Maricopa County
Department of
Public Health

In Collaboration with the
Alliance for Innovations in Health Care
and
Resilience Solutions Group

*February 2006*

# Prenatal Care Satisfaction and Resilience Factors in Maryvale and South Phoenix, Arizona

**Acknowledgements**

This report was written by Dr. Linda Luecken, in collaboration with the Maricopa County Department of Public Health, the Alliance for Innovations in Health Care and the Resilience Solutions Group at Arizona State University.

**Maricopa County Department of Public Health (MCDPH)**
Bob England, MD, MPH, Medical Director

**Division of Community Health Services**
David Dubé, RD, MPH, CHES, Administrator

**Alliance for Innovations in Health Care**
Diane Zipley, MS, Director

**Editors and Contributors:**
**Division of Community Health Services**
David Dubé, RD, MPH, CHES; Diane Cox, PhD, MSN, RN; Rose Howe, MSW; Diane Zipley, MS, Wanda Thompson, BAHS, CPM

**Alliance for Innovations in Health Care Members**
Cathie Hannen, Arizona Department of Health Services; Donna Thompson, Office of Nutrition Services – WIC; Connie Williams, Arizona Health Care Cost Containment System; Doug Hirano, Mountain Park Health Center; Thelma Brandon-Davis, South Central Clinic; Barbara Freeman, Phoenix Birthing Project; Lylaine Gavette, CNM; Cheri Tomlinson, Mary Mauldin and Rosanne Hatfield, Maricopa Medical Center; Lynda Choate, Mercy Care Health Plan; Kathy King, St. Joseph's Hospital & Medical Center; Dr. Anu Partap, Arizona Center for Community Pediatrics; Dr. Dean Coonrod, Maricopa Medical Center; Dr. John Mattox, Banner Good Samaritan Regional Medical Center; Lisa Derrick, South Phoenix Healthy Start; Martha Mendoza, APIPA Health Plan; Cheri Betancourt, Health Choice Health Plan; Rhonda Andrews, Phoenix Health Plan; Sherry Childress, Maryvale Hospital; Kathy Elston, Care First Health Plan; Anne Jorgensen-Hust, Donna Williams, and Jewel Shelton, St. Joseph's Hospital & Medical Center; Lonnie Rubio-Jones, It's A Baby's Life; Joan Agostinelli and Lisa Schamus, Arizona Department of Health Services; Chris Tussey, Banner Good Samaritan Regional Medical Center; Barb Jorgensen, Southwest Human Development; Michael Bryson

**Resilience Solutions Group, Arizona State University**
Leona Aiken, PhD, Linda Luecken, PhD, Felipe Gonzalez Castro, PhD, Kate Murray, Mary Davis, PhD, John Reich, PhD, John Hall, PhD, Rebecca Rios, Kathryn Lemery, PhD, Alex Zautra, PhD

**MCDPH would like to thank the following for their generous support:**
The Arizona Dept. of Health Services, Office of Women and Children's Health; St. Joseph's Hospital & Medical Center Foundation**;** St. Luke's Health Initiatives

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For MCH questions please call Rose Howe at (602) 372-1441 or e-mail rosehowe@mail.maricopa.gov. Data questions should be addressed to Dr. Linda Luecken, PhD, at (480) 965-6886 or Linda.Luecken@asu.edu.

# Prenatal Care Satisfaction and Resilience Factors in Maryvale and South Phoenix, Arizona

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**Prenatal Care Satisfaction and Resilience Factors in Maryvale and South Phoenix, Arizona**

## REPORT SUMMARY

This document provides a report of the results of the baseline prenatal survey conducted through collaboration between the Alliance for Innovations in Health Care, Maricopa County Department of Public Health, and the Resilience Solutions Group at Arizona State University. The goals of the survey were to assess satisfaction with prenatal and birth care, barriers to access to prenatal care, and psychosocial predictors of positive prenatal care experiences and infant health outcomes. From April to September 2005, this project conducted 560 interviews with postpartum women from four hospitals that serve the Maryvale and South Phoenix areas in Arizona. All survey respondents resided in one of 15 zip codes representing Maryvale or South Phoenix and were either receiving or eligible to receive Arizona Health Care Cost Containment System (AHCCCS) or Federal Emergency Services (FES) to cover the cost of the birth. Only women who spoke either Spanish or English, were at least 18 years old, and who provided informed consent were interviewed. The data from the surveys were cleaned to remove erroneous or invalid data, and merged to form a database of 539 records from which analyses could be conducted. This report provides the results of preliminary analyses, including the frequencies of responses to individual questions on the survey, overall averages for psychosocial variables, and overall ratings of satisfaction with various services and providers.

The final sample was largely comprised of Hispanic women (82%) who were Spanish-speaking (80%), and were fairly low acculturated (as defined by only speaking Spanish, only reading Spanish, and mainly watching or listening to Spanish television or radio). Approximately 5% of the sample were African-American. Although the majority of the women reported that they believed prenatal care was important (97%), a significant percentage of women surveyed did not receive prenatal care at all, received it very late into their pregnancies, or received an inadequate amount of prenatal care. Well over 22% of the sample did not receive at least 10 prenatal care visits, and over 9% of the sample either did not receive prenatal care at all, or did not receive it until their third trimester. For those who didn't receive prenatal care or who were delayed in its receipt, lack of money or insurance was the primary reason cited for the delay or lack of care. Women who received prenatal care most commonly chose a provider based on the recommendation of a friend or family member.

Overall, women reported being largely satisfied with the prenatal care they received. Ratings of the prenatal care provider on a scale from 1 to 10 averaged 8.9, while the total experience of prenatal care was rated at a 9.0. However, 22% of women reported feeling ignored or discriminated against by a health care provider, and 17% felt they were mistreated due to their appearance or speech. The majority of the women rated their prenatal care as "Better than expected", although it is important to use caution in interpreting this result as it is impossible to know their initial level of

expectations. On average, women reported waiting about 25 minutes at the provider's office. Ratings of the quality of communication with the provider were generally high, although more than half of the women at least occasionally had difficulty speaking with or understanding their provider due to language differences. The reported content of provider communication revealed a number of important topics that women did not recall having been discussed. Approximately one-fourth of the women reported that their provider did not discuss what to eat during pregnancy, how to avoid getting HIV, or physical abuse by partners. Approximately one third reported that they were not told about classes they could attend for more information. While in fact these women may have been given this information, there are many factors that might interfere with their understanding and recall.

Ratings of the hospital where they gave birth were generally high, with the lowest ratings for the food and the feeling of not being in control over what happened during labor. Overall ratings of the hospital and their delivery care (on a scale of 1-10) averaged 9.5, and two-thirds of the women rated their care as "Better than expected", although again this finding should be interpreted with caution given the inability to know the women's initial level of expectations.

Women were also asked personal questions regarding their feelings during their pregnancy and stressful events that may have occurred. Only about 55% of the women reported wanting to be pregnant at that time (or sooner), although 74% of them had not been using any type of birth control. When directly asked their feelings about being pregnant, the majority of the women reported being very happy and proud about their pregnancy, with few women reporting anger or worry. However, 16% of women rated their overall pregnancy experience as "worse than expected". Women's expectations for their children were high, with most women reporting that they expect their baby will be energetic, curious, creative, and competent.

The women reported a high number of stressful life events during the time of their pregnancy. The most common event was moving (35%), with 10% reporting that they moved more than once. Marital conflict (20%) and financial worries (21%) were also commonly reported. Additionally, 16% reported that someone close to them had a bad problem with alcohol or drugs, and 19% reported that someone close to them died within the last year. A large number of women (9%) reported that they had been homeless at some point during the time of their pregnancy.

On average, women reported 5 close friends or relatives living nearby who were able to provide her with support, however 9% reported that they had no one nearby who could provide support, and 8% reported that they only had one person who could provide support. Reported distress levels during the pregnancy were generally low, although some women reported considerable anxiety and depression. Ethnic pride and belief in traditional cultural values was high on average, and may provide an important source of resilience for the women and their families.

## BACKGROUND

The Alliance for Innovations in Health Care was formed in 2001 to serve as the local Phoenix component of the National Friendly Access program, which is located at the University of South Florida's Lawton and Rhea Chiles Center for Healthy Mothers and Babies in Tampa, Florida. Friendly Access was created to understand and decrease disparities in the health of mothers and babies by changing the culture of health care delivery in ways that improve customer access, utilization, satisfaction, and eventually outcomes. Friendly Access is an initiative that was funded at several national sites by the Centers for Disease Control and Prevention (CDC). Although Phoenix was not funded by the Friendly Access program, the Maricopa County Department of Public Health (MCDPH), St. Joseph's Hospital, St. Luke's Health Initiatives, and the Arizona Department of Health Services jointly funded this project. The project targeted the communities of Maryvale and South Phoenix due to indicators of inadequate prenatal care utilization relative to other communities in Maricopa County.

