels in the community drinking water that have over 50% student participation in the free and reduced school lunch program are eligible to participate in Arizona Health Services’ Bureau of Oral Health (ADHS/OOS) Fluoride Rinse Program (Cochise Smiles, 2007). Studies have demonstrated that fluoride rinsing is a proven method to reduce the
formation of caries by 50% (Cochise Smiles, 2007; ADA, 2007; CDC, 2007). As of August 2007, schools in Sierra Vista were utilizing the Fluoride Rinse Program.

2. Fluoride Varnish
The Cochise County Health Department Adolescent Maternal and Child Health (AMCH) initiated Fluoride Varnish Protocols in 2005, and trained registered nurses (RNs) in Fluoride application. The services are offered during Family CARE Fair, day care centers, Early Head Start, and to clients in the AMCH Health Start and County Prenatal Block Grant Programs (Cochise Smiles, 2007). This varnish program has reached approximately 200 children under the age of 6 with no dental coverage in Douglas, Bisbee, and Sierra Vista. Additionally, Promotores de Salud in AMCH programs work with families on oral health education, including cleaning gums and teeth of infants, limiting sugary fluid intake, limiting extended use of bottles and sippy cups (especially at bedtime), and promoting the use of products containing Xylitol (which disrupts the cell wall membrane of Strep bacteria).

3. Mobile Clinic
Chiricahua Community Health Center Incorporated (CCHICI) in Elfrida has been able to provide dental coverage in Elfrida for people without dental coverage as a result of a local mobile clinic. In 2006, the Elfrida community acquired and made available to residents in need a mobile dental clinic that travels to different events and outlying areas in the county. Additionally, there is a non-profit dental mobile clinic based out of Phoenix that has been utilized at Huachuca schools in Huachuca City. This mobile clinic has provided dental care to children during the school day, with parental permission.

4. Pediatric Fluoride Drops
There are pediatricians who offer fluoride drops to children and their parents, however how widespread this is throughout Cochise County is unknown (Cochise Smiles, 2007). This is an area that needs to be explored and encouraged more thoroughly in Cochise County.

5. Pediatric Dental Visits
The American Academy of Pediatrics recommends a child be taken to the dentist by age one, or with the appearance of teeth. AHCCS (Arizona Medicaid) sends out letters to families in their program who have 10 month old infants, to remind them to take infants to the dentist. However, currently, there is only one dentist in Sierra Vista who will see children preventively. This dentist has experienced problems when seeing AHCCS infants with reimbursement for these visits. Several other dentists indicated they would see children under the age of three only when problems were present.

5. NEEDS ASSESSMENT ACTIVITIES

In order to have a better understanding of the oral health needs of the maternal and child health population in Cochise County, four surveys were created and distributed. The first three surveys were created to question health care providers (dentists, pediatricians, and OBGYNs) about their knowledge, opinions, and efforts with regard to oral health needs of children in Cochise County. Surveys sent to the health care providers contained questions on: demographics, needs of service population, knowledge questions, and room for additional comments.
The questions asked of providers were written in order to determine:
- What they believe the oral health needs of their patients are
- What type of information is provided to patients about oral health
- What they believe their role to be in promoting good oral health
- Their level of knowledge about oral health
- Oral health needs not addressed by the survey

After meeting with Maureen Kappler (Cochise County Health Department Prenatal Public Health Nurse), it was determined that the best way to distribute surveys to providers would be to send a fax to their office. Faxed surveys were sent to all pediatricians, obstetricians/gynecologists, and dentists in Cochise County. Each fax included: a cover letter containing an outline and purpose of the survey, directions to complete the survey, and the return fax number. As of November 19, 2007, no surveys were returned from any of the service providers.

The fourth survey was created to assess maternal and child dental care needs in Cochise County, particularly amongst low-income women eligible for WIC services. The questions were adapted from previously published dental health surveys.

