Maternal and Child Health Needs Assessment
Santa Cruz County, Arizona
2006

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November 30, 2006
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Acknowledgements

This Santa Cruz County needs assessment could not have been possible without the much appreciated help and contribution from the following people and branches of public health:

Joyce Latura, Maternal and Child Health Coordinator, Mariposa Community Health Center, for providing guidance in the direction of our survey project, supplying crucial information on the status of women in Santa Cruz County, and selflessly offering to meet with us and share her insights on the health of women and children in Santa Cruz.

Promotoras and staff at Platicamos Salud, Mariposa Community Health Center, for being the initial contacts for the women whom were surveyed about their breast-feeding experience, knowledge, and perceptions.

Gail Randolph, Administrative Nurse Manager, Mariposa Community Health Center, for providing information on the immunization coverage of two-year-olds in Santa Cruz County.

Jacquilyn Kay Cox, Ph.D, Office for Children with Special Health Care Needs, Arizona Department of Health Services, for compiling and presenting information on 2005 data for CSHCN in Arizona and the US

Lisa Schamus, Assessment and Evaluation Section Manager for the Office of Women’s and Children’s Health, Arizona Department of Health Services, for providing contact information about children with special health care needs

Julia K. Wacloff RDH, MS and Judy A. White RDH, MPH, Office of Oral Health, Arizona Department of Health Services, for compiling information on Nogales and Santa Cruz County oral health status.

Thara MacLaren, Research & Statistical Analyst Chief, Office of Children with Special Health Care Needs, Arizona Department of Health Services, for providing information on the Arizona population of CSHCN

The Division of Children, Youth and Families, Arizona Department of Economic Security, for preparing and allowing public access to the Child Welfare Reporting Requirements Semi-Annual Reports

Iman Hakim, M.D., Ph.D, M.P.H, Associate Professor, Mel and Enid Zuckerman College of Public Health, University of Arizona, whom guided us on the project and provided basic background knowledge in maternal and child health.

The women of Santa Cruz County for participating in our survey-interviews and sharing with us their experiences, opinions, and interests.
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COUNTY PROFILE

History and Description

The 1,238 square miles of land that make up Santa Cruz County, Arizona, is covered with mountains, grasslands, and river valleys. Dispersed among this landscape are cattle ranches, state and national parks, manufacturing plants, and missions dating back to the settlement of the county.

The first residents of Santa Cruz County, Arizona, were the Apache, Pima, Yaqui, and Hohokam Native-American tribes. Despite the fact that Native-Americans lived in the area long before anyone else, today, Santa Cruz is the only county in the state that does not have land designated as an Indian Reservation. In 1539 when stories of gold began to circulate, the Native Americans were joined by the Fray Marcos de Niza a Franciscan priest from Spain. He eventually made his way to present-day Lochiel, which was abundant in gold and silver. These riches were mined for many years beginning in 1874 until the early part of the 20th century. Spain claimed the land and 150 years later a Jesuit priest, Padre Eusebio Francisco Kino, arrived to establish missions. Among the most famous of these missions is the one located in Tubac, Arizona. It later became the first European settlement in the state due to promises of gold of silver.

After Mexico declared independence from Spain, they claimed the area as their own. It was not until the Treaty of Guadalupe Hidalgo in 1848, that the land became part of Arizona. Santa Cruz County was created in 1899 and Nogales and Patagonia were founded with the arrival of the railroad. 1

Although Santa Cruz County is the smallest of the fifteen counties in the state of Arizona it is growing rapidly in terms of population, economic value, and political value. This growth is due, in part, to its location along the U.S.-Mexico border. To the west and north of Santa Cruz County lies Pima County and to the east lies Cochise County.

Today, nine communities are located along the two major highways in the county, Interstate 19 and Highway 82: Amado, Carmen, Elgin, Nogales, Patagonia, Rio Rico, Sonoita, Tubac, and Tumacacori. According to the Arizona Department of Commerce, only Nogales and Patagonia are incorporated communities. Nogales serves as the primary source of employment and public services for the entire county, making it the major metropolitan area. Additionally, its location right on the border affects it both positively and negatively. It is the major crossing point for people commuting between the United States and Mexico, where its sister city, Nogales, Sonora is located. This unique situation presents both cities with daily exchanges of culture, commerce, and politics as well as challenges, such as illegal drug running, illegal immigration, unemployment, and a myriad of healthcare issues. The passage of the North American Free Trade Agreement (NAFTA) has only exacerbated these issues. In times of political unrest and/or economic depressions in Mexico, there is a trend for people to migrate to Santa Cruz seeking stability. A sudden rise in the county population leads to an increase in the number of people looking for jobs and housing as well as services ranging from basic plumbing to schools to healthcare. This sudden influx of people can have serious outcomes, particularly on those residents who already lack these resources.
Figure 1: Counties of Arizona

Figure 2: Map of Santa Cruz County.
Population

The estimated population in 2005 for Santa Cruz was 44,055.\textsuperscript{2} Among the nine communities, Nogales is the largest with a population of about 20,833,\textsuperscript{3} which accounts for almost half of the population of the entire county. The following table displays the population across the state, county, and communities.

<table>
<thead>
<tr>
<th>Year</th>
<th>Arizona</th>
<th>Santa Cruz</th>
<th>Nogales</th>
<th>Patagonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>3,665,228</td>
<td>29,676</td>
<td>19,489</td>
<td>888</td>
</tr>
<tr>
<td>2000</td>
<td>5,130,632</td>
<td>38,381</td>
<td>20,878</td>
<td>881</td>
</tr>
<tr>
<td>2005</td>
<td>6,044,985</td>
<td>44,055</td>
<td>20,833</td>
<td>905</td>
</tr>
</tbody>
</table>

Table 1: Population growth in Arizona, Santa Cruz, and communities.

Broken down further, the population is roughly evenly divided between genders. There were an estimated 21,076 males and 22,979 females in the county in 2005, compared with 3,015,990 males and 3,028,995 females for the state of Arizona.\textsuperscript{4} The median age for residents of Santa Cruz is relatively young, 31.8 years old.\textsuperscript{5} This is an indicator many residents may be starting or already have families. Young families mean a high number of educators and health professionals are needed to ensure a knowledgeable and healthy community.

The 2000 U.S. Census reported the racial composition of Santa Cruz County as 76% White, 80.8% Hispanic or Latino of any race, 0.7% Native-American, 0.4% African-American, 0.5% Asian, and 0.1% Pacific Islander. Less than three percent of the population identified with two or more races and twenty percent identified with an unlisted race. About 37.7% (14,457) of the population is foreign born, with 97.4% born in Latin America and 1.3% born in Asia. Of foreign born residents, 17.4% (6,688) are naturalized citizens and approximately 20.2% (7,769) are not a U.S. citizen. Forty three percent of Santa Cruz residents were born in the state of Arizona and
seventeen percent were born in another state.\textsuperscript{5} The Hispanic population exceeds any other racial group in the county, making it important to consider the cultural differences in this area.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{population_by_race.png}
\caption{Population distribution by race for U.S., Arizona, and Santa Cruz.}
\end{figure}

\textbf{Marital Status}

In 2000, approximately 60.9\% of the population, over the age of 15, was married. However, this number can be misleading because it also includes those who were married but separated at the time. The county has a higher percentage of married people as compared with the state. In contrast, the state has a higher percentage of divorced individuals than the county. Males had a slightly higher rate of being married but separated than females.\textsuperscript{5}

\begin{table}
\centering
\begin{tabular}{|c|c|c|c|}
\hline
\hline
Never Married & 6,632 & 24.10\% & 1,037,532 & 26.10\% \\
Married, but Separated & 16,796 & 60.90\% & 2,188,689 & 55\% \\
Separated & 504 & 1.80\% & 73,329 & 1.80\% \\
Divorced & 2,170 & 7.90\% & 440,890 & 11.10\% \\
Widowed & 1,456 & 5.30\% & 238,896 & 6\% \\
\hline
\end{tabular}
\caption{Marital status for Santa Cruz and Arizona.}
\end{table}

Marriage and divorce rates are compared in the figure below. The data indicates a downward trend in marriage and an upward trend in divorce.
Marriage and divorce rates across the United States, Arizona, and Santa Cruz for 2004 are shown below. The divorce rate for the county exceeds that of the state and country, but its marriage rate is below the rate for the rest of the state and country.

<table>
<thead>
<tr>
<th></th>
<th>U.S.</th>
<th>Arizona</th>
<th>Santa Cruz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marriage</td>
<td>7.4</td>
<td>6.5</td>
<td>6.3</td>
</tr>
<tr>
<td>Divorce</td>
<td>3.7</td>
<td>4.2</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Table 3: Rates per 1,000 population.

Disability

Disability status identifies individuals who may be at greater need for all types of services including healthcare, social services, education, and employment skills. A breakdown of types of disability is difficult to obtain, as disability encompasses physical, mental, cognitive, and sensory functions. The degree of disability can also have implications, as an individual who is blind may not consider themselves disabled whereas, an individual with a chronic illness might. Disabilities affect families in many ways, as a family member may need to take on the role of primary caregiver, preventing them from working or going to school. Furthermore, this has great implications on individual and family income.

A large percentage of the county population over age 65 is disabled. Among the 1,851 grandparents living with at least one grandchild, 39.8% of them are the primary caretakers of their grandchildren. The following figure was obtained using 2000 U.S. Census data.
Poverty levels are integral in assessing the health of a community because they can be used as indicators and/or compared with trends in education levels, income, employment status, and health status. It is also important to note that assessment of poverty level is based on different factors including income, age, and number of people in the household. The data shows at least a quarter of residents in the county were at or below poverty level, despite age, marital status, or number of people in one household. In 2000, 40.7% of female headed households were living below poverty. This increases to 46.6% when children under the age of 18 are included. More adults over the age of 65 were at poverty level (23.3%) compared with adults over 18 years old (21.8%). This percentage increases as children living with older adults are factored in. Two parent families experienced slightly lower levels of poverty (21.4%), but again increased as children were factored in. Twenty six percent of families with children under age 18 and thirty percent of families with children below age 5 were below poverty level. 7

When compared with the rest of Arizona, Santa Cruz’s poverty rates are much higher. While projected estimates for 2005 for Arizona predict slightly higher poverty levels, Santa Cruz still exceeds these levels.