As a result of preliminary needs assessment studies, funding was provided to implement the Friendly Access Baseline survey, which was intended to assess the attitudes and opinions about the healthcare system from recent prenatal consumers. The Resilience Solutions Group at ASU served as a consultant to assist in implementation, statistical analysis, and interpretation of the survey. Prenatal consumers at four local hospitals serving the Maryvale and South Phoenix areas were surveyed through interviews conducted bedside in the post-partum area of the hospitals. The hospitals participating in the survey included St. Joseph's Hospital and Medical Center, Banner Good Samaritan Hospital, Maricopa Medical Center, and Maryvale Hospital. These hospitals were chosen because they are the major providers of care for women residing in Maryvale and South Phoenix, Arizona. Although Phoenix Memorial Hospital also served the South Phoenix community, it was not included in this study due to a temporary closure of its obstetrics unit during the implementation of data collection.

The National Friendly Access Program developed and pilot tested a 160-question survey to be administered by post-partum interviews with low-income women at the bedside in targeted hospitals. However, for the Phoenix implementation of the Friendly Access Survey, the instrument was revised based on collaborative input from the Alliance for Innovations in Health Care and the Resilience Solutions Group. Additional psychosocial factors and indicators of individual resilience were included in the hopes that they may enhance our understanding of health disparities and infant health outcomes in this important population.

The data presented in this report represent frequencies of responses to the items on the survey. Unless otherwise noted, tables in this report summarize results for the entire sample. In some instances, only a subset of the sample answered specific questions (e.g., reasons for delay in seeking prenatal care). In those cases, the tables provide summaries for the sub-sample that responded to the question.

# METHODS

## Sample Selection Procedures

The population for this study included low-income women who had given birth to a live baby at one of four targeted hospitals within Maryvale or South Phoenix, Arizona: Maryvale Hospital, Maricopa Medical Center, St. Joseph's Hospital, or Banner-Good Samaritan Hospital. All participants had to reside in one of 15 zip codes representing Maryvale or South Phoenix and either be receiving or eligible to receive AHCCCS or FES to cover the cost of the birth. Women were only interviewed if they spoke either Spanish or English, were at least 18 years old, and provided informed consent for the interview.

## Recruitment Procedures

Every day, the hospitals each prepared a list of women on the postpartum unit who met the eligibility criteria for the study. Women were always approached first by a nurse on the unit or a hospital-employed translator, who very briefly explained the survey and asked if the woman would be interested in having the interviewer tell them more. The interviewers only approached women who gave their verbal consent to the nurse or translator to allow the interviewer to come into their rooms and tell them more about the study. Interviewers then entered the room and provided a more detailed description of the survey. The interviewer answered any questions and asked the women to read and sign informed consent and HIPAA forms before any data collection began. Interviews were always conducted in a private room with only the mother and the interviewer present. Mothers were moved to a private room for the interview if their room was not private. At the end of the interview, mothers were given a $20 Wal-Mart gift certificate.

Specific recruitment procedures were adapted to each site. All hospitals used a recruitment script but the position of the person delivering the script was either the attending nurse or a hospital-employed translator. Hospital staff responsible for identifying eligible patients generally worked Monday through Friday, so surveys were almost always obtained on weekdays. After women provided signed consent and completed the interview, the interviewers notified the nursing staff, who then consulted the medical chart and provided infant health data (APGAR scores, birth weight, and gestational age).

## Data Collection and Refusal Rates

Data collection began 4/4/2005 in a phased approach starting with Maricopa Medical Center. By 6/1/2005, data collection was ongoing at all four of the targeted hospitals. Data collection was completed 9/30/2005. During this time, hospital staff identified 1,785 eligible mothers. Of this number, 1,278 (72%) of those eligible were approached by a nurse or translator for initial verbal consent to have the interviewer tell them about the study. Of those approached for initial verbal assent, 892 (70%) agreed to allow the interviewer to explain the study. Of those, 737 (83%) were approached by an interviewer, and of those, 584 (79%) agreed to be interviewed.

Table I lists the final interview status for all eligible mothers at each hospital. From the 583 women who agreed to be interviewed, 539 (92%) informed consents and complete surveys were obtained. Reasons for this difference include 1) the participant was discharged or changed her mind before data collection began (N=22), 2) ineligibility of the participant determined after data collection (N=3), 3) lost or erroneous data due to technical difficulties (N=4), or 4) interviewer error, including wrong or incomplete consent or HIPAA forms (N=15).

Although complete records on reasons for refusal were not kept, a number of reasons were apparent. First, heavy workloads of the nurses and translators resulted in 507 women never being approached in the first place. Of the women who gave verbal consent to hear about the study, 155 were not approached by an interviewer because an interviewer was not available that day or had a full schedule conducting other interviews. Many women did not want to participate because they were being discharged, or because they had visitors present.

**Table I. Recruitment and Consent Percentages by Interview Site.**

| **Final Interview Status** | Banner Good Samaritan | Maricopa Medical Center | St. Joseph's | Maryvale Hospital |
|---|---|---|---|---|
| Eligible mothers | 143 | 795 | 498 | 344 |
| Mothers approached by nurse/translator | 136 | 491 | 337 | 309 |
| Mothers agreeing to allow interviewer to speak to them | 77 | 358 | 250 | 203 |
| Mothers approached by interviewer | 64 | 273 | 223 | 177 |
| Mothers agreeing to survey | 50 | 219 | 184 | 133 |
| Mothers providing final consent to the survey | 49 | 183 | 174 | 133 |

**The Interview Protocol**

Interviewers and Interviewer Training

Eleven interviewers were hired and trained. Of these, all but 2 were bilingual (Spanish and English). Training of interviewers was conducted with a 2-day intensive training program. The following topics were covered:

- Human subjects protections (historical overview, legal requirements, purpose and necessity of informed consent, ethical procedures for obtaining informed consent, ethical procedures for data collection)
- Basic interviewing skills

- Confidentiality
- The interview protocol and administrative issues.
- Cultural sensitivity
- Training on computerized data collection.

Practice interviews were conducted during training sessions. In addition, interviewers were required to become CITI (Collaborative IRB Training Initiative) Human Subjects certified in order to conduct interviews. This was obtained through completion of an online course, and a certificate of completion was required before they were able to begin conducting interviews.

Interview Characteristics

The interview was conducted bedside with most participants. However, to ensure privacy and confidentiality, women who did not have a private room were moved to a private office identified by nursing staff. The interview was administered entirely orally. Women were asked their preference for the interview to be conducted in English or Spanish

For most women, the interview began with a short "Platica Pequeña". As part of the initial conversation with women before the beginning of the survey, women were asked to spend a few minutes (maximum of 5 minutes) telling us about the birth (the "Platica Pequeña"). There were two main purposes to the platica: to build rapport by providing a culturally sensitive start to the interview, and to provide qualitative data about their emotions, attitudes, and experience of the birth. The platica was tape-recorded for women who consented to recording. The survey was completed after the platica. Survey questions were read aloud by the interviewer, who recorded the woman's responses on a laptop computer. For sections with repeated response choices, women were given laminated cards with the response choices printed on them as a reminder. In most cases, surveys were completed without a break, but women were informed of their right to take a break or quit the survey at any time. At the end of the survey, women were asked if they would be interested in being contacted for possible participation in future studies. Those who agreed provided contact information. Length of time for completion of surveys ranged from 25 minutes to 210 minutes, with an average of 54 minutes. Approximately 81% of the interviews were conducted in under an hour, and 96% within an hour and a half.

**Study Participants**

The final sample for analyses included 539 women between the ages of 18-45. The majority of the women self-reported their races as "Hispanic" (82%), most of whom were born in Mexico (73%). Sample demographics are displayed in Table 2. The majority of the women either did not complete high school (48%), or had a high school diploma (42%). Sources of family income and infant health variables are provided in Tables 3 and 4. The majority (88%) of infants were born on time, and the average gestational age was 39 weeks. Of the 24% of women who reported not being on WIC, the most common reason was fear of being identified and deported.