The questions were written in order to determine:
- Basic Demographics of the target population
- Ability to access dental care
- Barriers to accessing dental care
- Perceived needs for dental care
- Self-reported dental hygiene (frequency of teeth brushing, dental visits, etc.)
- Additional questions asked the respondents to answer similar information about children living in the household

The survey was written for distribution to mother's visiting WIC clinics. However, our liaison at the Cochise County Health Department distributed the survey at two additional locations: women attending health centers to receive immunizations and women attending a childbirth classes. As of November 15, 2007, approximately 47 surveys were returned. Data were entered into Excel and analyzed in STATA. It is important to note that this was not a probability based sample and the results cannot be generalized to all those in Cochise County.

The specifics of each survey can be found in Appendix A.

6. NEEDS ASSESSMENT RESULTS

Results for healthcare providers

At the time of this writing we have received no surveys from the dentists or ob/gyn doctors that were faxed the surveys.
Results for participants

Respondents (72)
- Of the 72 respondents there were 19 missing ages and other demographic information
- Average age of respondents: 27.1
- Average number of children: 1.84
- 15 respondents identified as White, 23 Hispanic, 1 Mixed, and 2 Native American, 2 did not respond and 19 were missing (Figure 21)
- 25 respondents were single, 21 were married, 5 were divorced, 2 did not respond and 19 were missing (Figure 22)
- 36% had education beyond high school
- 22% had income above $40,000 per year

Figure 21
Ethnicity of Respondents
- White
- Hispanic
- Native American
- Mixed
- No response

Figure 22
Marital Status of Respondents
- Single
- Married
- Divorced
- No response

Results

Personal Care
- 71.8% of respondents brush more than once a day, 23.9% brush once a day and 4.2% brush every few days (Figure 23)
- 42.9% of respondents had their teeth cleaned by a dentist/dental hygienist within the past year, 30% had teeth cleaned 1 to 2 years ago, 10% 2 to 5 years ago, 7.1% 5 or more years ago, 5.7% responded that they did not know, and 4.3% said they had never had their teeth cleaned (Figure 24)
- 53.5% of respondents have a regular dentist

Figure 23
Brushing frequency
- >1 per day
- 1 time per day
- Every few days

Figure 24
Teeth cleaned by a professional
- Within the last year
- 1-2 years ago
- 2-5 years ago
- 5+ years ago
- Never
Insurance
- 51.9% of respondents have dental insurance

Travel time
- Just over half of respondents (52.9%) report that it takes less than 30 minutes to get to the dentist. 29% travel 1 hour or more to get to the dentist.
- 71% get dental care in the U.S.

Reasons for visits
- 33% of respondents cited the main reason for their last dental appointment was for a regular check-up. 16% had to have teeth pulled or some other surgery. 13.0% went for teeth cleaning. 15% had a toothache. 3% had trouble with gums, 13% had teeth filled, and 7% had some other reason for the last dental visit (Figure 25)
- More than half of respondents felt they were currently in need of dental treatment.
- Reasons given for not seeing the dentist:
  - Lack of time and high cost were cited as the most common reasons
  - Having to travel too far was the next most common reason
- 60% of respondents did not know of a place to go to receive dental care for free or an amount that they could afford

Figure 25

```
<table>
<thead>
<tr>
<th>Reason for last dental appointment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular check-up</td>
</tr>
<tr>
<td>Teeth pulled or other surgery</td>
</tr>
<tr>
<td>Teeth cleaning</td>
</tr>
<tr>
<td>Toothache</td>
</tr>
<tr>
<td>Gums, fillings or other</td>
</tr>
</tbody>
</table>
```

Children’s Oral Health
- 26% of respondents (12 out of 46) said that their child/children see someone for dental care at least 6 months. 15% (7 out of 46) said that their child/children never see someone for dental care.
- 43% feel that at least one of their children was currently in need of dental care. 17% reported that they did not know
- 53% reported that their child/children brushed teeth more than once a day. 13% reported that children never brushed or they did not know how often child/children brushed
- 41 respondents care for children. Of these, 55% reported that their child/children had dental insurance with 45% reporting no dental insurance for child/children.
7. **ORAL HEALTH RECOMMENDATIONS**

Based on our extensive literature review and oral health provider survey results, we recommend the following for Cochise County:

- Re-survey pediatricians, ob/gyn, and dentists about oral health needs. Information is currently lacking about the health care needs of pregnant women as well as what role pediatricians are playing (and would be willing to play) in oral health promotion.
- Perform a quality probability-based survey to assess the maternal and child oral health needs of Cochise County.
- Provide community water fluoridation to all major cities.
- Increase the number of dental providers practicing in this area.
- Increase the number of dental providers participating in the Arizona Cost Containment System (AHCCCS).
- Improve communication between dentists and physicians.
- Expand the school-based dental sealant program to reach all eligible schools.
- Educate medical care providers about the relationship between oral health and general health.
- Expand the mobile clinics to improve coverage to hard-to-reach and rural populations. Where appropriate, utilize more nurses and dental hygienists in this outreach work.