<table>
<thead>
<tr>
<th>Poverty Levels</th>
<th>Arizona</th>
<th>Santa Cruz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families</td>
<td>9.9%</td>
<td>21.4%</td>
</tr>
<tr>
<td>With Children under 18</td>
<td>15.2%</td>
<td>26%</td>
</tr>
<tr>
<td>With Children under 5</td>
<td>19.3%</td>
<td>29.8%</td>
</tr>
<tr>
<td>Female Households</td>
<td>25.8%</td>
<td>40.7%</td>
</tr>
<tr>
<td>With Children under 18</td>
<td>32.1%</td>
<td>46.6%</td>
</tr>
<tr>
<td>With children under 5</td>
<td>43.7%</td>
<td>55.7%</td>
</tr>
<tr>
<td>Individuals</td>
<td>13.9%</td>
<td>24.5%</td>
</tr>
</tbody>
</table>

*Percent of total population

Table 4: Poverty levels for 2000.
Education

The public education system in Santa Cruz is composed of seven school districts: Nogales Unified School District, Patagonia Elementary School District, Patagonia Union High District, Primeria Alta, Santa Cruz Elementary School District, Santa Cruz Valley Unified School District, and Sonoita Elementary School District. In 2000, Nogales Unified School District had the largest enrollment at 22,132 followed by Santa Cruz Valley Unified School District at 12,504. The smallest enrollment was in the Santa Cruz Elementary School District at 867. Although online courses and distance learning are available through universities located throughout the state, the closest 2 year college or 4 year university is in Tucson. This can make it difficult to pursue an education beyond high school, as distance and money are crucial factors in this decision. Likewise, this makes it harder for educators to emphasize the importance of a higher education when it is not accessible.

Overall, 60.7% of county residents had obtained a high school diploma or higher and 15.2% had obtained a bachelor's degree or higher in 2000. This is much lower than 2005 estimates for the state, which show 83.8% with a high school diploma or higher and 25.6% with a bachelor's degree or higher. Of the 12,026 individuals over 3 years of age enrolled in school in the county, over half (51.2%) are in grades 1-8. When compared to the median age of residents, it demonstrates women are having children at very young ages. The table below shows the exact count, in parenthesis, and the percentage of the total number of individuals enrolled in school for Santa Cruz and Arizona in 2000.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Santa Cruz</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursery School/Preschool</td>
<td>5.2%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>7.6%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Elementary School</td>
<td>51.2%</td>
<td>44.6%</td>
</tr>
<tr>
<td>High School</td>
<td>25.1%</td>
<td>20.4%</td>
</tr>
<tr>
<td>College or Graduate Level</td>
<td>10.9%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Total</td>
<td>12,026</td>
<td>1,401,840</td>
</tr>
</tbody>
</table>

Table 5: School enrollment by level across county and state 2000

Although school enrollment in the county is comparable to school enrollment across Arizona, the actual educational attainment reflects a different story. Over one-fourth of Santa Cruz residents did not obtain a high school diploma. Low education levels can be detrimental when it comes to the health status of a community. It can mean low literacy levels and a community less able and willing to advocate for themselves and their families.
Due to the passage of Proposition 203 in 2000, all children in the public school system in the state of Arizona are taught in English only. Eighty percent of the residents do not consider English as their primary language and seventy-nine percent of these people consider Spanish as their primary language. Only 19.5% of Santa Cruz residents over the age of 5 speak English at home. The language barrier can often be daunting for parents, students, and teachers since not all are bilingual. Therefore, it is almost a necessity among professionals in all fields to have the ability to communicate in English and Spanish.

**Income**

The median household income in Santa Cruz in 2003 was well below the median income of the state. There is almost a ten thousand dollar difference between the county and state for 2003, whereas there is less than a two thousand dollar difference between the state and the rest of the country. This data may help explain the poverty levels although, income is not the sole determinant of poverty.
The per capita income was $13,278 in Santa Cruz and $41,963 in Arizona for 2000. Males tended to earn almost $6,000 more annually than females. In 2000, approximately 19.2% of the state population had an annual income between $50,000 and $74,999. In contrast, 18.3% of the county population had an annual income between $15,000 and $24,999.  

<table>
<thead>
<tr>
<th></th>
<th>Arizona</th>
<th>Santa Cruz</th>
<th>Nogales</th>
<th>Patagonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $10,000</td>
<td>163,221</td>
<td>1,579</td>
<td>1,124</td>
<td>69</td>
</tr>
<tr>
<td>$10,000-$14,999</td>
<td>120,770</td>
<td>1,188</td>
<td>693</td>
<td>51</td>
</tr>
<tr>
<td>$15,000-$24,999</td>
<td>264,392</td>
<td>2,164</td>
<td>1,400</td>
<td>69</td>
</tr>
<tr>
<td>$25,000-$34,999</td>
<td>265,645</td>
<td>1,913</td>
<td>801</td>
<td>62</td>
</tr>
<tr>
<td>$35,000-$49,999</td>
<td>332,857</td>
<td>1,647</td>
<td>644</td>
<td>54</td>
</tr>
<tr>
<td>$50,000-$74,999</td>
<td>365,024</td>
<td>1,802</td>
<td>730</td>
<td>52</td>
</tr>
<tr>
<td>$75,000-$99,999</td>
<td>184,026</td>
<td>692</td>
<td>295</td>
<td>21</td>
</tr>
<tr>
<td>$100,000-$149,000</td>
<td>131,068</td>
<td>519</td>
<td>149</td>
<td>14</td>
</tr>
<tr>
<td>$150,000-$199,000</td>
<td>35,926</td>
<td>177</td>
<td>91</td>
<td>N/A</td>
</tr>
<tr>
<td>$200,000+</td>
<td>38,696</td>
<td>140</td>
<td>41</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Households</td>
<td>1,901,625</td>
<td>11,821</td>
<td>5,968</td>
<td>392</td>
</tr>
</tbody>
</table>

Table 6: Annual Household Income for 2000, by region.

**Employment and Occupation**

Employment status can be a reflection of many factors including the current job market, education levels, health insurance status, and income levels to name a few. About 1,078 people, or 4%, of the population 16 years and older were unemployed in the labor force in Santa Cruz in 2000. It is unlikely this includes people residing in Santa Cruz illegally. Almost half of the total population, 47.6%, is not in the labor force. It can be inferred that “not in labor force” is defined as never been employed and “unemployed” indicates currently seeking a job or had a previous job. In 2003, the unemployment rate for the county was 12.4% and 5.6% for the state.

The percent of females in the labor force is relatively high across all the regions, indicating they are the person primarily responsible for the household income. Although this may mean these women have access to health insurance that unemployed women do not have, it may also mean more difficulty in getting time off to care for sick family members.

![Employment Across Region, 2000](image-url)  

Figure 9: Employment Status of selected regions.
According to the 2000 U.S. Census, the top five industries in Santa Cruz are retail trade, education, health, and social services (one category), arts, recreation, and food services (one category), wholesale trade, and public administration. Other industries include construction, finance, agriculture, manufacturing, transportation, and professional services.

Figure 10: Top Five Industries in Santa Cruz.

The top five occupations for the same time period are management, service occupations, sales and office, and production and transportation. Other occupations include farming and construction.

Figure 11: Top Four Occupations in Santa Cruz.
HEALTH STATUS

Across the United States, states are now assessing and tracking health status using the Healthy People 2010 objectives. This set of 28 focus areas was developed through collaborations among different federal agencies using past scientific data as well as public input. The overall goals of Healthy People 2010 are to increase life expectancy and quality of life and eliminate health disparities. The targets specified are general targets to reach by the year 2010. Each focus area has its own goal statement and several objectives enabling programs to target specific health needs in their communities. For example, focus area number 16 is Maternal, Infant, and Child Health. Its goal is to improve the health of women, infants, children, and families. It consists of 23 objectives divided into categories such as prenatal care and developmental disabilities. 10

In order to address the health needs of its diverse population, the Arizona State Health Department has compiled its own objectives based on Healthy People 2010 and developed Healthy Arizona 2010. It is intended as a comprehensive prevention agenda for personal health goals and the health goals of groups and organizations. The health department has chosen to use ten focus areas borrowed from Healthy People 2010.11 These can be found on the health department website. A copy has been provided as Appendix D.

Additionally, due to the unique location of Santa Cruz along the U.S.-Mexico border, the county also participates in a third health assessment known as Healthy Border 2010. This program aims to improve the health status among people living on both sides of the border. This is quite a fete, as the border is about 2,000 miles long and covers four states in the United States and six states in Mexico. It is a program within the U.S.-Mexico Border Health Commission. Using the U.S. Healthy People 2010 and Mexico's National Health Indicators, the most common objectives were combined to develop 11 focus areas. Each country still retains its own set of objectives since there are many differences in data collection and in the administration of services. The implementation of objectives is also very different among countries and states, but the Commission greatly urges bi-national participation in events such as health fairs and educational activities. The first report on Healthy Border 2010 was published in 2003 and can be found online. 12 A copy of Healthy Border 2010 has been provided as Appendix E.

General Health Indicators

General Mortality

Cardiovascular disease accounts for the most number of deaths in Arizona. In Santa Cruz County CVD accounted for 28% of the 225 deaths in 2004. If deaths due to cardiovascular disease are combined with all diseases of the heart, they account for 80% of the deaths in 2004. Malignant Neoplasms is the second most common cause of death in Santa Cruz County accounting for 26% of the 225 deaths in 2004. Mortality rates in general, have slowly decreased from 1994 to 2004 in the U.S., Arizona and Santa Cruz County, but rates are still high. Santa Cruz County has consistently lower rates than both the U.S. and Arizona. In Arizona, most deaths occur among people aged 65 and older.
Deaths in Santa Cruz County | Deaths in Arizona
--- | ---
Cardiovascular Disease | 65 | 13,828
Malignant Neoplasm | 60 | 9,506
Diseases of the Heart | 49 | 10,402
Cerebrovascular Disease | 14 | 2412
Lower Respiratory Disease | 13 | 2392
Diabetes | 12 | 1180
Motor Vehicle Accidents | 8 | 1,060
Influenza and Pneumonia | 7 | 1108
Intentional Self-harm | 2 | 854

Table 7: Leading causes of death in Arizona and Santa Cruz County 2004

Figure 12: Mortality rates for the United States, Arizona and Santa Cruz County 1994-2004

Reportable Diseases

Hepatitis, Tuberculosis, and Meningococcal Disease are the three vaccine preventable diseases identified for progress reports in Santa Cruz County for 2004. The rate of deaths due to Hepatitis A in Santa Cruz County is more than seven times the rate in Arizona. The target rates for 2010 for Hepatitis A, Meningococcal Disease, and Tuberculosis are 4.5, 1.0, and 1.0 per 100,000 persons, respectively. In Arizona, the number of cases of Hepatitis A has consistently decreased since 1994 from 2159 cases to 267 reported cases in 2004. The cases of Valley Fever have increased since 1994 from 578 to 3,665 in 2004.
### Table 8: Number of cases of selected reportable diseases in Arizona and Santa Cruz County 2004