**Table 2. Demographic Characteristics of the Women and their Babies**

| | | |
|---|---|---|
| **Mother's age (avg)** | 26 yrs | Range 18-45 |
| **Total number of children (avg)** | 3 | Range 1-10 |
| **Number of children living at home (avg)** | 3 | Range 0-10 |
| **Number of adults living at home (avg)** | 3 | Range 1-10 |
| **Highest Level of Education Achieved (%)** | | |
| Did not complete High School | 48% | |
| High School Diploma or GED | 42% | |
| Beyond a High School Diploma | 10% | |
| **Mother's Race/Ethnicity (%)** | | |
| African American | 5% | |
| Hispanic or Latina | 82% | |
| Caucasian | 9 % | |
| Native American/American Indian/Alaskan Native | 1 % | |
| Asian, Asian-American, Pacific Islander | 1% | |
| Other | 2% | |
| **Country of Mother's Birth (%)** | | |
| Mexico | 73% | |
| United States | 24% | |
| Other | 3% | |
| **Language normally spoken at home (%)** | | |
| Spanish | 68% | |
| English | 18% | |
| Both English and Spanish | 12% | |
| Other | 1% | |
| **Marital Status (%)** | | |
| Married/living with partner | 55% | |
| Divorced or separated | 6% | |
| Widowed | <1% | |
| Never Married | 39% | |

**Table 3: Sources of income and health insurance coverage**

| | |
|---|---|
| **Currently Employed (%)** | |
| No | 86% |
| Yes, part-time | 5% |
| Yes, full-time | 9% |
| **Sources of Family Income (%)** | |
| Money from a Job or Business | 90% |
| Public Assistance | 24% |
| Child Support or Alimony | 2% |
| Unemployment | 2% |
| Fees, Rental Income, Commissions, Interest, Dividends | 0 |
| Social Security, Workman's Compensation, Veteran Benefits, Pensions | 2% |
| Other or refused to answer | 4% |
| **On WIC during pregnancy** | |
| Yes | 76% |
| No | 24% |
| **On AHCCCS before pregnant** | |
| Yes | 37% |
| No | 63% |
| **Had other health insurance before pregnant** | |
| Yes | 6% |
| No | 94% |
| **AHCCCS Coverage of prenatal care** | |
| The entire pregnancy | 51% |
| Most months | 8% |
| Only a few months or weeks | 12% |
| None | 24% |
| Not sure/don't remember | 5% |
| **Insurance or AHCCCS coverage of delivery care** | |
| Yes | 92% |
| No | 7% |
| Not sure | 1% |

**Table 4: Infant characteristics at birth**

| | | |
|---|---|---|
| **Gender of baby (%)** | | |
| Boy | 50.2% | |
| Girl | 49.8% | |
| **1-minute APGAR (avg; from medical records)** | 8.5 | Range 2-9 |
| **5-minute APGAR (avg; from medical records)** | 9 | Range 6-10 |
| **Weight in grams (avg; from medical records)** | 3306 g | Range 1134-4530 g |
| **Gestational age (avg; from medical records)** | 38.6 wks | Range 27-45 wks |
| **Delivery date in relation to the due date (from mother's report of due date and delivery date):** | | |
| Over 35 Days Early | 3% | |
| 35-22 Days Early | 7% | |
| On Time (21 Days Early to 14 Days Late) | 88% | |
| Over 14 Days Late | 2% | |

**Comparison of infant characteristics to national and Arizona vital statistics**

A series of statistics are presented here comparing the current sample to national statistics for childbirth and neonatal outcomes using data from the Division of Vital Statistics at the CDC (2003), and Arizona Health Status and Vital Statistics, (2004). These statistics are provided only as a means of comparing the makeup of the current sample to national data. It is important to recognize that the current sample does not provide a reliable estimate of the demographics of all women who gave birth at the four hospitals from which data were collected.

Nationally, 22% of births in 2003 were to women of Hispanic origin, compared to 44% of births in 2004 in Arizona, and 82% of the women in the current sample. Nationally, 34.6% of births nationally were to unmarried women, including 45% of births to Hispanic women, 68.5% of births to African-American women, and 23.5% of births to Caucasian women. In Arizona, 41.9% of births were to unmarried women, including 53.9% of births to Hispanic women, 62% of births to African-American women, and 24.8% of births to Caucasian women. For the current sample, 44.9% of births overall were to unmarried women. This includes 45.6% of the births to Hispanic women, 53.6% of births to African-American women, and 32.6% of births to Caucasian women. Nationally, 21.5% of births are to women who have not completed high school, compared to 29.8% in Arizona, and 47.6% in the current sample.

Nationally, 27.6% of births were by cesarean delivery, compared to 23.7% of births in Arizona, and 25.8% of births in the current sample. Low birth weight infants

(defined as a weight of <2500g) represented 7.9% of births nationwide, 7.2% of births in Arizona, and 6.4% of the current sample. Pre-term births (defined as gestational age of < 37 weeks) represented 12.3% of births nationwide, 11% of births in Arizona, and 11.3% of births in the current sample. See Appendix I for comparison statistics.

The current sample, not surprisingly, differs from national statistics and overall Arizona statistics in a number of key ways. First, there are considerably more Hispanic women in the current sample, which was to be expected given our intended sampling strategy and focus on communities with a high percentage of ethnic minority women. Second, this sample included more unmarried women than is evident in national statistics. Third, women in the current sample are less educated on average than national or Arizona statistics for postpartum women. The percent of cesarean births, low-birth weight infants, and preterm infants did not differ significantly from national or Arizona statistics.

# RESULTS

## Prenatal Care Utilization Statistics

Most women in this sample (97%) believed that it was very important or important to receive prenatal care. However, the time of entry into prenatal care and amount of visits varied widely. On average, the first prenatal care visit was at approximately 11 weeks. Overall, 95% of women reported that they received prenatal care. *Of women who reported prenatal care*, 73% reported the first visit in the first trimester, 22% in the second trimester, and the remaining 5% by 39 weeks. *For the total sample*, 70% reported the first visit in the first trimester, and 91% within the second trimester.

Overall, 9% of women in the sample either did not receive prenatal care at all or did not receive it until the 3rd trimester. These women tended to rate the importance of prenatal care as lower than women who received it earlier; 86% believed it was "very important" or "important", compared to 99% of women who received care before the third trimester. The sample reported lower prenatal care utilization than national statistics. Nationally, 84% of women receive care in their first trimester, and 3.5% either receive it in their last trimester or do not receive prenatal care (CDC, 2003). Only about half of the sample (52%) reported that they went for more than 10 prenatal care visits. Table 5 summarizes prenatal care utilization statistics.

**Table 5: Prenatal Care Utilization**

| | |
|---|---|
| **Received Prenatal Care (self-report)** | |
| No | 4% |
| Yes | 95% |
| Not sure | 1% |
| **Weeks into pregnancy at first prenatal care visit (n=509)** | 11 (range 1-36) |
| **Number of prenatal care visits (n=509)** | |
| 1-3 | 5% |
| 4-7 | 17% |
| 8-10 | 24% |
| More than 10 | 52% |
| Not sure / don't remember | 1% |
| **Belief in importance of prenatal care (n=539)** | |
| Very important | 88% |
| Important | 9% |
| Somewhat important | 1% |
| Not very important | 1% |
| Not at all important | 1% |

## Content Area I: Access and Barriers

This content area of the survey addresses the ease with which women were able to access prenatal care. It contained questions concerning the ability to find a provider, convenience of facility locations and hours, the ease of making an appointment, and assistance with transportation. This section also addresses the reasons women provided for not getting prenatal care.

Prenatal Care Provider Location

Most of the women surveyed reported that they knew how to find a provider. Most commonly, they found a provider based on the recommendation of a friend or family member, however 19% of the women reported they were assigned a provider by AHCCCS. Their providers were generally doctors. The women received care at a variety of different locations, with the Maryvale Family Health Center clinic most commonly reported. On average, the locations were reported as "Good", with 42% reported as "Very good" or "Excellent", and 6% as "Fair" or "Poor". Table 6 reports results using the complete sample, while Tables 7 and 8 provide results only from women who reported receiving prenatal care.