We recognize there are limited steps Cochise County can take to change their oral health profile, due to financial, personnel, and logistical constraints. Therefore, there are policies that must be implemented at the state level to ensure the oral health needs of children and pregnant women are being meet across all counties. A few state-Level Recommendations include:

- Increase the availability of dental insurance to all high-risk children and adults.
- Expand comprehensive evidence-based dental disease prevention strategies to include all pregnant women, infants, and toddlers.
- Expand the State's dental public health infrastructure.

8. **DISCUSSION/CONCLUSION**

Throughout childhood and adolescence, many opportunities exist for the primary prevention of dental decay. Early childhood caries, can be a devastating condition, often requiring thousands of dollars and a hospital visit with general anesthesia for treatment. The pain, psychological trauma, health risks, and costs associated with restoration of carious teeth for children can be substantial. Children aged 6 to 8 years are at an important stage of dental development. They still have the majority of their primary teeth, and their permanent first molars and incisors are erupting into their mouths. Maintaining optimal oral health for these children is important for their current functional oral health and for their long-term health. Between when the first permanent molars erupt into the mouth, and before vulnerability pits and fissures are infected, children should be assessed for their need for dental sealants.
Pregnant women are also at risk for oral health problems, which can have detrimental effects on the outcome of the infant and their own health and well-being. The earliest opportunity to prevent dental decay occurs during prenatal counseling about diet, oral hygiene practices, appropriate uses of fluorides, and the transmission of bacteria from parents to children. Dental care for pregnant females, counseling, reinforcement of health promoting behaviors with caregivers of children, and intervention by dental and other professionals to improve parenting practices provide the best available means of preventing serious oral health disease.

Although progress has been made in Arizona’s oral health, the state still lags behind the majority of the nation. Additionally, Arizona has not been successful in assuring state-wide coverage as observed in Cochise County. Unfortunately the result of unequal oral health attention is observed among school age children, preschoolers, and toddlers. Several strategies must be adopted in order to improve the oral health of children and pregnant women in Arizona. Clearly, counties can, and should not be expected to do this on their own, and must get help at the state or federal level.
9. REFERENCES


Eagleton, R. Management Analyst, Supervisor Data Section, ADHS. Personal communication November 13, 2007


10.1 APPENDIX A

Health Provider and WIC Recipient Survey Instruments
Prenatal Care Provider Survey

Please take a few moments to fill out this survey. Your answers are confidential and will be used to assess the oral health needs of your community. This information is collected as part of a public health course (CPH 586) at the University of Arizona.

1. Demographics:

How many years have you been practicing?

On average, how many hours per week do you spend providing patient care?

On average, how many patients do you see per week?

How many hours of oral health training have you had?

What is your reimbursement type? (Circle all that apply)
- Fee-for-service
- Capitation
- Fixed salary
- Medicaid
- Other _______________________

Describe what percentage of patients you see fitting the following characteristics:
- Receive Medicaid ____________%
- Uninsured ____________%
- Immigrants ____________%
- Non-English-Speaking ____________%

2. At a prenatal visit, how likely are you to:

(1= very likely, 2=somewhat likely, 3= not sure, 4=somewhat unlikely, and 5=very unlikely)

1. Ask whether women currently have bleeding gums, toothache, cavities, loose teeth, teeth that do not look right, or other oral problems.