<table>
<thead>
<tr>
<th>Disease</th>
<th>Santa Cruz County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmonellosis</td>
<td>14</td>
<td>694</td>
</tr>
<tr>
<td>Campylobacteriosis</td>
<td>10</td>
<td>795</td>
</tr>
<tr>
<td>Shigellosis</td>
<td>11</td>
<td>409</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>13</td>
<td>267</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>2</td>
<td>272</td>
</tr>
<tr>
<td>Streptococcus pneumoniae (invasive)</td>
<td>2</td>
<td>670</td>
</tr>
<tr>
<td>Vancomycin resistant Enterococcus spp.</td>
<td>2</td>
<td>1,404</td>
</tr>
<tr>
<td>Coccidioidomycosis (Valley Fever)</td>
<td>7</td>
<td>3,665</td>
</tr>
</tbody>
</table>

*Salmonellosis does not include S. Typhi and S. Paratyphi*

![Figure 13: Number of reported cases of Hepatitis A, Tuberculosis, and Valley Fever in Arizona, 1999-2004](image)

In Arizona, there were 23,327 reported cases of Sexually Transmitted Disease's (STD's), excluding HIV and AIDS, for 2004, which is an increase of 26% from 2003. The most prevalent STD in Arizona and Santa Cruz County is Chlamydia, which is on average 30 times more prevalent than Genital Herpes. On a national level in 2004, Chlamydia was diagnosed at a rate of 929,000 per 100,000, this is an increase of 5.9% compared with 2003. Of the Chlamydia cases in the U.S., 24.7% were aged 15-19 and 37% were aged 20-24. Since 2001, the number of cases among people aged 20-24 has increased beyond the number of cases among people aged 15-19. The reported number of Chlamydia infections is more than two and a half times the number of reported cases of Gonorrhea, which was 330,132 cases per 100,000 in 2004. From 1994-2004 the total number of cases of syphilis (all stages: P&S, early latent, late latent, and congenital syphilis) has declined by more than 50%.
There were 14,517 cases of HIV/AIDS diagnosed in Arizona between 1981 and 2004, with the highest diagnoses occurring in the Pima and Maricopa counties. Thirty-eight of these cases were diagnosed in Santa Cruz County. According to Healthy Arizona 2010, the target rate of cases is 1.0 per 100,000. Of the reported cases, 64.9% were non-Hispanic White, 20% were Hispanic, 9.7% were Black non-Hispanic, 3.5% were American Indian, and <1% were Asian. The highest number of diagnoses occurred among the 30-39 year olds and 88% of the diagnoses occurred among men, with Men having Sex with Men (MSM) being the most common form of transmission.\textsuperscript{14}
HIV/AIDS diagnoses in Arizona

![HIV/AIDS diagnoses in Arizona](image)

Figure 17: Frequency distribution of HIV/AIDS diagnoses in Arizona 1981-2005

<table>
<thead>
<tr>
<th></th>
<th>AIDS in US</th>
<th>AIDS in Arizona</th>
<th>Target 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>42,514</td>
<td>635</td>
<td>1.0 per 100,000</td>
</tr>
<tr>
<td>1981-2004</td>
<td>944,305</td>
<td>14517</td>
<td>1.0 per 100,000</td>
</tr>
</tbody>
</table>

Table 9: AIDS cases in US, Arizona, and target for 2010

**Substance Abuse**

Based on data from hospital discharges, in Arizona in 2004 there were 2,476 cases of alcohol abuse and 2,140 cases of drug abuse. People between the ages of 20-24 accounted for the most cases of substance abuse, 48.7%, and also had more drug abuse cases than alcohol abuse cases. People between the ages of 45-64 accounted for 35.6% of all substance abuse cases and had more alcohol abuse cases than drug abuse cases.

![Alcohol and Drug Abuse in Arizona 2004](image)

*Alcohol use is defined as Alcohol Psychoses and Alcohol Dependence
*Drug use is defined as Drug psychoses, Drug dependence and Non-dependent abuse of drugs

Figure 18: Alcohol and Drug use in Arizona in 2004
**Domestic Violence**

Due to the stigma domestic violence carries, it is often difficult to track and assess cases, even if they are reported. It is more challenging in Santa Cruz since many batters’ and victims are not U.S. residents and oftentimes go across the border to avoid legal consequences and/or retaliation. The most recent data for the county is from the Southeastern Area Behavioral Health Services (SEABHS) Domestic Violence Program. According to their reports, they had 274 clients in their program in Santa Cruz from April 2001-March 2003. The police were called in 77% of reported incidents of domestic violence, but arrests were made in only 32% of these incidents. A total of 3% of victims went to a shelter. Clients reported that 410 children were involved in these incidents. No deaths related to domestic violence were reported during this time. There are several programs throughout the county and state to address domestic violence and assist victims and their family members in a variety of issues including emotional trauma, financial assistance, legal advice, transitional, and temporary housing. Information on these programs can be found online or by calling the County Attorney at (520)281-5868 or the Arizona Coalition Against Domestic Violence at (602)279-7900.

**Maternal Health Indicators**

Health of mothers and infants is important because it is an indicator of current health status and conditions in the U.S. population as well as individual states and counties and it is also a predictor of future health conditions.

![Figure 19: Pregnancy outcomes by age group in Santa Cruz County, 2005](image)

As stated above, the majority of the pregnancies in Santa Cruz County in 2005 fell into the 20-34 age range. The age groups whom experienced the least number of pregnancies were those in the <15 year old category and the 45+ year old category; they had a total of one and two births, respectively. Out of 822 total pregnancies, five resulted in fetal deaths, 36 resulted in abortions, and thus 781 were live births. The 25-29 age group had the highest number of abortions, but they also had the highest number of total pregnancies which means their rate might not be
significantly higher than any other age group. In actuality, the rate for the 25-29 age group is roughly the same as the rate for the 15-17 age group.

**Prenatal Visits**

The majority of women began receiving prenatal care within their first trimester in 2005, which has been identified as the ideal time period to begin prenatal care. Within the female population of Arizona, 77.7% of women received prenatal care starting in their first trimester. In Santa Cruz County, 68.8% of women received prenatal care starting in their first trimester. According to the Arizona Health Department, only 2.3% of women in the state do not receive prenatal care. Compared to Arizona, Santa Cruz County has twice the percentage (4.6%) of women whom do not receive care. One positive difference between Santa Cruz’s outcomes and Arizona’s is that all of the women in need of prenatal care are accounted for in this southern county, whereas Arizona has a small population of unknown cases. If Santa Cruz can account for all of the women whom need prenatal care, then it is less of a challenge to target them and provide attentive care. Arizona still has to define its unknown population.

![Births by Trimester of Pregnancy Prenatal Care Began in Santa Cruz County and Arizona, 2005](image)

Figure 20: Percentage of births by trimester of pregnancy prenatal care began in Santa Cruz County and Arizona, 2005
Births by Trimester of Pregnancy Prenatal Care Began in Santa Cruz County and Arizona, 2005

The majority of women whom received prenatal care in Santa Cruz completed nine to twelve visits (N= 346). In addition, 211 women completed five to eight visits and approximately 100 people completed 13 or more visits. Only a small portion (N=36) of women did not participate in any prenatal visits.

Most births in Santa Cruz occurred between the ages of 20 and 34, so this may account for the reason why the number of prenatal visits documented for this age group is much higher than any other age group. Only one girl younger than 15 was recorded for receiving five to eight prenatal visits. The majority of the 15-17 age group received prenatal care through nine to twelve visits. The age group with the greatest number of prenatal visits was 30-34. There may not be any prenatal visits in the 45+ age group because two of the reported pregnancies in this age group were not live births, one was an abortion, and the other was a fetal death.

Prenatal Visits By Age Group, Santa Cruz County, 2005

Figure 22: Prenatal visits by age group in Santa Cruz County, 2005
**Maternal Risk Factors**

Maternal health is an important factor for positive health outcomes among mothers, infants and children. The identification of medical maternal risks can be accomplished by analyzing individual and social characteristics as well as demographic data. Medical maternal risk factors include anemia, cardiac disease, lung disease, diabetes, genital herpes, hydraminos, hemoglobinopathy, chronic hypertension, pregnancy associated hypertension, eclampsia, previous infant 4000+ grams, previous small for gestational age infant, renal disease, RH sensitization, uterine bleeding, incompetent cervix, substance abuse, and other.\(^{17}\)

In 2004, hypertension associated with pregnancy was the number two most commonly listed medical risk factor associated with birth in Arizona and Santa Cruz County, accounting for only 3% of the births in the state and the county. The majority of births associated with medical risk factors were titled Other, accounting for 20% of the births in Arizona and 96% of the births in Santa Cruz County.

![Top five medical risk factors for Arizona 2004](image)

**Figure 23:** Top five maternal medical risk factors in Arizona for 2004

In 2004, Santa Cruz County had the largest rate of births with maternal medical risk factors across the state, occurring at a rate of 67.6 per 100 live births. Cochise County had the next highest rate of births with maternal risk factors, 54.5 per 100 births.
Weight gain during pregnancy has been shown to affect the outcomes of maternal and child health and is determined based on a range of BMI categories. Women with a normal BMI should gain 25 to 35 pounds, women with below-normal BMI should gain 28 to 40 pounds, and overweight women should gain 15 to 25 pounds. Favorable outcomes include a reduction in the prevalence of low birth weight infants, small for gestational age infants, large for gestational age infants, high birth weight infants, cesarean deliveries, preterm deliveries as well as an increase in mean birth weight.
Alcohol And Tobacco Use In Pregnancy

In Arizona in 2004, 93.7% of women who gave birth reported non-smoking and non-drinking during pregnancy. The prenatal use of alcohol or tobacco has many adverse effects including preterm delivery, spontaneous abortion or low birth weight of an infant. Tobacco use is particularly identified as a cause of spontaneous abortion and preterm delivery and alcohol use has been associated with low birth weight, among others. In Arizona in 2004, 5.8 women per 100 births smoked during pregnancy compared to 1.0 women per 100 births in Santa Cruz County and women giving birth were 5 times more likely to smoke than drink during pregnancy. The most updated national data on pregnancy and smoking is from 2002, stating that 11.4% of women smoked during pregnancy, which is a decrease from 1990 when 18.4% of women reported smoking during pregnancy.17

<table>
<thead>
<tr>
<th>Drinker, nonsmoker</th>
<th>Arizona</th>
<th>Santa Cruz County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoker, nondrinker</td>
<td>5,060</td>
<td>6</td>
</tr>
<tr>
<td>Smoker and drinker</td>
<td>319</td>
<td>2</td>
</tr>
<tr>
<td>Nonsmoker and nondrinker</td>
<td>87,572</td>
<td>800</td>
</tr>
</tbody>
</table>

Table 10: Number of women giving birth reporting smoking or drinking during pregnancy in Arizona and Santa Cruz County in 2004

Induced Pregnancy Termination:

In Arizona, since 1994 there has been a 24% decrease in the rate of abortions; currently the rate of abortion in Arizona is 131.7 per 1,000 live births. Santa Cruz County has followed a similar decrease in abortions, although the rates are consistently lower than Arizona as the following graph demonstrates. Currently abortions occur at a rate of 61 per 1,000 births in the county. In 2004 12,301 abortions occurred in Arizona and Santa Cruz accounted for 50 of these.