**Table 6. Experiences Finding a Provider**

| | |
|---|---|
| **Knew how to find a provider** | |
| Yes | 85% |
| No | 14% |
| Not sure | 1% |
| **Finding A Provider** (could endorse more than one response) | |
| Doctor Recommendation | 6% |
| Friend/Family Recommendation | 45% |
| Looked Up Name In Phone Book | 1% |
| Went To Same Provider As Last Pregnancy | 10% |
| Assigned To Provider By AHCCCS | 19% |
| Assigned To Provider By Other Insurance | 1% |
| Looked Up List Of Providers Given By Insurance | 3% |
| WIC | <1% |
| Healthy Start | 2% |
| Pregnancy and Breastfeeding Hotline | <1% |
| Same Doctor As Before Pregnancy | 5% |
| Don't Know/Not Sure | 1% |
| Other | 14% |

**Table 7: Prenatal Care Provider Type and Location**

| | |
|---|---|
| **Type Of Provider** | |
| Doctor | 81% |
| Group Practice | 15% |
| Midwife or Nurse | 3% |
| Other | 1% |
| **Location Of Provider** | |
| Maricopa County Family Health Center – Women's Care Center/Community Health Center | 12% |
| Maricopa County Family Health Center - Maryvale | 28% |
| Maricopa County Family Health Center – 7th Ave | 4% |
| Maricopa County Family Health Center – South Central | 3% |
| Clinic at a Hospital | 8% |
| Doctor or Midwife's Office in a Hospital | 16% |
| Doctor or Midwife's Office not in a Hospital | 22% |
| A Group Office | 14% |
| An Emergency Room Clinic | 1% |
| Mountain Park | 10% |
| Not sure/Don't remember | 1% |
| Other | 7% |

**Table 8: Ratings of the prenatal care provider's location**

| | |
|---|---|
| Excellent | 14% |
| Very Good | 28% |
| Good | 51% |
| Fair | 5% |
| Poor | 1% |
| Don't know | 1% |

Convenience of Prenatal Care Facility

In general, women reported that the prenatal care facility was relatively convenient, however there is considerable room for improvement with 44% rating the hours as "Excellent" or "Very Good", 49% rating the hours the facility was open as "Good", and 7% rating the hours as "Fair" or "Poor". About half reported that a phone number was provided for her to call if the office was closed, and most felt they were

able to receive advice over the phone. For women who reported receiving prenatal care, Table 9 provides results for the convenience of the prenatal care facility, including data only for women who reported receiving prenatal care.

**Table 9: Prenatal Care Facility Convenience**

| | |
|---|---|
| **Ratings of convenience of open hours** | |
| Excellent | 15% |
| Very Good | 29% |
| Good | 49% |
| Fair | 4% |
| Poor | 3% |
| Don't know | 1% |
| **Phone number to call when office closed** | |
| Yes | 56% |
| No | 33% |
| Don't Know | 11% |
| **Able to get advice over the phone** | |
| Yes | 88% |
| No | 5% |
| Don't Know | 7% |

Making Prenatal Care Appointments

As an important factor in terms of access to prenatal care, women were asked several questions regarding the ease of making appointments for their prenatal care visits. Most women reported that when they called for an appointment the wait on the phone was not too long, averaging about 5 minutes. About half of the women were able to make their first appointment in less than a week from when they called. Approximately one-third of the women reported that they were never reminded of their appointments, which may be an important factor to address to ensure consistency of care. Table 10 provides results of questions related to the women's experience of making appointments for prenatal care. This data is reported only for women who reported receiving prenatal care.

**Table 10: Experience making appointments for prenatal care**

| | |
|---|---|
| **Wait on phone was long** | |
| Yes | 9% |
| No | 91% |
| **How long waited on phone (avg)** | 5 mins (range 0-60) |
| **Who was call answered by:** | |
| Person | 67% |
| Recording | 14% |
| Both | 19% |
| **How many days had to wait for appointment** | |
| Same day | 8% |
| 1 day | 10% |
| Less than 1 week | 32% |
| 1-2 weeks | 35% |
| 3-4 weeks | 6% |
| 1 month | 4% |
| Longer than 1 month | 1% |
| Don't remember | 4% |
| **Rating of time between first call and day of first visit** | |
| Excellent | 12% |
| Very Good | 29% |
| Good | 47% |
| Fair | 8% |
| Poor | 4% |
| Don't know | 1% |

**(Continued on next page)**

**(Table 10, continued)**

| | |
|---|---|
| **How often provider reminded of appointments** | |
| All appointments | 46% |
| Most appointments | 5% |
| Some appointments | 7% |
| Few appointments | 5% |
| None of the appointments | 32% |
| Don't remember | 5% |
| **Reminder type** | |
| Phone call | 60% |
| Mailing | 2% |
| Both | 2% |
| Don't know | 3% |
| Other (mostly included giving an appointment card) | 33% |

Transportation and Access

Inadequate means of transportation has been hypothesized to be a barrier to receiving prenatal care. The women in this sample largely felt that it was easy to travel to their provider's office, with about 14% reporting that it was sometimes or always difficult. Few women reported that they were offered help with transportation for prenatal care visits. Reports of the availability of childcare at the provider's office were varied. About half of the women felt it was "Excellent", "Very Good", or "Good", while the remaining women felt it was "Fair" or "Poor", or didn't know. Table 11 summarizes results. These questions were only asked of women who reported receiving prenatal care.

**Table 11. Ease of access to provider**

| | |
|---|---|
| **Was it easy to travel to the provider's office?** | |
| Yes | 86% |
| No | 10% |
| Sometimes | 4% |
| **Provider offered help with transportation** | |
| Yes | 13% |
| No | 87% |

**(Continued on next page)**

| (Table 11, continued) | |
|---|---|
| **Rating of availability of childcare at provider's office** | |
| Excellent | 5% |
| Very Good | 17% |
| Good | 31% |
| Fair | 4% |
| Poor | 13% |
| Don't know | 30% |

Regularity of Prenatal Care

This section addresses whether or not women were consistently able to see the same provider. Most of the women reported that they did not have a regular provider before they got pregnant, but knew how to find one for their pregnancies. About one-fourth of the women went to more than one health care provider for prenatal care. About two-thirds of the women reported that they usually saw the same person when they went to prenatal care appointments (see Table 12).

**Table 12. Regularity of prenatal care**

| | |
|---|---|
| **Respondent had a provider before this pregnancy** | |
| Yes | 28% |
| No | 72% |
| **If yes, did she go to the same doctor for her pregnancy** | |
| Yes | 57% |
| No | 43% |
| **Knew how to find a doctor for her pregnancy** | |
| Yes | 85% |
| No | 14% |
| Not sure | 1% |
| **Went to more than one provider during pregnancy** | |
| Yes | 24% |
| No | 76% |
| **If yes, how many providers did she see? (avg)** | 2.4 (range 1-15) |
| **Usually seen by same person at provider facility** | |
| Yes | 65% |
| No | 35% |

Reasons for Late or No Prenatal Care

Eighty-one percent of the women felt they received prenatal care as early as they wanted. Women who did not get care as early as desired were then asked to endorse reasons for the delay. Women were able to endorse more than one reason. The most frequent reason concerned lack of money or insurance to pay for the visits (35%). The second most frequent reason that she did not know she was pregnant (19%). A large percentage (19%) endorsed an "other" reason. Analysis of "other" responses tended to largely indicate either immigration-related fears (e.g.,"I was afraid to go because I have no papers") or difficulties/delays getting AHCCCS coverage ("It took awhile after applying to AHCCCS"). Table 13 summarizes results related to delays in receiving prenatal care.

**Table 13: Late Entry into Prenatal Care**

| | |
|---|---|
| **Received prenatal care as early as she wanted (n=513)** | |
| Yes | 81% |
| No | 19% |
| **Reasons for delay in getting prenatal care (n=94)** | |
| Couldn't get an earlier appointment | 4% |
| Didn't have enough money or insurance | 35% |
| Didn't know she was pregnant | 19% |
| No means of getting to the office | 3% |
| Couldn't find a doctor who would take her as a patient | 4% |
| No one to care for other children | 1% |
| Too many other things going on | 3% |
| Didn't want anyone to find out she was pregnant | 1% |
| Did not know where to go | 7% |
| Couldn't get time off work | 2% |
| Other (primarily immigration fears & difficulties applying for AHCCCS or delay before coverage was available) | 19% |

The women were also asked an open-ended question as a follow-up: "Are there any reasons you have heard *other* women mention for why they did not get prenatal care". There were a range of responses, however the largest number of reasons concerned lack of money or lack of insurance. A number of women also mentioned fears about immigration, being deported, or the recent passage of Proposition 200 (recent legislation requiring some public agencies to report undocumented immigrants who request services). A smaller number of women suggested that

other women were “just lazy”, wanted to hide their pregnancies, or felt they already knew what to do. A few women suggested that prenatal care could make women feel sick or nauseous, presumably from the vitamins that are prescribed. Only 17 women responded to items in Table 14, but women were able to endorse more than one reason, so results should be interpreted with caution.