2. Encourage women to schedule an oral health examination (if one has not been performed within 6 months)

3. Facilitate treatment by providing written consultation for oral health referral

4. Provide oral health resources to pregnant women

5. Educate women about care that will improve their oral health
When assisting pregnant women dealing with nausea and vomiting, how often do you suggest the following techniques to reduce tooth decay:
(1= always, 2=often, 3= not sure, 4=sometimes, and 5=never)

1. Eat small amounts of nutritious, yet noncariogenic foods
2. Use a teaspoon of baking soda in a cup of water and rinse after vomiting to neutralize acid.
3. Chew sugarless or xylitol-containing gum after eating
4. Use gentle tooth brushing and fluoride toothpaste to prevent damage to demineralized surfaces.

At a prenatal visit, do you ever advise women about actions to take that may reduce the risk of caries in children?

Yes / No

If yes, circle the actions you suggest:
1. Wipe and infant’s teeth after feeding, especially along the gum line, with a soft cloth or soft bristled toothbrush.
2. Supervise children’s brushing and use a small amount of toothpaste
3. Avoid putting the child to bed with a bottle or sippy cup containing anything other than water.
4. Limit foods containing sugar to mealtimes only.
5. Visit an oral health professional with child between six and 12 months of age.

If No, why not?

Knowledge Questions:
1. Dental care is dangerous and should be avoided during pregnancy?
2. Fist trimester diagnosis and treatment, including needed dental x-rays, can be undertaken safely to diagnose disease processes that need immediate treatment.
3. Effective care should be deferred until after delivery
4. Delay in treatment does not affect risk to fetus
5. The period between the 14th and 20th week is ideal for treatment

What role do you think prenatal care providers should play in oral health?
Dentist Survey

Please take a few moments to fill out the survey. It is confidential. The information will be used to assess the oral health needs of your community.

1. Demographics:

How many years have you been practicing?

On average, how many years per week do you spend providing patient care?

On average, how many patients do you see per week?

How many hours of oral health training have you had?

What is your reimbursement type? (Circle all that apply)
  - Fee-for-service
  - Capitation
  - Fixed salary
  - Other____________________________________

Describe what percentage of patients do you see fitting the following characteristics:
  - Receive Medicaid _________ %
  - Uninsured _________ %
  - Immigrants _________ %
  - Non-English-Speaking _________ %

2. Oral Health:

1. In your opinion, what is the most important local oral/dental health concern for the following age groups?
   a. children under 19
   b. adults 19 to 59 years
   c. seniors 60+

2. What is currently happening locally that is successful?
2. Oral Health continued:

3. What do you think should be happening to address these problems?

4. Of all the potential solutions/projects to address local oral health concerns that you have mentioned, which do you think we should prioritize now?

3. Community and Access to Care:

1. Would you support a community outreach program utilizing dental hygienists that provide basic oral health care such as dental checks, cleanings and sealants?

   Explain:

2. What do you see as the major impediments for individuals in your community to access dental care?

3. Would you be willing to work with pediatricians and ob/gyn doctors in addressing oral health in your community?
**Pediatrician Survey**

Please take a few moments to fill out this survey. Your answers are confidential and will be used to assess the oral health needs of your community. This information is collected as part of a public health course (CPH 586) at the University of Arizona.

### 1. Demographics:

- How many years have you been practicing?
- On average, how many hours per week do you spend providing patient care?
- On average, how many patients do you see per week?
- How many hours of oral health training have you had?
- What is your reimbursement type? (Circle all that apply)
  - Fee-for-service
  - Capitation
  - Fixed salary
  - Medicaid
  - Other ____________________

Describe what percentage of patients you see fitting the following characteristics:
- Receive Medicaid ____________%
- Uninsured ____________%
- Immigrants ____________%
- Non-English-Speaking ____________%

### 2. At a well-child visit, how likely are you to:

(1= very likely, 2=somewhat likely, 3= not sure, 4=somewhat unlikely, and 5=very unlikely)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inquire about bottle to bed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Examine a child’s teeth for cavities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Counsel on going to the dentist</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Assess fluoride intake</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Inquire about mother’s dental health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### 3. Should the following be part of routine well-child care:

(1= strongly agree, 2=agree, 3= not sure, 4=disagree, and 5=strongly disagree)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assessment for dental problems during the physical examination?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Counseling on prevention of dental problems?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Application of fluoride varnish?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Referral to the dentist at 12 months of age</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
4. How difficult is it to refer patients who:
(1= very difficult, 2=difficult, 3= not sure, 4=easy, and 5=very easy)