<table>
<thead>
<tr>
<th></th>
<th>Pop. Childbearing Age</th>
<th>Live Births</th>
<th>Abortions</th>
<th>Fetal Deaths</th>
<th>Total Pregnancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>1,234,019</td>
<td>93,396</td>
<td>12,301</td>
<td>555</td>
<td>106,252</td>
</tr>
<tr>
<td>Santa Cruz County</td>
<td>9,000</td>
<td>808</td>
<td>50</td>
<td>7</td>
<td>865</td>
</tr>
</tbody>
</table>

Table 11: Pregnancy outcomes for Arizona and Santa Cruz County 2004
The white population has the highest number of abortions in the state of Arizona accounting for 46.5% of all abortions and the Hispanic population accounts for 36% of all abortions. In Santa Cruz County, Hispanics have the highest number of abortions accounting for 84%. Santa Cruz County accounts for <1% of the total abortions occurring in the state. The majority of abortions occur among unmarried women, women with an education of less than or equal to primary/secondary school, and women aged 20-24.

![Rate of abortions in Arizona and Santa Cruz County](image)

**Figure 28: Rate of abortions in Arizona and Santa Cruz County for 2004**

<table>
<thead>
<tr>
<th>Number of Abortions</th>
<th>Santa Cruz County</th>
<th>Arizona</th>
</tr>
</thead>
<tbody>
<tr>
<td>White non-Hispanic</td>
<td>5,726</td>
<td>2</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>4,485</td>
<td>42</td>
</tr>
<tr>
<td>Black or African American</td>
<td>723</td>
<td>0</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>341</td>
<td>0</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>444</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>256</td>
<td>2</td>
</tr>
<tr>
<td>Unknown ethnicity</td>
<td>326</td>
<td>4</td>
</tr>
<tr>
<td>Married</td>
<td>2,244</td>
<td>15</td>
</tr>
<tr>
<td>Unmarried</td>
<td>10,057</td>
<td>35</td>
</tr>
<tr>
<td>Primary/Secondary(0-12)</td>
<td>3,321</td>
<td>26</td>
</tr>
<tr>
<td>College (1-4 or 5+)</td>
<td>2,726</td>
<td>22</td>
</tr>
<tr>
<td>Not Stated</td>
<td>6,254</td>
<td>2</td>
</tr>
<tr>
<td>&lt;15-19 years of age</td>
<td>2220</td>
<td>6</td>
</tr>
<tr>
<td>20-24 years of age</td>
<td>4,202</td>
<td>19</td>
</tr>
<tr>
<td>25-29 years of age</td>
<td>2,598</td>
<td>8</td>
</tr>
<tr>
<td>30-34 years of age</td>
<td>1,614</td>
<td>12</td>
</tr>
<tr>
<td>35-39 years of age</td>
<td>969</td>
<td>4</td>
</tr>
<tr>
<td>40-45+ years of age</td>
<td>355</td>
<td>0</td>
</tr>
<tr>
<td>Unknown year of age</td>
<td>343</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 12: Abortion statistics for Santa Cruz County and Arizona 2004
Maternal Deaths

In 2003, there were 12.1 maternal deaths per 100,000 live births in the United States, which is an increase from 8.9 maternal deaths per 100,000 live births in 2002. In Arizona in 2003, there were 5.5 maternal deaths per 100,000 live births. The 2010 target is 3.3 maternal deaths per 100,000 and while Arizona has not yet reached this target, the rate of maternal deaths has decreased from 8.2 per 100,000 since 2000.

Race, ethnicity, and age are all factors in maternal death. In 2003 in the United States, there 3.5 times more maternal deaths among African American women than white women and in Arizona 58% of maternal deaths were among women aged 35 or older.20

<table>
<thead>
<tr>
<th>Reduce maternal deaths (HP16-4)</th>
<th>Baseline for US</th>
<th>Arizona 2003</th>
<th>Target for 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.1</td>
<td>5.5</td>
<td>3.3</td>
</tr>
</tbody>
</table>

*rate per 100,000 live births

Table 13: Healthy People 2010 maternal deaths objective for US and Arizona

The main causes of maternal deaths include hemorrhage, ectopic pregnancy, pregnancy-induced hypertension, embolism, infection, and other complications of pregnancy and childbirth. In order to reduce maternal deaths, a focus should be placed on the causes of maternal illness and complications, particularly preventable causes. For example, an untreated infection from Chlamydia or gonorrhea can lead to an ectopic pregnancy. Focus should also be placed on postpartum illnesses, such as postpartum depression which can affect a mother’s ability to properly care for her infant.17 In Arizona in 2000, there were 7 maternal deaths per 100,000 and in 2005 there were 9 maternal deaths per 100,000, an increase of 1.3% over a 5 year period. In Santa Cruz County there were no reported maternal deaths for the year 2005.

Perinatal Health Indicators

Birth Rates

Over a span of eleven years, Arizona and the U.S. have seen a steady rate of births per 1,000 population. According to data from the National Center for Health Statistics, the average birth rate for the United States throughout 1994-2004 was 14.48. Data was unavailable for the United States for 2005. The average birth rate between 1994-2005 for Arizona was 16.46 per 1,000 however, Santa Cruz County experienced a decrease in birth rates. In 1994, Santa Cruz had approximately 24 births per 1,000, but it gradually decreased throughout the years, and in 2005 had a birth rate of 17.7 per 1,000.
Birth Rates in Santa Cruz County, Arizona, and United States from 1994-2005

Figure 29: Rate of Birth per 1000 population for Santa Cruz County, Arizona, and United States from 1994-2005

One factor of particular interest is the marital status of the mother. Santa Cruz County has contributed to <1% of the births to unwed mothers in Arizona for 2006, but within the county 42.9% of women who gave birth were unmarried and this has increased since 2000. In Arizona, 32,799 or 43.5% of the babies were born to unwed mothers, which is an increase from 2000.

Figure 30: Percent of births to unwed mothers in Arizona and Santa Cruz County 2000-2006

In Arizona in 2005, 66% (n=25,181) of births among the <15-24 age group were to unmarried women and 72% (n= 40,904) of births among the 25-45+ age group were to married women. In summary, more births to unmarried women occurred in the younger age groups and the majority of births to married women occurred in the older age groups.
In 2002, 54% of births were paid for by AHCCCS and this increased to 57% in 2005. Self pay increased from 8% in 2003 to 11% in 2005 and private insurance payment decreased from 32% in 2003 to 30% in 2005.

Hospitalizations During Delivery

From 1994 to 2004, 98% of births across all ethnicities in Arizona occurred in a hospital. Although use of hospitals for delivery was above 98%, it is interesting to note that hospital use was highest among Hispanics and lowest among the white population in Arizona. It is also interesting to note that use has been consistent among each ethnicity except for the white population which slowly decreased hospital use for delivery to rate of 97.6% for hospital use.

Obstetric Procedures, Delivery Methods and Complications

In 2004, excluding the use of ultrasound during pregnancy, women in Santa Cruz County were less likely to use obstetric procedures than women in Arizona as a whole.
Figure 33: Rate of selected obstetric procedures in Arizona and Santa Cruz County 2004

The five most common methods of delivery in 2004 are listed in Figure 34. In 2004, vaginal delivery was the most common method of delivery with 72% and 75% use in Santa Cruz County and Arizona, respectively. Cesarean sections were the second most common method of delivery.

Figure 34: Method of delivery in Arizona and Santa Cruz County for 2004

In Santa Cruz County in 2004, 26.9% of births were a primary or repeat cesarean section and in Arizona 23.6% of births were cesarean sections. In Arizona, the rate of cesarean sections has increased by 9.5% among the Asian population and by 7.7% among the white population over 10 years. The procedure is most common among the white and Hispanic populations and is 6 times more likely in urban communities.

From 2001 to 2004, the number of births in Arizona involving medical risk factors remained consistent at 28% and slightly decreased in 2005 to 27.3%. In Santa Cruz County, the number of births involving medical risks or complications increased by 20% between 2001 and 2005. The Asian population had the highest percent of births with medical risks or complications until 2004 when the white population surpassed them. Until 2004, the Native American population had the lowest percent of births with medical risks or complications since 1994.
In 2005, 26,163 or 28.5% of births in Arizona involved complications of labor or delivery which is a slight decrease from 29% in 2001. In Santa Cruz County, the number of births involving complications of labor or delivery increased from 19% in 2001 to 34.1% in 2004. The most common type of complications of labor or delivery was identified as Other, and accounts for 16,628 or 18% of the births in Arizona and 194 or 24% of the births in Santa Cruz County. The most common complications of labor or delivery in Santa Cruz County in 2004 are listed in Figure 37.
**Perinatal Deaths**

Relative to the amount of perinatal deaths reported in Arizona, Santa Cruz County does not account much for the state incidences. However, once this small population is accounted for in the rate of perinatal deaths, Santa Cruz County is much closer to the overall rate in Arizona. Though Santa Cruz only accounted for 4 of the 590 perinatal deaths in the state, the rate for the county was 4.9, and the rate for Arizona was 6.3.

<table>
<thead>
<tr>
<th>The number of perinatal deaths per 1,000 live births + fetal losses at 28 or more weeks of gestation.</th>
<th>Arizona</th>
<th>Santa Cruz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live births and reportable spontaneous fetal losses of 28 or more weeks of gestation</td>
<td>93,667</td>
<td>809</td>
</tr>
<tr>
<td>Number of infant deaths of less than 7 days</td>
<td>319</td>
<td>3</td>
</tr>
<tr>
<td>Number of reportable spontaneous fetal losses of 28 or more weeks of gestation</td>
<td>271</td>
<td>1</td>
</tr>
<tr>
<td>Total Count of Perinatal Deaths</td>
<td>590</td>
<td>4</td>
</tr>
<tr>
<td>Rate of Perinatal Deaths</td>
<td>6.3</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Table 14: Perinatal Deaths and Perinatal Mortality Rates For Santa Cruz and Arizona, 2004

**Fetal Deaths**

On average, Arizona has recently demonstrated a steady rate of fetal deaths. From 2000-2004, the fetal death rate of Arizona ranged from 5.9-6.6 deaths per 1,000 live births. Santa Cruz County has had a fluctuating history of fetal death rates. In the period from 2000-2004 the lowest fetal death rate Santa Cruz experienced was 1.3 per 1,000 live births in 2002 and 2003. A surprising increase followed in 2004 with an increase to 8.6 deaths per 1,000 live births. It is difficult to say what accounted for such a large increase, but if the years to follow imitate a similar pattern of escalation, this information should stir concern.
Figure 38: Reportable fetal death rates by Santa Cruz County, Arizona, 2000-2004

Includes spontaneous terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight), exclude induced terminations of pregnancy. Per 1,000 live births plus reportable spontaneous fetal deaths.