**Table 14: Reasons for No Prenatal Care (n=17)**

| Reason | # endorsing |
|---|---|
| Couldn’t afford it | 12 |
| Didn’t have a ride | 3 |
| Already knew she was pregnant, so no reason to go | 2 |
| Could not get time off work | 0 |
| Afraid to find out that she was pregnant | 0 |
| Tried to go, but no doctor would see her | 0 |
| Don’t like medical tests and procedures | 1 |
| Afraid of being asked to have abortion | 0 |
| Family didn’t want her to go | 0 |
| No health insurance | 14 |
| Already knew what to do | 3 |
| Didn’t realize she was pregnant for a long time | 0 |
| Wait is too long at doctor’s office | 1 |
| Didn’t know where to go | 4 |
| Had no one to care for her children | 3 |
| Couldn’t get an appointment | 0 |
| Too many other things going on | 1 |
| Couldn’t find a doctor who would take AHCCCS | 0 |
| Wait is too long for an appointment | 1 |
| Delivered baby before could get appointment | 2 |
| Was treated poorly the last time she was pregnant | 1 |
| Other reasons | |
| Just came from Mexico | 1 |
| Just didn’t go – irresponsible | 1 |
| The new proposition scared her / no legal status | 1 |

**Content Area II: Prenatal Care Facility Characteristics**

The second major content area addressed by the survey concerns characteristics of the prenatal care facility. It includes questions concerning the comfort and physical characteristics of the facility, and the amount of time women reported having to wait after arriving for scheduled appointments. These questions were only asked to women who reported receiving prenatal care.

In general, women rated the characteristics of the facility as "Very good" or "Good". This included items such as the comfort and cleanliness of the waiting room and the office. The only characteristic to receive low ratings concerned the provision of food or drinks at the facility. About one-third of the women reported waiting more than 30 minutes for their appointment, with an average wait time of 25 minutes. Tables 15 and 16 provide results for items related to the prenatal care facility.

**Table 15: Ratings of quality of prenatal care facility**

| | Excellent | Very Good | Good | Fair | Poor | Don't Know |
|---|---|---|---|---|---|---|
| Modernness of equipment | 15% | 28% | 47% | 5% | 2% | 2% |
| Cleanliness of office | 18% | 29% | 48% | 3% | 1% | 1% |
| Comfort of waiting room | 12% | 27% | 48% | 8% | 3% | 1% |
| Attractiveness of office | 12% | 25% | 49% | 8% | 5% | 2% |
| Atmosphere of waiting room | 12% | 25% | 51% | 7% | 4% | 1% |
| Things to keep busy while waiting | 11% | 24% | 43% | 7% | 10% | 5% |
| Diaper-changing/breastfeeding areas | 7% | 18% | 31% | 5% | 10% | 30% |
| Food and drinks provided | 5% | 12% | 14% | 3% | 34% | 33% |

**Table 16: Reported wait times at prenatal care facility**

| | |
|---|---|
| **Usually waited more than 30 minutes:** | |
| Yes | 36% |
| No | 64% |
| **Average wait time** | 25 minutes (range 0 - 180 minutes) |

## Content Area III: Care Quality and Satisfaction

The third major content area regards the perceived quality of care women received from their prenatal care provider. Only women who reported that they received prenatal care answered these items. Items included their ability to communicate with their provider, their beliefs about the level of respect they received from the provider, and the perceived thoroughness and quality of care they received during their visits. This section also specifically asked questions concerning perceived discriminatory treatment.

Provider Communication

Women were asked questions concerning their ability to communicate with and understand their provider. The majority of the women (75%) said that their provider spoke the same language, although 57% reported at least occasionally having difficulty communicating with their provider due to language differences. Overall, the majority of women felt comfortable asking questions and talking about their worries. 78% believed that their provider always understood what they said.

**Table 17. Provider communication**

| | Always | Usually | Sometimes | Rarely | Never |
|---|---|---|---|---|---|
| Questions answered in understandable way | 83% | 5% | 8% | 1% | 2% |
| Provider understood what you said | 78% | 8% | 9% | 2% | 2% |
| Felt comfortable telling provider about worries and problems | 84% | 3% | 7% | 3% | 2% |
| Felt provider gave sufficient time to talk about worries and problems | 80% | 7% | 6% | 3% | 2% |
| Provider spent enough time with you | 75% | 7% | 10% | 4% | 3% |
| Able to get interpreter when needed | 74% | 9% | 8% | n/a | 4% |
| Had a hard time speaking with or understanding provider because spoke different languages | 24% | 7% | 26% | n/a | 41% |
| Provider went over results of lab tests with you | 80% | 5% | 8% | 2% | 5% |
| Provider discussed your beliefs and religious practices about health care | 33% | 2% | 4% | 6% | 53% |

Provider Shows Respect and Concern

The next set of questions concerned the amount of respect women felt from their prenatal care providers. Overall, women felt that their providers showed a "Very Good" or "Good" amount of respect and concern. However, while 84% of the women reported that they never left their providers office feeling scared, discouraged, or like they wanted to cry, 16% felt otherwise.

**Table 18. Provider respect and concern**

| | Excellent | Very good | Good | Fair | Poor | Don't know |
|---|---|---|---|---|---|---|
| Provider made her feel comfortable | 18% | 31% | 41% | 5% | 4% | 1% |
| Nurses and receptionists showed concern | 16% | 30% | 43% | 6% | 4% | 1% |
| Nurses and receptionists made her feel comfortable | 16% | 29% | 44% | 6% | 4% | 1% |
| Provider explained things well | 16% | 31% | 43% | 6% | 4% | 1% |
| Provider showed her respect | 20% | 31% | 43% | 2% | 3% | 1% |
| Provider showed concern | 17% | 31% | 43% | 4% | 3% | 1% |

Perceived Care Quality

Overall, women tended to rate the quality of care they received as "Very Good" or "Good", with slightly lower ratings concerning the number of providers available in the community to see pregnant women. However, 17% of the women rated their provider as "Fair" to "Poor" in whether or not their care was the same depending on how they paid for it. This suggests that many feel they do not receive the same quality of care as those who have private insurance. On average, women reported that their providers spent about 17 minutes with them. This number varied from zero to 60 minutes. Table 19 provides results regarding the quality of care.

**Table 19. Care quality ratings**

| | Excellent | Very Good | Good | Fair | Poor | Don't Know |
|---|---|---|---|---|---|---|
| Checkups were thorough | 9% | 27% | 46% | 4% | 3% | 1% |
| Sufficient number of providers to see pregnant women | 13% | 26% | 41% | 8% | 8% | 4% |
| Enough providers in community to see pregnant women | 9% | 24% | 41% | 11% | 7% | 5% |
| Care is same for all women no matter how they pay for the care | 15% | 26% | 42% | 7% | 10% | 5% |

Perceived Discriminatory Treatment

Approximately one-fifth of the sample reported that they experienced some form of discriminatory treatment. Responses are summarized in Table 20 below.
The majority of the women (68%) reported that the race of their provider was different than their own race, while 27% reported that it was the same as theirs, and 5% did not know. The overwhelming majority of women (96%) felt that the race or ethnic group of their provider did not make a difference in the care they received, while 3% felt it did make a difference. Twelve women gave reasons why they felt the care they received was different. These reasons tended to include inability to communicate well because of language or cultural differences, the belief that the doctor wouldn't explain anything to her, wasn't "fair" to her, or just wasn't interested in her. In addition, the entire sample was asked about specific experiences with discrimination, with approximately 20% reporting feelings of discriminatory treatment (see Table 20).

**Table 20. Experience of discriminatory treatment**

| | Yes | No |
|---|---|---|
| I was ignored or discriminated against by a health care worker | 20% | 80% |
| Due to how I look or speak, a health care worker mistreated me | 17% | 83% |
| A health care worker treated another patient well but treated me badly | 18% | 82% |
| I think I was treated differently because of my race or my income | 18% | 82% |

Overall Satisfaction with Prenatal Care

The majority of the women surveyed felt that their prenatal care was "Better than expected", although again, caution must be taken in interpreting this finding given that their level of expectations is unknown. Overall ratings of satisfaction with prenatal care and the prenatal care provider specifically were high. The mean rating for each from 0-10 was 9. For the provider, 87% of the women rated the provider as an 8 or higher. For the overall prenatal care experience, 88% rated it as an 8 or higher (see Table 21).