1. Have private insurance and have an emergent
dental problem on night/weekend.  
   1  2  3  4  5

2. Have significant development delay.  
   1  2  3  4  5

3. Are ≤ 2 years of age.  
   1  2  3  4  5

4. Receive Medicaid.  
   1  2  3  4  5

5. Are uninsured and have an emergent dental
   problem on night/weekend.  
   1  2  3  4  5

6. Are uninsured and need a sliding payment scale.  
   1  2  3  4  5

5. In your practice do you see:

1. Early childhood caries
   At least once a month  Y  N  Unable to determine
   At least once a week   Y  N  Unable to determine

2. Caries in school-aged children
   At least once a month  Y  N  Unable to determine
   At least once a week   Y  N  Unable to determine

Knowledge Questions:

1. Only bottle-fed children get early childhood caries (baby bottle tooth decay?)  True False
2. A 3-month-old baby living in a non-fluoridated area needs fluoride supplementation? True False
3. Cavity-causing bacteria can be transmitted between mother and child? True False
4. Dental sealants are usually applied to a child’s primary teeth? True False

Any other oral health issues you see as a health care provider not discussed in this survey?
INSTRUCTIONS

Please take a few minutes to fill out this survey. It is confidential. The information will be used to assess the oral health needs of your community. Fill-in-blanks, check boxes or circle to answer the questions below. Thank you!

PART 1 - BACKGROUND INFORMATION

1. Age: __________
2. How many people live in your home (adults and children)? __________
3. How many children do you take care of? __________
4a. Closest town to your home:
   - Bisbee
   - Benson
   - Sierra Vista
   - Douglas
   - Wilcox
   - Other: __________
4b. About how many miles from your home to town? __________
5. Years of education completed (please circle the best answer):
   - 1 2 3 4 5 6 7 8 9 10 11 12 College: 1 2 3 4 5+
6. Employment status:
   - Full Time
   - Part Time
   - Self-Employed
   - Stay-at-Home Mom
   - Unemployed
7. Yearly household income (please circle the best answer):
   - <$10,000
   - $10-15,000
   - $15-20,000
   - $20-25,000
   - $25-30,000
   - $30-35,000
   - $35-40,000
   - $40,000+
8. Marital status:
   - Single
   - Married
   - Divorced
   - Widowed
9. Race/Ethnicity: ____________________________

PART 2 - YOUR ORAL HEALTH

10. How often do you brush your teeth?
   - 1 More than once a day
   - 2 Once a day
   - 3 Every few days
   - 4 Ever few weeks
   - 5 Never

11. When was the last time your teeth were cleaned by a dentist or dental hygienist?
   - 1 Within the past year
   - 2 1 to 2 years ago
3  2 to 5 years ago
4  5 or more years ago
7  I don't know
8  Never

12. Do you have a regular dentist?
   1  Yes
   2  No

13. Do you have dental insurance?
   1  Yes
   2  No

14. How long does it take to get to the dentist
   1  Less than 15 minutes
   2  15-29 minutes
   3  30-59 minutes
   4  1 hour or more
   9  Don't remember

15. Which country do you usually get dental care in?
   1  Mexico
   2  United States
   3  Other: ________________________

16. What was the main reason for your last visit for dental care?
   1  Regular checkup
   2  For teeth cleaning
   3  To have teeth filled
   4  Trouble with gums
   5  To have teeth pulled or other surgery
   6  Toothache
   7  Adjustment or repair of dental plate
   8  To have a dental plate made
   9  For a prescription
  10  Some other reason
  11  I have never been to the dentist

17. Do you feel that you are currently in need of dental treatment?
   1  Yes
   2  No

18. If you feel you need to see the dentist but haven't, what are some of the reasons? (Circle all that apply)
   1  Didn't have time
   2  Costs too much
   3  Couldn't get an appointment
   4  Would have to travel too far
   5  Didn't have a way to get there
   6  Didn't have anyone to care for children or other family members
   7  Didn't know where to go
   8  I don't know
   9  Other: ________________________

66
19. Do you know of a place you can go to get dental care for free or for an amount you can afford?
   1. Yes
   2. No