Infant Deaths

In 2005, Santa Cruz County had a total of four infant deaths. The leading causes included short gestation and low birth weight, disease of nervous system, and congenital malformation. The number of incidences for gestation and low birth weight were two, and the remaining complications caused one death each. In total, Arizona reported having 653 infant deaths in 2005. Particularly observing the three causes of infant deaths seen in Santa Cruz, Arizona experienced 79, 12, and 149 deaths related to those mentioned above, respectively.

Infant mortality according to the Arizona Department of Health Services is considered to be any death at any time from birth up to, but not including, the first year of age. Infant mortality rate is one of the best indicators of the health status of a population. Often, due to low birth weight many complications arise with the health of a baby, therefore low birth weight and infant mortality rates are observed together to see if there is any correlation. It is difficult to determine if there is a correlation between low birth weight and infant mortality rates in Santa Cruz County, Arizona, and the U.S. but it is worth considering. Among the three populations, Santa Cruz has the lowest low birth weight and infant mortality rates, with 6.4 births out of 100 births and 5.1 out of 1,000 live births, respectively. Arizona had a low birth weight birth rate of 6.9 out of 100 live births and an infant mortality rate of 6.8 out of 1,000 live births. The U.S. experienced a slight increase in low birth weight incidences, with a rate of 7.9 per 100 live births, and also experienced the same rate of infant mortality as Arizona, with 6.8 per 1,000 live births.
Low Birth Weight Births

Low birth weight is considered to be any neonate whose weight at birth is less than 2,500 grams (less than 5 pounds 8 ounces). Low birth weight babies tend to have high mortality rates and if they do survive they also have a pattern of facing struggles throughout their lives. They are more likely to be re-hospitalized than infants born at full-term, more likely to be submitted to an ICU, and have a higher likelihood of having detrimental neurological development problems. Those born at a low birth weight also tend to have children of low birth weight.

From 1994-2005 Arizona experienced a slight increase in the number of low birth weight births. In 1994, Arizona had 4,812 low birth weight births, but this increased to 6,640 in 2005. Santa Cruz County however, has not experienced such an increase. The county has actually demonstrated a relatively constant pattern of 53 (approximate average) low birth weight births between 1994-2005. The two most surprising fluctuations occurred in 1998 and 2004 which were 38 and 78 low birth weight births, respectively. The peak in 2004 was alarming, but in 2005 the amount decreased to 50.
Birth Defects

In Santa Cruz County in 2004 the most commonly recorded congenital anomalies are recorded as, Other. There were 35 births reported with congenital anomalies in 2004, accounting for 3.6% of the 965 births in the state of Arizona.

<table>
<thead>
<tr>
<th>Births with congenital anomalies in Arizona 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anencephalus</td>
</tr>
<tr>
<td>Spina Bifida</td>
</tr>
<tr>
<td>Hydrocephalus</td>
</tr>
<tr>
<td>Microcephalus</td>
</tr>
<tr>
<td>Other CNS Anomaly</td>
</tr>
<tr>
<td>Heart Malformations</td>
</tr>
<tr>
<td>Other Resp./Circulatory</td>
</tr>
<tr>
<td>Rectal Atresia</td>
</tr>
<tr>
<td>Fistula/Esoph. Atresia</td>
</tr>
<tr>
<td>Omphalocele</td>
</tr>
<tr>
<td>Other Gastrointestinal</td>
</tr>
</tbody>
</table>

Table 15: Births with congenital anomalies in Arizona 2005

Breastfeeding

The American Academy of Pediatrics (AAP) recommends that an infant be breastfed without supplemental foods or liquids for the first 6 months of age. It has been widely accepted that breast milk and breast feeding is beneficial to both the mother and the infant because it provides nutritional and immunological benefits to the infant. Benefits include reduced incidence and/or severity of diarrhea, respiratory infection, and ear infections, among others. There have also been
studies suggesting protection or partial protection against SIDS, diabetes, and Crohn's disease. The benefits of breastfeeding for mothers include reduction in postpartum bleeding, quicker return to pre-pregnancy weight, reduced risk of pre-menopausal breast cancer, and reduced risk of osteoporosis.

On a national level, in 2004 it was determined that more than 75% of children have ever been breastfed. Only 15-19% of the children met the AAP recommendation of exclusive breastfeeding for 6 months, but 40-49% were exclusively breastfed for 3 months. In 2005, <15% of the children met the AAP recommendation. On the national level, 13.9% of women breastfed according to the AAP recommendation and 72.9% claim to have ever breastfed. The highest rates of breastfeeding occur among women >30 years of age, women with more than one child, women with higher education, and married women. Asian women have the highest rate of breastfeeding while Black or African American women have the lowest rates of breastfeeding.

![Rate of breastfeeding in U.S. and Arizona](image)

Figure 41: Rate of Breastfeeding in U.S. and Arizona 2005
*BF represents Breastfeeding

**Child Health Indicators**

**Child Deaths:**

There were three child deaths in Santa Cruz County as reported on the death certificates in 2005. Since the population in Santa Cruz County is relatively small compared to other counties in Arizona and the area is not overwhelmed by risks that could potentially cause death, such as constant traffic, the amount of actual deaths accounted for has been very small in the past six years.
Most child deaths in Santa Cruz County occurred in 2004. The leading causes of death for children aged 1-14 was motor vehicle accident, assault/homicide, congenital malformations, diseases of the heart, and by other means. The leading causes of death for 2005 were motor vehicle accident, intentional self-harm (suicide), and discharge of firearms. There were no child deaths in 2000 or 2001. In 2005, 285 child deaths occurred in Arizona and only three occurred in Santa Cruz. Of those 285 child deaths, 57 were related to motor vehicle accidents, 11 were related to intentional harm (suicide), and 4 were related to the discharge of firearms. Santa Cruz contributed one child death to each of those causes mentioned.

Abuse

The most recent information on reported child abuse and neglect can be found in the Child Welfare Reporting Requirements Semi-Annual Report for October 2005-March 2006. Under the Arizona Revised Statute §8-526, the Department of Economic Security (DES) compiles information and produces a semi-annual report for the periods ending on March 31st and September 30th of each year with regard to the Child Welfare Services program, including Child Protective Services (CPS). The document includes reporting from October 1, 2005 and ending on March 31, 2006.

The Child Protective Services Hotline received 17,756 reports of child abuse, neglect and abandonment during the semi-annual report period. The Department responded to 100% of the cases which did not fall under the jurisdiction of military or tribal governments, resulting in addressing 17,559 cases. At the same time, an additional 12,236 contacts were received by Child Protective Services Hotline, but these did not fulfill the criteria of the report. Santa Cruz County accounted for 1% of the total number of reported cases which were investigated from October 1, 2005 to March 31, 2006. In Santa Cruz, there were no reports of emotional abuse, however there were 52 reports of neglect, 40 cases of physical abuse, and 2 cases of sexual abuse from April 2005 to September 2005. From October 2005 to March 2006, that amount increased with 59 reports of neglect, 46 due to physical abuse, and 4 of sexual abuse.
During the reporting period October 2005 through March 2006, 3,753 children were removed from their home for some period of time; 17 of those children lived in Santa Cruz County. Five of those children entering out-of-home care due to voluntary placement by Santa Cruz were under 18 years of age.

The DES document also had information on the number of reports responded to by risk level. The majority of reports in both Santa Cruz County and Arizona fell into the low risk category, but there was a variety of levels represented. High risk level cases were reported less than moderate cases. Santa Cruz however showed greater high risk level reports throughout the year compared to Arizona. Reports in the high, moderate, or low categories, excluding potential cases, were the only ones investigated.

Asthma

In 2004, ADHS estimated 611,461 people identified themselves as having asthma. In that same year, an average of 80 individuals died of asthma in Arizona. Though these statistics may cause concern, Santa Cruz County in general has very minimal cases of people identifying themselves as having asthma. According to the most recent data from the Hospital Inpatient Discharge Statistics available through the Arizona Department of Health Services, Santa Cruz has the lowest rate of inpatient discharges for asthma as first-listed diagnosis in 2005. In addition, Santa Cruz also had the lowest rate of patient days for asthma as first-listed diagnosis in 2005. Over half (59%) of the admissions in Arizona due to asthma were females, Santa Cruz also experienced the same trend.

In 2005, there were not any inpatient discharges for asthma as first listed diagnosis in the age category of 15-19 years old. Children under the age of five followed as the second lowest age group of number of inpatient discharges for asthma. The age group with the most number of inpatient discharges for asthma was the middle-aged group (45-64).
Figure 44: Number of inpatient discharges for asthma as first listed diagnosis by age group, gender, in Santa Cruz County, 2005

Table 16: Number of inpatient discharges for asthma as first listed diagnosis by age group, gender, in Santa Cruz County and Arizona in 2005

<table>
<thead>
<tr>
<th>Age group</th>
<th>Total</th>
<th>Children &lt;15</th>
<th>Adolescents 15-19</th>
<th>Young Adults 20-44</th>
<th>Middle-aged adults 45-64</th>
<th>Elderly 65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>Total</td>
<td>7,076</td>
<td>2,476</td>
<td>212</td>
<td>1,265</td>
<td>1,689</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>4,199</td>
<td>857</td>
<td>120</td>
<td>896</td>
<td>1,301</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>2,877</td>
<td>1,619</td>
<td>92</td>
<td>369</td>
<td>388</td>
</tr>
<tr>
<td>Santa Cruz County</td>
<td>Total</td>
<td>22</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 17: Total number and rates of discharges for asthma as first listed diagnosis in Santa Cruz County and Arizona, 2005

<table>
<thead>
<tr>
<th></th>
<th>Number of discharges</th>
<th>Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>Total</td>
<td>7,076</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>4,199</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>2,877</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>

*Number of discharges per 10,000 population in specified group

As seen in the graph below, Santa Cruz had the lowest rate of patient days for asthma as first-listed diagnosis in 2005. Santa Cruz reported 71 patient days for asthma as first-listed diagnosis. The rate for Santa Cruz County was 1.6 patient days per 1,000 population, compared to Arizona’s rate of 3.8 and 4.7, calculated for Mohave County, the highest rate in the state.
Figure 45: Rate of patient days for asthma as first-listed diagnosis by county of residence, Arizona, 2005
*Rate: Number of discharges per 10,000 population in specified group

Immunizations

The most current information provided by the Mariposa Community Health Center indicates that up to 72% of children through age two have completed immunizations for Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Haemophilus Influenza and Hepatitis B in Santa Cruz County. The Arizona Immunization Program Office (AIPO) works in collaboration with public and private divisions to reach the Healthy People 2010 goal of immunizing 90% of Arizona’s children by age two. The standard vaccination schedule is as follows: 4:3:1:3:3 coverage (4 or more doses of DTaP; 3 or more doses of IPV; one or more dose of MMR; 3 or more doses of Hib; and 3 or more doses of Hep B vaccine). Healthy Borders 2010 also aims to achieve and maintain immunization coverage rate of 90 percent for children 19-35 months. As of September 2006, the U.S. immunization rate for 4:3:1:3:3 is 81%. Arizona’s rate is 79%. The AIPO directs the Vaccines for Children Program (VFC), which provides free vaccines to registered public and private sectors for distribution of vaccines to the following children: Medicaid enrolled (AHCCCS); uninsured; Native American/Alaskan Native; and some underinsured.