**Table 21. Overall prenatal care satisfaction ratings**

| | |
|---|---|
| **Overall care from prenatal care provider was:** | |
| Better than expected | 62% |
| About what expected | 32% |
| Worse than expected | 4% |
| Not sure | 2% |
| **Overall rating of prenatal care provider from 0-10** (0 is worst, 10 is best) | Avg = 8.9, range=0-10 |
| **Overall rating of prenatal care from 0-10** (0 is worst, 10 is best) | Avg = 9.0, range=0-10 |

**Content Area IV: Care Content**

The fourth major content area concerns the actual information that was provided to women by their prenatal care provider. Women were given specific topics that their provider may have talked to them about during their pregnancy, and were asked to indicate if their provider spoke about the topics during any of their prenatal care visits. Responses were varied, with most women indicating that their provider spoke with them about the risks of smoking or drinking, and fewer women reporting that they were told about HIV tests or were asked about physical abuse by husbands or partners. Table 22 reports the percentage of women who indicated that their providers discussed each of the topics with them. These questions were only asked to women who reported receiving prenatal care.

**Table 22. Content of provider communication**

| | Yes | No | Not sure |
|---|---|---|---|
| What to eat during pregnancy | 76% | 23% | 1% |
| How smoking could affect baby | 88% | 11% | 1% |
| Breast-feeding | 84% | 16% | |
| How drinking could affect baby | 86% | 13% | 1% |
| Using a seat belt during pregnancy | 75% | 25% | |
| Birth control methods to use after pregnancy | 76% | 23% | 1% |
| Safe medicines to take during pregnancy | 88% | 11% | 1% |
| How illegal drugs could affect baby | 85% | 14% | 1% |
| How baby grows and develops during pregnancy | 88% | 10% | 2% |
| What to do if labor starts early | 89% | 10% | 1% |
| Classes where she could get more information | 65% | 33% | 2% |
| How to keep from getting HIV | 74% | 25% | 1% |
| Getting her blood tested for HIV | 86% | 13% | 1% |
| Physical abuse by husbands/partners | 71% | 27% | 2% |
| Taking folic acid | 84% | 15% | 1% |

## Content Area V: Hospital and Birth Experience

The fifth major content area is specific to the women's experiences at the hospital where they gave birth. It includes questions regarding the physical characteristics and comfort of the hospital, their experience during labor and deliver, and their ratings of the treatment they received from the provider and staff at the hospital. These questions were asked to the entire sample of women.

Location and Comfort of the Facility

This section addressed physical characteristics of the hospital. Women were asked their opinions about the location of the hospital, cleanliness and comfort of the

rooms, and their satisfaction with amenities such as diaper-changing areas, food, and parking. In general, women were satisfied with all aspects of the hospital's physical characteristics. The highest level of satisfaction was with the location and cleanliness of the hospital, and the lowest satisfaction ratings were with the parking and the hospital food. Table 23 provides results related to the hospital's physical characteristics and amenities.

**Table 23. Hospital location and comfort**

| | Satisfied | Somewhat Satisfied | Somewhat unsatisfied | Unsatisfied | Not Sure |
|---|---|---|---|---|---|
| Hospital location | 94% | 4% | 1% | 1% | - |
| Location of the hospital to the bus stop | 77% | 2% | 1% | 1% | 19% |
| Signs and directions in the hospital | 89% | 5% | 3% | 1% | 1% |
| Parking | 81% | 9% | 5% | 3% | 2% |
| Cleanliness of the hospital | 94% | 4% | 1% | 1% | - |
| Comfort of the room | 93% | 5% | 2% | 1% | - |
| Hospital's food | 81% | 12% | 5% | 2% | - |
| Cleanliness of your restroom | 89% | 7% | 2% | 2% | - |
| Cleanliness of the restrooms for visitors | 74% | 2% | 2% | 1% | 20% |
| Diaper changing or breastfeeding areas | 76% | 4% | - | 1% | 19% |

Labor and Delivery Experience

Women were asked a number of questions regarding their labor and delivery experience at the hospital. Items included the amount of control women felt they had over the labor and delivery, and the amount of respect they felt they received from the person delivering their babies and from the staff. Eighty-five percent of the women reported that they felt like they had some control over what happened during labor and delivery, including being allowed to decide when family members could be present. Across the board, ratings were quite high of the quality of treatment by the staff and the person delivering the baby, with 97% of women reporting that they respected her wishes and 99% reporting that they were treated with respect. The overall ratings of the delivery care and the hospital itself were

also quite high, with an average of 9.5 out of a possible 10 points. Two-thirds of the women reported that the experience was better than they expected. Tables 24 and 25 provide results from items assessing the labor and delivery experience at the hospital.

**Table 24. Labor and Delivery Experience**

| | Yes | No | Not Sure |
|---|---|---|---|
| Felt like she had control over what happened | 85% | 13% | 1% |
| Staff asked what she wanted to happen during labor | 81% | 18% | 1% |
| Allowed to decide when family members could be present | 92% | 8% | - |
| Allowed to decide when other support people could be present | 84% | 12% | 3% |
| Staff respected her wishes for labor and delivery | 95% | 4% | 1% |
| Felt the person who delivered her baby respected her wishes | 97% | 2% | 1% |
| Person who delivered her baby treated her with respect | 99% | 1% | - |
| Person who delivered her baby was helpful | 98% | 2% | - |
| Person who delivered baby treated her in a friendly way | 98% | 1% | 1% |
| Felt fully informed about who would deliver the baby | 83% | 15% | 1% |

**Table 25. Overall hospital satisfaction ratings**

| | |
|---|---|
| **Overall rating of care received at hospital** | |
| Better than expected | 66% |
| About what expected | 32% |
| Worse than expected | 2% |
| **Overall rating of delivery care from 1-10 (avg)** | 9.5 (range, 0-10) |
| **Overall rating of hospital from 1-10 (avg)** | 9.5 (range, 0-10) |

**Content Area VI: Life events and Personal Ratings**

The sixth major content area concerns items specific to the woman and her social and life experiences during her pregnancy. It addresses her feelings about being pregnant at that time, stressful life events that occurred to her in the year prior to delivering her baby, and her use of birth control when she became pregnant. These questions were asked to all women in the sample.

Becoming Pregnant

Women were asked, "Think back to just before you got pregnant. How did you feel about becoming pregnant?" Table 26 summarizes their responses. Approximately 33% wanted to be pregnant at that time, while 22% desired to be pregnant sooner, 26% later, and 19% did not want to ever be pregnant.

Women were also asked how they verified that they were pregnant. Women were allowed to endorse more than one method of verifying their pregnancies. Most reported using an in-home pregnancy test to verify their pregnancy (58%). Approximately 47% reported that they went to the doctor to verify that they were pregnant, and 3% "just knew". Responses are summarized in Table 26. The average number of weeks women reported they were pregnant when the pregnancy was verified was 7.2, and ranged from 0-40 weeks. The majority of the women reported knowing they were pregnant before they were 6 weeks pregnant (54%), and 91% knew before 12 weeks.

**Table 26. Feelings about the Pregnancy and Verification of Pregnancy**

| | |
|---|---|
| **Feelings About Pregnancy** | |
| Wanted to be Pregnant Sooner | 22% |
| Wanted to be Pregnant Then | 33% |
| Wanted To Be Pregnant Later | 26% |
| Didn't Want To Be Pregnant Then or Anytime in the Future | 19% |
| **Verification of Pregnancy** (could endorse more than one) | |
| Took an In-Home Pregnancy test | 58% |
| Went to the Doctor | 47% |
| Didn't do anything – just knew | 3% |
| Other | 8% |

Birth Control

Women were asked if they were using any form of birth control when they became pregnant. If so, they were asked to identify the type of birth control they used. If

not, they were asked to indicate why they were not using birth control. Results are summarized in Table 27. Most of the women (74%) were not using birth control. Of these women, 56% reported that they were not using birth control because they wanted to be pregnant. Approximately 17% did not think they could get pregnant, 3% reported unwanted side effects of birth control methods, and 4% reported that their husband/partner did not want them to use birth control. Another 13% reported "other" reasons, including forgetting (n=7), not being able to afford it (n=5), not knowing how to obtain it (n=3), just not thinking about it (n=7), pregnancy after being raped (n=1), and feeling protected because of a faithful relationship (n=2). Of the 26% of the women who reported using birth control at the time of conception, 33% reported being on "the pill" (oral contraceptives), while approximately 28% reported using condoms, and 23% reported using Depo-Provera. Other methods reported were the patch (4%), the rhythm/pullout method (3%) or IUD (2%).