PART 2 - YOUR CHILDREN'S ORAL HEALTH
If you have a child or children, please answer these questions about their oral health:

20. On average, about how often does your child or children see someone for dental care?
   1. At least 6 mths
   2. Every year
   3. Every 2 years
   4. 3 years or more
   5. Never
   6. I don't know

21. Do you feel any of your children are currently in need of dental care?
   1. Yes
   2. No
   3. I don't know

22. About how often does your child or children brush their teeth?
   1. More than once a day
   2. Once a day
   3. Every few days
   4. Ever few weeks
   5. Never
   6. I don't know

23. Does your child or children have dental insurance?
   1. Yes
   2. No
10.2 APPENDIX B

Health Providers
In Cochise County
OBSTETRIC/FAMILY/PEDIATRIC MEDICINE PROVIDERS IN COCHISE COUNTY

The assessment team surveyed all offices practicing in the areas of Obstetrics, Family, and Pediatric Medicine which were listed in the most recent phone directory. (*Denotes an agency that was contacted for provider survey)

Directory of Physician/Medical Offices:

Bisbee Medical Offices
- Chiricahua Community Health Center, Family Health*
  108 Arizona Street
  (520)432-3309

Douglas Medical Offices
- Chiricahua Community Health Center, Family Health*
  1205 F Avenue
  (520)364-3285
- Arizona Family Care Associates
  Family Practice, Douglas
  1101 San Antonio Avenue
  (520)364-7544

Elfrida Medical Offices
- Chiricahua Community Health Center, Family Health*
  10566 Hwy 191
  (520)642-2222

Sierra Vista Medical Offices
- Arizona Family Care Associates
  Obstetrics and Gynecology*
  302 El Camino Real, Suite 11
  (520)459-1914
- Cochise Women’s Care*
  75 Colonia De Salud, Suite C-200
  (520)459-2295
- Cochise Health Alliance
  Obstetrics and Gynecology*
  155 Calle Portal, Suite 300
  (520)458-8075
- Cochise Health Alliance
  Obstetrics and Gynecology*
  155 El Camino Real, Suite A
  (520)417-2229
- Arizona Family Care Associates
  Pediatrics*
  302 El Camino Real, Suite C
  (520)548-9644
- Cochise Health Alliance
  Pediatrics and Adolescent Medicine*
  155 Calle Portal, Suite 200
  (520)458-0660
- Arizona Family Care Associates
  Family Practice*
  302 El Camino Real
  (520)459-3920
- Cochise Health Alliance Family Practice*
  2585 E Wilcox Drive, Suite C
  (520)459-0000
- Cochise Health Alliance Family Practice, Sierra Vista
  155 Calle Portal, Suite 600
  (520)459-5186
  (Does not treat children under 6 years of age)
- Family Health Center of Sierra Vista*
  1880 E. Wilcox Drive
  (520)459-3116
- Dr. David Brown, Family Practice*
  1729 Paseo San Luis
  (520)459-0144

Midwives contacted:
- Birth and Beyond, Cochise County
  (520)586-3277, Benson
- Gentle Birth Services, Cochise County
  (520)432-2351, Bisbee
- Gently Born Holistic Health Care, Cochise County
  (520)459-3730, Sierra Vista
WIC offices contacted:

- 126 W. 5th Street, Benson
  (520)586-8200
- 1415 Melody Lane, Bldg.A, Bisbee
  (520)432-9400
- 515 S. 7th Street, Douglas
  (520)805-5600
- 4115 E. Foothills Drive, Sierra Vista
  (520)803-3900
- 450 S. Haskell, Willcox
  (520)384-7100

County Clinics:

- 126 W. 5th Street, Benson
  (520)586-8200
- 1415 Melody Lane, Bldg.A, Bisbee
  (520)432-9400
- 515 S. 7th Street, Douglas
  (520)805-5600
- 4115 E. Foothills Drive, Sierra Vista
  (520)803-3900
- 450 S. Haskell, Willcox
  (520)384-7100

Cochise County Hospitals Contacted:

- Copper Queen Community Hospital
  101 Cole Avenue
  Bisbee, Arizona 85603
- Sierra Vista Regional Medical Center
  300 El Camino Real
  Sierra Vista, Arizona 85635