Injury

Out of 369 injuries which occurred in Santa Cruz County in 2005, children under 15 years of age accounted for 50 of those injuries, resulting in approximately 14% of the total injuries in Arizona. Male children accounted for 30 of those injuries and female children accounted for 20.
Inpatient discharges for injury and poisoning by age and gender in Santa Cruz County, 2005

Though it has not been documented for 2006 or 2005, intent and mechanisms of injury have been recorded in the Arizona Department of Health Services Vital Statistics 2004. In 2004 there were 373 hospital discharges for injury. Most of these injuries were unintentional, accounting for 232 of the total number of inpatient discharges. It was not specified which age groups and gender groups experienced the injuries mentioned below.

<table>
<thead>
<tr>
<th>INTENT/MECHANISMS OF INJURY</th>
<th>Number of Inpatient Discharges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital discharges for injury</td>
<td>373</td>
</tr>
<tr>
<td>Unintentional Injury</td>
<td>232</td>
</tr>
<tr>
<td>Fall</td>
<td>146</td>
</tr>
<tr>
<td>Motor vehicle accident</td>
<td>40</td>
</tr>
<tr>
<td>Accidental poisoning by drugs, medicinal substances gases and vapors</td>
<td>7</td>
</tr>
<tr>
<td>Natural and environmental factors</td>
<td>6</td>
</tr>
<tr>
<td>Fire and flames</td>
<td>0</td>
</tr>
<tr>
<td>Machinery</td>
<td>5</td>
</tr>
<tr>
<td>Self-inflicted (suicide)</td>
<td>6</td>
</tr>
<tr>
<td>Assault</td>
<td>7</td>
</tr>
<tr>
<td>Injuries of undetermined intent</td>
<td>2</td>
</tr>
<tr>
<td>Complications of care and adverse effects of medical treatment</td>
<td>89</td>
</tr>
<tr>
<td>Misadventures to patients during surgical and medical care</td>
<td>5</td>
</tr>
<tr>
<td>Surgical and medical procedures as the cause of adverse reaction</td>
<td>81</td>
</tr>
<tr>
<td>Drugs causing adverse effects</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 18: Number of injury-related inpatient discharges Santa Cruz County in 2004
Oral Health

The Arizona Department of Health Services (ADHS), Office of Oral Health, compiled the Arizona Community Oral Health Profiles for 173 communities in Arizona. These profiles also included oral health information at the county and state level. Nogales, one of the largest cities in Santa Cruz County, was among one of these 173 communities. Nogales and Santa Cruz have a particularly high percentage of children in the 6-8 year-old range with oral decay, 72% and 73% respectively. This is three times greater than the 2010 target of 42%. The percentage of children with untreated tooth decay in Nogales and Santa Cruz is almost half, 44% and 49% respectively, which is close to the 2010 target of 42%. The percentage of eight-year-olds with dental sealants is low for Nogales and Santa Cruz, 39% and 35% respectively, which needs to increase to reach the 2010 target. The percentage of adolescents with oral decay was lower in Nogales and Santa Cruz compared to the child age group. It is difficult to measure how well Santa Cruz is performing in the adolescent age group because much of the data needed is not available or not applicable.

<table>
<thead>
<tr>
<th>Oral Health Indicators</th>
<th>Nogales</th>
<th>Santa Cruz</th>
<th>Arizona</th>
<th>US</th>
<th>2010 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children 6-8 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with decay experience</td>
<td>72</td>
<td>73</td>
<td>62</td>
<td>52</td>
<td>21</td>
</tr>
<tr>
<td>with untreated tooth decay</td>
<td>44</td>
<td>49</td>
<td>40</td>
<td>29</td>
<td>42</td>
</tr>
<tr>
<td>with urgent treatment needs</td>
<td>4</td>
<td>4</td>
<td>9</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>with dental sealants (8 years)</td>
<td>39</td>
<td>35</td>
<td>28</td>
<td>23</td>
<td>50</td>
</tr>
<tr>
<td>Adolescents 11-13 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with decay experience</td>
<td>59</td>
<td>NA</td>
<td>65</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>with untreated tooth decay</td>
<td>47</td>
<td>NA</td>
<td>32</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>with urgent treatment needs</td>
<td>24</td>
<td>NA</td>
<td>5</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>with dental sealants</td>
<td>0</td>
<td>NA</td>
<td>16</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Table 19: Percentages of oral health indicators in populations in 2005 for Nogales, Santa Cruz County, Arizona, and Healthy People 2010 goals
NA: Not Available/ Not Applicable

Lead Poisoning

The most recent information available on lead poisoning is from the Arizona Lead and Pesticide Poisoning Annual Report for 2002 released by the Arizona Department of Health Services, Office of Environmental Health. The AZDHS documents the lead and pesticide exposure registries for Arizona. The program staff create lead poisoning prevention programs, examine cases with elevated blood lead levels, and perform educational outreach plans. In 2002, 239 children were reported to have lead poisoning. Lead poisoning in children is defined as blood lead levels equal to or greater than 10 micrograms of lead per deciliter of blood (> 10 ug/dL). Eighty-seven percent of the childhood cases (209 cases) were in the lower category range of lead poisoning, 10 to 20 ug/dL. The remaining 30 cases (13%) were in the moderate to severe range of lead poisoning (>20 ug/dL). Healthy Arizona 2010 aims to reduce severe lead poisoning by 75%, to have no more than 13 cases of severe lead poisoning. It also aims to reduce the prevalence of lead poisoning in Arizona by 50% by 2010, to have a total of no more than 113
cases for the state. This is an increase from 2001 data, which reported 163 children having lead poisoning. The 2002 cases continued to see a pattern of certain counties experiencing a higher percentage. In 2001, Maricopa, Yuma, and Pima accounted for 96% of all reported cases.

![Percent of Child Lead Poisoning Cases by County, 2001](image)

Figure 47: Percent of child lead poisoning cases by county in Arizona for 2001

Lead poisoning is very challenging to assess in Arizona because there is no comprehensive statewide data and there is also limited screening. The cities identified as being high risk areas in Santa Cruz County were Elgin, Nogales, and Tumacacori.

Due to the difficulty in collecting data, the most recent estimates of prevalence rates are based on 1998 Arizona Health Care Cost Containment System (AHCCCS) data. AHCCCS collected data for 12,506 children five years and younger whom screened for lead poisoning. The best estimated prevalence rate for Arizona was 2.1%. The nationwide average was approximately 4.4%. The prevalence rates were not calculated for individual county profiles, but there was information on zip-codes with significant prevalence rates. Nogales resulted with the fourth highest prevalence rate estimated at 4.5%. Phoenix had the highest prevalence rate of 8.3%. Though these rates might seem alarming, they may not demonstrate how accurate the prevalence actually is due to lack of a random design in the study and a lack of other factors.

**Children with Special Health Care Needs (CSHCN)**

County data is not currently available for Children with Special Health Care Needs. However, the National Survey on Children with Special Health Care Needs, administered by the Health Resource and Administration (HRSA) collects data for each state. According to this survey administered in 2005, there were 153,410 children throughout the state who were identified with special health care needs. This represents 10.8% of the total population of children aged 0-17. Males comprise 13.1% and females comprise 8.4% of children with special health care needs. Interestingly, African-Americans reported the highest percentage at 16% and Hispanics only at 6.9%. Thirty percent of parents reported their children did not have adequate health insurance in the past year and 25.6% reported having difficulty getting an appropriate referral. Thirty-six percent stated their children had not received family centered care. Eighteen percent of
respondents reported their child’s condition caused a great burden on family income and 30.4% reported their child’s condition affected the employment of family members.

**Adolescent Health Indicators**

**Adolescent Deaths**

The highest number of adolescent deaths occurred in 2003, with leading causes related to motor vehicle accidents, intentional self-harm (suicide), and by other means. Motor vehicle accidents were the leading causes of death from 2000-2005. Arizona experienced 346 adolescent deaths in 2005, 108 of which were related to motor vehicle accidents. Of those 108 incidences, one took place in Santa Cruz County. The adolescent deaths in 2000, 2001, 2002, and 2004 were all attributed to motor vehicle accidents.

![Deaths by age group in Santa Cruz County, 2000-2005](image)

Figure 48: Deaths by age group in Santa Cruz County, 2000-2005

**Immunizations**

AIPO has become devoted to the promotion of adolescent immunizations and plans have been devised to increase the immunization for adolescents. The number of school-based immunization programs administering on-site immunization clinics has consistently grown and a greater amount of clinics are offering Hepatitis B, Td boosters and second MMR across Arizona.

**Teen Pregnancies and Births**

According to the AZDHS Vital Statistics for 2005, Santa Cruz County experienced similar rates of births and teen pregnancies, which include the sum of live births, fetal deaths, and abortions. In 2005, there were 120 total pregnancies to females under the age of 19. One of those births was to a female younger than 15 years of age. Within the age group of 15-17 years of age, there were a total of 49 pregnancies with outcomes of 46 births and three abortions. Within the age group of 18-19, there were a total of 70 pregnancies with 67 births, two abortions, and one fetal death.
The rates per 1,000 pregnancies and births to females aged 19 or younger in Santa Cruz were 30.7 and 29.1, respectively. Santa Cruz had a similar pattern of rates to Arizona’s total. Arizona experienced a rate of 32.7 pregnancies per 1,000 females aged 19 or younger and 28.1 births per 1,000 births to females aged 19 or younger. The county with the highest rates of teen pregnancies and births was La Paz with 49.8 per 1,000 females aged 19 or younger. The county with the lowest rates was Graham with 20.9 per 1,000 pregnancies to females aged 19 or younger and 20.6 births per 1,000 births to females aged 19 or younger.

![Rates of Teen Births and Pregnancies by County of Residence, Arizona, 2005](image)

Figure 49: Rates of teen births and pregnancies by county of residence, Arizona, 2005

In 2004, the rate of teen pregnancy in Santa Cruz among teenagers aged 15-17 was 46.1 per 1,000 females. The Healthy People 2010 target is to reduce pregnancies among adolescent females aged 15-17 to 25 pregnancies per 1,000.