**Table 27. Use of Birth Control**

| | |
|---|---|
| **Not Using any Type of Birth Control at Time of Conception (n=514)** | 74% |
| **Reasons for Not Using Birth Control (n=398)**(women could endorse more than one reason) | |
| Wanted to be pregnant | 56% |
| Did not think she could get pregnant | 17% |
| Did not want to use birth control | 7% |
| Having side effects from birth control | 3% |
| Husband or partner did not want to use birth control | 4% |
| Did not think she was going to have sex | 2% |
| Don't know/Not sure | 4% |
| Refused to answer | 1% |
| Other | 13% |
| **Using Birth Control at Time of Contraception** | 26% |
| **Method Of Birth Control Used (n=129)** | |
| Pills | 35% |
| Condom | 29% |
| Depo-Provera | 25% |
| IUD | 2% |
| Patch | 4% |
| Rhythm method | 3% |
| Injection (unspecified) | 2% |

Self-rated Health

Women were asked to rate their overall health before they got pregnant and their overall health at the current time. The majority of women (58%) rated their health as "Very Good" or "Excellent" before they became pregnant, and 53% rated it as "Very Good" or "Excellent" currently. Results are summarized in Table 28.

**Table 28. Self-rated Health**

| | |
|---|---|
| **Health before she was pregnant** | |
| Excellent | 42% |
| Very Good | 16% |
| Good | 35% |
| Fair | 6% |
| Poor | 2% |
| **Health currently** | |
| Excellent | 37% |
| Very Good | 16% |
| Good | 40% |
| Fair | 7% |
| Poor | 1% |

Overall Rating of Birth Experience

Women were asked to provide an overall rating of the birth experience. Over half of the women rated it as "Better than expected", and 16% rated it as "Worse than expected". These results are summarized in Table 29.

**Table 29. Overall rating of birth experience**

| | |
|---|---|
| Better than expected | 53% |
| About what expected | 29% |
| Worse than expected | 16% |
| Not sure | 2% |

Life Events

Women were provided with a list of stressful life events and were asked to indicate if any had occurred to them in the year before they delivered their babies, including the months before they became pregnant. Women endorsed a large number of stressful events. Table 30 indicates the percentage of women within the entire sample who indicated that the stressful life event had occurred. Approximately 32% of respondents did not endorse any of the items, while many others reported more than one event. The average number of events endorsed was 2, but ranged from 0 to 12. The most frequently occurring event was moving to a new address (35%). Women also reported having many bills that they could not pay (21%), and someone close to them being very sick (20%) or dying (19%).

**Table 30. Stressful Life Events Occurring during the Twelve Months Prior to Delivery of Baby**

| | |
|---|---|
| Close Family Member Very Sick or in the Hospital | 20% |
| Separated or Divorced From Husband or Partner | 13% |
| Move to a New Address | 35% |
| Homeless | 9% |
| Husband or Partner Lost Job | 15% |
| Lost Job Even Though Wanted to Continue Working | 10% |
| Argued With Husband or Partner More Than Usual | 20% |
| Husband or Partner Said He Did Not Want The Pregnancy | 7% |
| Had a lot of Bills That Could Not be Paid | 21% |
| Involved in a Physical Fight | 5% |
| She or Her Husband or Partner Went to Jail | 4% |
| Someone Close had a Bad Problem with Drinking or Drugs | 16% |
| Someone Close Died | 19% |
| Moved More than Once During Pregnancy | 10% |
| Physically Hurt By: | |
| Husband or Partner | 2% |
| Someone else | 2% |
| Family or Household Member | 1% |
| A Friend | 1% |

**Content Area VII: Resilience characteristics**

The seventh major content area includes additions to the existing Friendly Access survey that were included with the goal of understanding the processes of resilience in this population. Items address individual, social, and community level promoters of resilience, with a particular emphasis on cultural identify and acculturation level. These questions were asked to all participants.

Cultural and religious values and beliefs

Strong identification with one's culture has been shown to be an important factor in evaluating health outcomes among ethnic minority populations. Women were asked questions that measured their endorsement of conservative family and cultural norms related to a high value of family and traditional life ways. Overall, women endorsed strong beliefs in the value of family and traditional ways, including respect for the customs and wisdom of forefathers, respect for parents and grandparents, and traditional gender roles in the family. Table 31 summarizes responses. Higher values indicate a stronger identification with traditional cultural ways.

**Table 31. Cultural values**

| | Range of scores | Mean | Standard deviation |
|---|---|---|---|
| **Family Traditionalism** | | | |
| Familism | 0-16 | 13.7 | 2.0 |
| Machismo/Marianismo | 0-12 | 7.5 | 2.5 |
| Traditionalism | 2-12 | 9.2 | 1.8 |
| Total score | 7-40 | 30.5 | 4.7 |

Various dimensions of religiosity also provide a source of resilience. Women were asked two questions regarding their religious involvement. The largest percentage (38%) rated themselves as "moderately religious", with equal numbers rating themselves as "not religious at all" or "very religious". Women were also asked how frequently they attended religious services. Table 32 summarizes their responses.

**Table 32. Religious beliefs and practices**

| | |
|---|---|
| **Self-rated Religiosity** | |
| Not religious at all | 15% |
| Slightly religious | 34% |
| Moderately religious | 38% |
| Very religious | 13% |

**(Continued on next page)**

**(Table 32, continued)**

| | |
|---|---|
| **Attendance at religious services** | |
| Never | 17% |
| Once or twice a year | 32% |
| Every month or so | 18% |
| Once or twice a month | 15% |
| Every week or more often | 15% |
| More than once a week | 3% |

Acculturation

Items from *The General Acculturation Index* (Castro, 1999) assessed the degree of acculturation. These items were asked to both Hispanic and non-Hispanic respondents. Acculturation has been shown to be an important factor in evaluating health outcomes among ethnic minority populations. More than half of the women in the sample reported that they only spoke and only read Spanish and primarily watched Spanish language television, indicating a low level of acculturation. In addition, most of the women reported that almost all of their friends were Hispanic, also indicating low acculturation. Levels of ethnic pride were high, with 88% of women reporting that they were "Very Proud" or "Proud" of their ethnic heritage. Table 33 provides a summary of responses related to acculturation.

**Table 33. Acculturation level**

| | |
|---|---|
| **Language Spoken** | |
| Only Spanish | 54% |
| Spanish better than English | 13% |
| Both languages equally well | 14% |
| English better than Spanish | 5% |
| Only English | 13% |
| **Language Read** | |
| Only Spanish | 56% |
| Spanish better than English | 10% |
| Both languages equally well | 13% |
| English better than Spanish | 6% |
| Only English | 15% |

**(Continued on next page)**

| (Table 33, continued) | |
|---|---|
| **Language of television or radio shows** | |
| Only Spanish | 37% |
| Spanish more than English | 15% |
| Both languages equally well | 25% |
| English more than Spanish | 5% |
| Only English | 17% |
| **Ethnicity of Friends** | |
| Almost all Hispanic or other minority persons | 61% |
| Mainly minority persons | 10% |
| Both White Americans and minority persons equally | 26% |
| Mainly White Americans | 1% |
| Almost all White Americans | 1% |
| **Level of cultural or ethnic pride** | |
| Very proud | 49% |
| Proud | 39% |
| Never think about it | 12% |
| Self-conscious | <1% |
| Ashamed | 0% |

Psychological Well-being

Resilience is fostered by ongoing success in regulating emotions, manifested in everyday life through awareness of felt/experienced emotions and a high level of positive emotions. Mental health problems during the pregnancy may also be an important predictor of utilization of prenatal care and neonatal health outcomes. Personal mastery assesses generalized beliefs that one can cause positive events to occur, and has been shown in a large number of studies to be predictive of better mental and physical health outcomes. Women were asked about different feelings they may have experienced in the last week, the amount of anxiety or depressive symptoms they experienced during the entire time of their pregnancy, and their personal mastery beliefs. Overall, women reported a high level of positive emotions relative to negative emotions, and distress levels during the pregnancy were generally low. Personal mastery beliefs were relatively high on average, although there was considerable variability in responses. Results are summarized in Table 34.

**Table 34. Psychological well-being**

| | Range of scores | Mean | Standard deviation |
|---|---|---|---|
| **Emotions in the past week** | | | |
| Positive emotions | 0-20 | 13.6 | 4.0 |
| Negative emotions | 0-19 | 3.4 | 3.7 |
| **Distress during pregnancy** | 0-24 | 3.7 | 4.2 |
| **Personal Mastery** | 13-30 | 23.8 | 4.2 |

Community Support

Research demonstrates that communities vary dramatically in their capacity to sustain and promote health. The women were asked to rate specific characteristics of their neighborhoods, with a focus on cohesion and supportiveness in their neighborhoods. Results are summarized in Table 35. Ratings of support among neighbors were relatively low, with 24% strongly believing that their neighbors were not willing to help each other and 26% feeling their neighbors could not be trusted.