**Performance Measures**

1. County and state data are not collected for this measure.

2. County data is not available for this measure. However, a 2005 statewide report collected data on the need for specialty care such as home care, but did not comment on the degree to which the children with special health care needs program pays for it. 33

3. County data is not available for this measure, but 50.5% of children with special health care needs across the state have a medical home. Sixty-four percent of parents stated their children receive family centered care. 33

4. 100% of children in Arizona should have been screened for thirteen disorders. Screening includes: 1) Congenital Hypothyroidism; 2) Congenital Adrenal Hyperplasia (CAH); 3) Phenylketonuria (PKU); 4) Maple Syrup Urine Disease (MSUD); 5) Homocystinuria; 6) Galactosemia; 7) Biotinidase Deficiency; 8) Citrullinemia; 9) Tyrosinemia; 10) Argininosuccinic
Acidemia; 11) Sickle Cell Anemia; 12) Hemoglobin S/Beta-Thalassemia; and 13) Hemoglobin S/C disease.34

5. The most current information provided by the Mariposa Community Health Center indicates that up to 72% of children through age two have completed immunizations for Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Haemophilus Influenza and Hepatitis B in Santa Cruz County.

6. In 2005, a total of 47 births were to mothers aged 15-17 in Santa Cruz County. The rate of teen pregnancy in Santa Cruz for teenagers aged 15-17 in 2004 was 46.1 per 1,000 females.35 The teen pregnancy rate for Arizona in 2005 was 32.7 per 1,000 females.36

7. In 2005, Santa Cruz County had 35% of its 8 year-old population with dental sealants.

8. The rate of death to children aged 1-14 caused by motor vehicle crashes in 2004 was 9.1 per 100,000 children.

9. Data regarding the percent of mothers who breastfed their infants at hospital discharge was unavailable. In 1993 in Santa Cruz County, 56% of all women were breastfeeding. In Arizona in 2004, 80.4% of women had ever breastfed.15,39

10. No county data is available for this measure. In Arizona, 98% of all hospitals now provide newborn hearing screening. Assuming compliance, 100% of infants should be screening for hearing impairments.37

11. No county data is available for this measure. Sixty-one percent of parents in the state reported their children with special health care needs had adequate insurance. Eighty-seven percent reported their current insurance usually meets their needs. Ninety-five percent of parents reported their children have either public or private insurance.33

12. County data is not available for this measure. Across the state, 5% of parents reported their children with special health care needs were uninsured. Almost 10% reported being without insurance and being below 200% of the federal poverty level. Lack of insurance was cited as a major reason for unmet needs for these children.33

14. County data is not available for this measure. Across the state, 51.4% of parents stated they partner with physicians and other service providers in the decision making for children with special health care needs. Over half, 54.4%, families reported being very satisfied with the services they receive.33

15. The rate of suicide deaths among youths 15-19 in 2004 was 0 per 100,000 youth deaths. All of the deaths in that particular age group were caused by motor vehicle accidents.11

16. The rate of low birth weight births in 2005 was 6.4 per 100 births.18

17. Data from 1997 indicates that 73% of very low birth weight infants were delivered at facilities for high-risk deliveries and neonates.
In 2005, Santa Cruz County had 68.8% of infants were born to pregnant women receiving prenatal care beginning in the first trimester. Error! Bookmark not defined.

**SURVEY: The challenges associated with breastfeeding**

**Implementation/Methodology**

Maternal and child health has been a major concern in both developed and developing countries and is a major indicator of health status. Many factors affect the health of mothers and infants, particularly breast milk and the process of breastfeeding, which have been identified as important factors in health status. According to Dr. Hakim:

"Our goal as health professionals is to help women understand the benefits of breastfeeding, acknowledge barriers that may prevent them from breastfeeding, and allow them to make an informed decision about what is the best way to feed their infant. We then need to be able to help the mother and the baby reach their goal of successful breastfeeding."38

Breast milk has many nutritional and immunological benefits for both the mother and the infant. Immunological benefits include immunoglobulins, cytokines, macrophages, T and B cell lymphocytes among others as well as nutritional benefits including fats, proteins, and carbohydrates. In previous studies, it has been shown that breastfeeding premature infants leads to a decreased incidence of sepsis, meningitis, and necrotizing enterocolitis compared to infants fed formula. According to the American Academy of Pediatrics exclusive breastfeeding should occur for at least 6 months post-delivery.

The Mariposa Clinic located in Nogales, Arizona, is doing their best to promote breastfeeding and educate new mothers about the benefits and necessity of this motherly process. The clinic contacts new mothers after delivery to provide education and they felt it was important to determine how effective this education was on the women’s choice to breastfeeding as well as the duration of breastfeeding. A survey was designed using sample surveys from previous needs assessments, breastfeeding information provided through Dr. Iman Hakim, M.D., Ph.D., M.P.H., and Joyce Latura, Maternal and Child Health Coordinator at the Mariposa Clinic. Contact information was provided by Joyce Latura for 99 women who delivered from December 2005 through October 2006 and agreed to have a follow-up meeting. The survey was administered over the phone in both English and Spanish. The best times for administration of the survey were mornings, evenings, and weekends because many women work or go to school.

**Demographics**

Of the 99 names and phone numbers provided, a total of 53 women completed the survey. Twenty-three women were not considered because they provided phone numbers in Mexico and were not able to be reached. Twenty-three women had disconnected phone numbers or did not answer. There was one woman who did not want to participate.
The respondents live in several communities throughout the county, outside of the county, and even across the border in Mexico.

![Residency of Survey Respondents](image)

* One respondent did not include place of residence.

Figure 50: Number of Respondents to Breast Feeding Survey and their place of residence.

The average age of respondents was 27.2. Two women did not provide their ages. The following graph is a distribution of ages among the respondents.

![Age Distribution of Respondents](image)

*Does not include two respondents who did not provide ages

Figure 51: Age distribution of survey respondents.

Most respondents gave birth in July 2006. February 2006 and June 2006 were the next highest birth months among respondents. December 2005, January 2006, and September 2006 had the fewest with two respondents each. The rest of the months were fairly even in distribution in number of births. This information was also used to assess how old the infants were at the time of the survey. Most infants considered in this survey were between 4-5 months old.
Results

The results are presented in the same order as the questions appear on the survey.

A majority of women, 51, stated the breastfeeding guidance they received in the hospital was helpful.

Thirty-eight women stated the breastfeeding guidance did not change their opinion about breastfeeding. If the goal of the breastfeeding guidance is to increase knowledge, then this indicates most women believed they already had a good understanding of breastfeeding. This could be due to prior experience breastfeeding other children. Of the 16 women who stated it did change their opinion, most commented that it made them realize how important breastfeeding is, especially during the first few weeks after birth.

Thirty-five women stated they did not receive any other type of breastfeeding guidance. Nineteen women stated they received guidance other than what was offered in the hospital. A majority of those nineteen received the guidance after giving birth. Only three women reported receiving any guidance before giving birth and two women stated they had guidance throughout their pregnancies. Thirteen women received additional guidance from WIC or another clinic. Other respondents reported family members and books as sources of guidance.

Surprisingly, only six women stated they are exclusively feeding their infant breast milk. One woman stated her infant is currently on regular cow's milk and she started this at 6 months of age. Thirteen respondents stated they are currently using a combination of breast milk and formula. The majority of respondents stated their infant is exclusively on formula. The following graphs illustrate the ages at which formula or a combination of breast milk and formula was introduced to the infants.

![Combination of Formula and Breast Milk](image)

Figure 52: Number of respondents who started infants on a combination at certain ages.
Women who are only breastfeeding, reported they plan to provide just breast milk until their infant is about one year old. Some women stated they will introduce formula around 6 months of age. One woman stated she was not sure and another stated indefinitely.

Although most respondents are no longer breastfeeding their children, 34 stated breastfeeding was a positive experience for them. Only six women stated it was not a good experience citing pain and not enough production of milk as reasons.

Of the 32 women who gave reasons for ending breast feeding, the most common answer was they were not producing enough milk or they stopped producing milk altogether. Some elaborated by adding they could not produce enough to keep up with their baby’s demand or it was difficult due to time constraints and when they tried to breast feed they could not produce any milk. Other reasons included: public feeding was difficult, baby did not latch well, they went back to work, they were in pain due to caesarian-section, baby refused breast, it was painful, and there was bleeding.

When asked who was supportive of them, most women stated their husband or mother. Other family members included sisters, mother-in-law, and grandmother.

Thirty-one women are currently not working compared to 22 women who are working. More women are working full-time than part-time (8 vs. 5). The following table shows how old their infant was when respondents started working.

<table>
<thead>
<tr>
<th>Age of Infant</th>
<th>&lt;1 Month</th>
<th>1-3 Months</th>
<th>&gt;4 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>4</td>
<td>11</td>
<td>5</td>
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Table 20: Age of infant when mother returned to work

Of the women who are not currently working, a large majority stated they do not have any plans for working. Of the nine women who stated they do plan to return to work, each had varying
answers for when they would like to start working. One woman stated she would like to start when her infant is one month old whereas another woman stated she plans to work when her infant and other children are old enough for school. One woman indicated she plans on working full-time and only one indicated plans to work part-time.

Since most respondents are adults above the age of 20, it is unlikely that many of them are currently students. Only two respondents, who are both younger than 20 years, stated they are currently in school. One went back when her infant was just two months old and the other when her infant was just nine months old.

Fourteen women stated they were breastfeeding when they returned to work or school. Contrary to popular belief, several stated they did not encounter any problems continuing breastfeeding during this time. Women who stated it was difficult cited lack of time and the fact they could not take their baby with them.

Another surprising result is 26 women stated that they currently or previously pumped breast milk to use later. Seventeen women stated they never did this, although a couple of women tried but felt sore afterwards or did not like it.

A majority of women reported currently having some type of health insurance. This varied greatly between public and private and which companies they had plans with. This was a little more difficult to assess since many respondents did not know whether their insurance was considered public or private, some had two types, some only had emergency, and some stated they did not have any, but their children did. Those whom reported having insurance for their children, were considered as currently carrying insurance for these results. The most common type of insurance among these respondents is AHCCCS, the state Medicaid program. Twelve women reported having private insurance. Other types included Pima Health, WIC, Kids Care, and Healthnet.

**Limitations**

Administering the survey was an insightful project for learning more about some of the women and the breastfeeding duration patterns of Santa Cruz County, however there were many limitations and obstacles throughout the task. The challenges are various and deserve more analysis and consideration to produce accurate reflections of breastfeeding duration in Santa Cruz County.

First, only 53 women were contacted about their opinions and participation in breastfeeding. Although this number represents more than 50% of the sample, the results may not be statistically significant for the county to make claims or conclusions. More women would have to be monitored and interviewed in the county for data to have statistical evidence. Even though some information is of value to a community or county, the collection of more data would be advised before certain policies, programs, or interventions are implemented.

The women whom were interviewed were not necessarily representative of the female population of Santa Cruz County. Many come from Mexico to give birth at Holy Cross Hospital. In
addition, many women from Santa Cruz County go to Tucson, Arizona to give birth at hospitals with more resources and to seek prenatal care. The women whom were interviewed were also only a small sample size of the Santa Cruz County pregnant female population. If a woman did not give birth at Holy Cross and/or did not participate in the class, then their contact information was not collected and they could not have been contacted to determine their breastfeeding duration. Thus, the data that was accumulated only represents a small portion of this county. A more thorough and encompassing evaluation of the breastfeeding duration of Santa Cruz would ideally include the majority of women whom give birth, if not all.

After administering some of the questions of the survey to the women, it seemed as though the structure of the questions were vague and misleading. For example, one of the questions asked who supported the mother. This question did not define the meaning of “support.” To some women it meant financial support, to others it meant moral support, and to the remaining it was their own interpretation of the term. The same unclear terminology was found in the question about an opinion on breastfeeding. To determine what factors may lead to discontinuing breastfeeding, women were asked if breastfeeding has been a positive experience. If the mother indicated it was not a positive experience then they could have been probed into sharing why that was so. The question seemed as though it would lead to reasons for short-term breastfeeding duration, but in the end, it was not very useful. The majority simply said it was a positive experience, but most interpreted “positive” to mean if they enjoyed the time spent with their infant as they breastfed.

Since the surveys were conducted over the telephone instead of in person, the tone of the interview might have been more casual. It is beneficial that the women feel comfortable and can feel they can confide in the interviewer, but an informal mood might also generate indifference and lack of interest. The women interviewed might have been more willing to elaborate on their experiences and concerns of breastfeeding with a physician or specialized individual rather than a student volunteer.

Another obstacle was attempting to reach all of the women. Some of the numbers were disconnected or wrong number. A small amount of women were out of town when they were contacted. A few telephone numbers were also not their own, but rather of friends or relatives whom live in the United States. If a friend or relative responded for the mother, the reliability of their reply could have been questionable. In most questionnaires and surveys done over the phone, the participation rate tends to be very low, causing more difficulty in obtaining information, however this survey unexpectedly had only one refusal.

The majority of the calls were completed on weekends and evenings. Student schedules can be flexible for these various time frames however, it may be difficult for staff or Promotoras at Mariposa Clinic to contact them during working hours. This conflict of free time can be a limitation in sustaining this type of survey in the future. Interviewers would have to change their work schedule to attempt calling women when they are the most available.

Overall, documenting the duration of breastfeeding is a challenge in any community or population because it is difficult to keep track of women who have given birth and their status on breastfeeding. Since breastfeeding is a continual process and not an instant occurrence,
maintaining good surveillance involves more effort and resources to do so. Once women are discharged from a hospital, they are not supervised to verify they are breastfeeding. They may even inform their doctor they are breastfeeding, but in reality are providing completely different forms of nourishment. Women are not always available. Unlike immunization coverage, which uses vaccine charts to observe a schedule, there are no charts for breastfeeding that are used by hospitals.

Recommendations

Although the results of the survey provide useful information in developing breastfeeding programs for women in Santa Cruz County, they also present other issues that should be addressed.

Many women stated they stopped giving their infant breast milk because they no longer produced any. However, results show most infants started a diet of only formula between 1-2 months of age, indicating they only breastfed for a couple of weeks. It takes a minimum of two weeks and not nursing at all for production of breast milk to stop. This means these women may be misinformed about the production of breast milk. They may have only breastfed while they were in the hospital and tried later, but when they tried they were no longer producing milk. So, it is recommended the guidance they receive in the hospital include more information about the actual production of breast milk and a basic understanding of the biological process involved.

In order to increase the duration of exclusively breastfeeding, it is recommended a follow-up take place by one month after birth to assess breastfeeding status, since according to they survey this is the time most women stop giving their infant breast milk. If the mother is still producing milk, they should be encouraged to continue breastfeeding.

Since there appears to be many misconceptions about the production of breast milk, a short and concise listing of the benefits of breastfeeding should be distributed to the women during the guidance classes. This should include the names and phone numbers of places they can contact, should they want or need more information about breastfeeding. Seven respondents stated they wanted further information on a variety of topics regarding breastfeeding. This reinforces that follow-up is necessary. Without this survey, these women may have never asked for more information and the clinic would have never known they wanted it.

Based on this data, it may be beneficial to find strategies to locate women while they are still pregnant and begin breastfeeding guidance as early as possible. This will enable women to become familiar with all the issues and make informed decisions before birth. However, this presents many logistical challenges as many women in the county do not seek prenatal care or they commute across the border frequently. Additionally, the clinic may not have the financial or manpower to carry this out.

Lastly, many women stated their husbands were supportive. Although this can be interpreted in several ways, this question was intended to refer to anyone who was supportive of them breastfeeding. This raised an important issue: breastfeeding education for men. Many times breastfeeding education is aimed only at females, but it is just as important for males to
understand it in order to be supportive, know its benefits and other issues related to it, and to help their partner make the best decisions. It is recommended that a focus be placed on males by making the guidance classes more inclusive, giving them reading material designed for males, or possibly having a separate breastfeeding class just for males. This may be difficult due to cultural norms, but if carried out effectively, it can have positive results.

The results of the survey indicate the current breastfeeding guidance classes administered by Mariposa Community Health Center are providing good information, but there are many areas in which the classes can be expanded. These are just a few recommendations that may increase the awareness and promotion of breastfeeding in Santa Cruz County.
Appendix A
Surveys
Appendix B
Title V Block Grant
Appendix C
Healthy People 2010
Appendix E
Healthy Borders 2010
Appendix F
Santa Cruz County Health-related Services
SANTA CRUZ COUNTY HEALTH-RELATED SERVICES
AND COMMUNITY RESOURCES

Primarily, resources available to the women and children of Santa Cruz County are accessed and located in the city of Nogales. Various government organizations and specialized services in Santa Cruz County and Arizona are listed below.

Government

Santa Cruz County Government
2150 N. Congress Dr., Nogales, AZ 85621
(520) 761-7800
Health and Human Services Director: Carlos Rivera (520)375-7812
Health Department provides prevention intervention, surveillance, and education

County Attorney: George Silva
2150 N. Congress Dr., Nogales, AZ 85621
(520)375-7780
Services: Victim services include crisis intervention, moral support, information and referral to resources within the community, transportation, food, counseling and compensation funds. Staff and volunteers are on call 24 hours a day, seven days a week. The office provides legal services for mental health commitments, recognized adoptions, and guardianships and conservatorships on behalf of the Public Fiduciary.

Department of Economic Security
1843 N. State Dr., Nogales, AZ 85621
Director: Lupita Felix, P.A. (520) 281-1947
Services: Child Protection Services, Early Intervention Program, Families FIRST, child care, child support adoption, comprehensive medical/dental, developmental disabilities services, cash and food assistance, marriage counseling, employment services, services for veterans, refugee cash assistance, etc.

Arizona Department of Health Services

Office of Women’s and Children’s Health
150 N. 18th Ave. Suite 320
Phoenix, AZ 85007
(602)364-1400
(602) 364- 1495 Fax
Hot Line Representatives:
  Pregnancy and Breastfeeding/ Baby Arizona 1-800-833-4642
  Children’s Information Center: 1-800-232-1676
  Women Infants and Children (WIC) 1-800-252-5942
Specialized Services

Child Abuse Services
Child Protective Services for Santa Cruz County; Director: Mark Seeger
(520) 287-4126

Family Builders; Director: Sylvia Mayer
(520) 397-9155

Child Abuse Hotline
888-767-2445

Southern Arizona Child and Family Advocacy Center (SACAC)
(520) 319-5511

Child Care/ Family Services
Child Health Champion Program; Director: Lourdes Rivera
(520) 281-9303

Child Parent Centers – Head Start; Director: Silvia Brown
(520) 287-3662

Child Care Resource and Referral
(800) 308-9000

Even Start and Esperanza Preschool
(520) 287-4321

Head Start Nogales
(520) 287-5651, (520) 761-4408, (520)287-3662

Kids Care; Director: Bebe Laguna
(520) 394-3054

St. Andrew’s Preschool; Director: Deacon Lee Vellom
(520) 281-0133

Youth and Family Service Coalition of Eastern Santa Cruz County
Director: Ona Ferguson
(520)394-3070

Child and Maternal Care
Platicamos Salud; Director: Jo Jean Elenes
(520) 281-2860
Domestic Violence Services
Administration of Resources of Choices (ARC)
(520) 327-2665
Crisis Line: (520) 566-1919

Against Abuse, Inc.
(520) 836-1239
Domestic Violence Shelter- 24 hr line: (520) 836-0858
Children Shelter- 24hr line: (520) 421-0767

Arizona Coalition Against Domestic Violence
(800) 782-6400

Brewster Center Domestic Violence Services
Outreach & Advocacy: (520) 881-7201
Crisis Line: (877) 472-1717

Catholic Community Services
(520) 432-2285 , (800) 338-2474

Southeastern Arizona Behavioral Health Services; Director: Dan Bardon
(520) 281-9189

Drug Abuse Information and Treatment
Al-Anon
(520) 287-1523

Narcotics Anonymous
(520) 287-1523

Juntos Unidos/ United Together; Director: Ricky Washer
(520) 761-4412

SEABHS Family Guidance Center
(520) 281-9189
Crisis Line: (800) 586-9161

HIV/AIDS Information and Treatment
Mariposa Community Health Center; Director: Terry Mendez
(520) 761-2447

Platicamos Salud; Director: Jo Jean Elenes
(520) 281-2860
**Hospitals/ Community Health Centers**

Carondelet Holy Cross Hospital, Nogales  
(520) 285-3000

Family Health Center, Patagonia  
(520) 394-2262

Mariposa Community Health Center, Nogales  
(520) 281-1550

**Human Resources**

Arivaca Coordinating Council/ Human Resource Group; Director: Rebecca Sheets  
(520) 398-2771

**Social Service Organizations**

Catholic Community Services  
(520) 432-2285

United Way  
(520) 761-1840

Women, Infants and Children (WIC)  
(520) 287-4494

**Youth Counseling**

Mindscape Counseling Services; Director: Joel Lopez  
(520) 377-0494

More for Kids, Inc.; Director: Hector Simon  
(520) 337-0993
References

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3 U.S. Census Bureau, www.censtats.census.gov
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7 U.S. Census Bureau, http://factfinder.census.gov/home/saff/main.html
8 National Conference of State Legislatures, www.ncsl.org
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15 Santa Cruz County Maternal & Child Health Needs Assessment, Mariposa Community Health Center, 2005
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24 Mariposa Community Health Center. Information received via phone-call with Nurse Gail Rendolf on Sept. 2006.
28 Healthy Arizona 2010 Objectives, see Appendix D
29 Thara MacLaren, Research & Statistical Analyst Chief, Office of CSHCN
30 Lisa Schamus, Section Manager, Office of Women's and Children's Health
35 http://www.azdhs.gov/plan/report/tp/teen04/t10a.xls