Attitudes Towards the Pregnancy

Previous studies have suggested that women who are happier about being pregnant and who have partners who are happy about the pregnancy have better birth outcomes. Additionally, prenatal parent expectations can influence their postnatal attitudes and behaviors toward their infants. Women were asked about feelings that came up over the course of their pregnancy and how the baby's father felt about the pregnancy. They were also asked a number of items related to their expectations for what their baby will be like. Women largely reported feeling happy and proud of their pregnancy, and believed the baby's father felt similarly. Women also endorsed an optimistic level of expectations for their baby. Results are summarized in Table 36.

**Table 35. Neighborhood sources of resilience**

| | |
|---|---|
| **People in my neighborhood are willing to help their neighbors** | |
| Strongly agree | 4% |
| Agree | 45% |
| No opinion | 16% |
| Disagree | 12% |
| Strongly Disagree | 24% |
| **This is a close-knit neighborhood** | |
| Strongly agree | 2% |
| Agree | 35% |
| No opinion | 16% |
| Disagree | 22% |
| Strongly Disagree | 25% |
| **People in my neighborhood can be trusted** | |
| Strongly agree | 1% |
| Agree | 30% |
| No opinion | 22% |
| Disagree | 21% |
| Strongly Disagree | 26% |
| **People in my neighborhood generally don't get along** | |
| Strongly agree | 2% |
| Agree | 16% |
| No opinion | 25% |
| Disagree | 30% |
| Strongly Disagree | 27% |
| **People in my neighborhood don't share the same values** | |
| Strongly agree | 2% |
| Agree | 27% |
| No opinion | 26% |
| Disagree | 19% |
| Strongly Disagree | 25% |

**Table 36. Feelings about being pregnant**

| | Not at all | A Little | Moderately | Quite a bit | Extremely |
|---|---|---|---|---|---|
| **She felt…** | | | | | |
| Happy | 2% | 6% | 9% | 50% | 33% |
| Angry | 88% | 8% | 1% | 2% | 1% |
| Worried | 54% | 26% | 6% | 11% | 3% |
| Proud | 3% | 7% | 7% | 51% | 33% |
| Felt nothing | 90% | 5% | 2% | 3% | <1% |
| **Her baby's father felt…** | | | | | |
| Happy | 7% | 5% | 4% | 49% | 35% |
| Angry | 93% | 3% | <1% | 3% | 1% |
| Worried | 63% | 20% | 4% | 9% | 3% |
| Proud | 7% | 3% | 6% | 49% | 35% |
| Felt nothing | 91% | 5% | 1% | 1% | 2% |
| **Her expectations for the baby** | | | | | |
| Energetic, full of life | <1% | 2% | 6% | 51% | 41% |
| Will have trouble dealing with stress | 78% | 12% | 7% | 2% | 1% |
| Curious & exploring | 2% | 3% | 9% | 50% | 36% |
| Dependent on others | 72% | 12% | 7% | 5% | 3% |
| Able to bounce back after stress | 3% | 4% | 14% | 50% | 28% |
| Creative | 2% | 3% | 8% | 50% | 36% |
| Unsure of self | 76% | 12% | 4% | 5% | 2% |
| Competent & skillful | 3% | 3% | 5% | 50% | 39% |

Social support

Three domains of social support that have proven useful in previous studies of health and pregnancy outcomes were included on the survey, including emotional support (e.g., someone to talk to about problems), tangible support (e.g., someone to help with chores) and overall satisfaction with the availability of support. Overall, women reported high levels of social support and high satisfaction with the support they received. However, 9% reported no close friends or relatives lived nearby, and 8% reported that they only had one person who provided support. Fifty percent reported up to 5 close friends or relatives, 75% reported up to 13, and 25% reported more than 13. The average number of close friends or relatives was 9, but given that there were a few responses that were unusually high (e.g., 40 or 60), the median (5) is a better representation of the responses. However, 20 was the most frequently occurring response, with 15% of women reporting that they have 20 close friends or family living nearby. These findings indicate a high level of family and friend support available to most of the women in the sample, which is an important source of resilience. Tables 37 and 38 provide summaries of the results of questions pertaining to social support, including support specific to the baby's father.

**Table 37. Summary of social support**

| | |
|---|---|
| **Number of close friends and relatives living nearby** | Median = 5, range = 0-60 |
| **Overall satisfaction with support from friends and family** (on a scale of 0-4 with 0 = 'not at all' and 4 = 'extremely') | Avg = 3.2, range 0-4 |
| **Overall satisfaction with support from baby's father** (on a scale of 0-4 with 0 = 'not at all' and 4 = 'extremely') | Avg= 3.1, range 0-4 |

**Table 38. Availability of social support**

| | None of the time | A little of the time | Some of the time | Most of the time | All of the time |
|---|---|---|---|---|---|
| **How much is the following available to you?** | | | | | |
| Someone to take you to the doctor | 4% | 8% | 10% | 21% | 56% |
| Someone who shows love and affection | 2% | 2% | 5% | 16% | 75% |
| Someone to have a good time with | 2% | 4% | 6% | 19% | 69% |
| Someone to confide in | 3% | 4% | 5% | 18% | 70% |
| Someone to help with chores if you were sick | 9% | 6% | 9% | 17% | 60% |
| **How much will the baby's father…** | | | | | |
| Provide financial help | 7% | 3% | 5% | 8% | 77% |
| Help take care of your baby | 7% | 3% | 7% | 11% | 72% |
| Be there when you need him | 7% | 3% | 5% | 9% | 75% |

Personal ratings of resilience

Women were asked to estimate how often they smoked cigarettes, drank alcohol, or used illegal drugs during the time of their pregnancy. The large majority of women reported that they never did any of those things, with about 7% reporting occasional alcoholic beverages or smoking. However, these results should be interpreted with caution given that women may not have been willing to truthfully report illegal activity or behaviors that they know are not approved of during pregnancy. Results are summarized in Table 39.

**Table 39. Self-report of drug and alcohol use**

| How often during your pregnancy did you… | None of the time | A little of the time | Some of the time | Most of the time | All of the time |
|---|---|---|---|---|---|
| Smoke a cigarette | 92% | 4% | 2% | 1% | 1% |
| Drink an alcoholic beverage | 92% | 7% | <1% | - | - |
| Use an illegal drug | 97% | 2% | 1% | - | - |

Women were also asked questions related to a personality predisposition to resilience. Resilient responding has been related in research to positive emotions, better emotion regulation, and positive health outcomes. Responses to these items will be used as predictors in later analyses. In general, women rated themselves as "somewhat" or "very much so" in having personality characteristics related to resilience, with somewhat lower ratings concerning their level of curiosity and their abilities to get over their anger quickly. Results are summarized in Table 40.

**Table 40. Self-rating of personal characteristics of resilience**

| How much do the following statements describe you? | Not at all | Slightly, if at all | Somewhat | Very much so |
|---|---|---|---|---|
| I am generous with my friends | 2% | 11% | 29% | 58% |
| I usually succeed in making a favorable impression on others | 3% | 10% | 33% | 53% |
| I am more curious than most people | 15% | 19% | 30% | 36% |
| Most of the people I meet are likeable | 3% | 10% | 35% | 52% |
| I usually think carefully before acting | 5% | 11% | 24% | 60% |
| I like to do new and different things | 1% | 7% | 23% | 68% |
| My daily life is full of things that keep me interested | 2% | 8% | 27% | 63% |
| I get over my anger at somebody reasonably quickly | 9% | 16% | 22% | 53% |

## SUMMARY AND RECOMMENDATIONS

The current survey was conducted with the goal of understanding barriers to early access into prenatal care in a population of women identified at high risk of low utilization of prenatal care and poor infant health outcomes. A number of interesting findings emerged from interviews with 539 postpartum women at hospitals serving Maryvale and South Phoenix, Arizona. In the current sample, 19% of the women reported that they did not receive prenatal care as early as they desired, and 4% of the women reported receiving no prenatal care. However, the number of prenatal care visits varied widely, with well over 22% of the sample reporting fewer than 10 visits, which is considered an inadequate amount of prenatal care. Also, the time of entry into prenatal care varied widely, ranging from 1 to 36 weeks into the pregnancy. If receipt of care before the third trimester is considered an indication of prenatal care utilization, then approximately 91% of the women surveyed received prenatal care. Using the more strict criteria of prenatal care before the second trimester, then approximately 30% of the sample did not receive prenatal care early enough to be maximally beneficial.

In terms of barriers to earlier utilization of prenatal care, a few factors were apparent from the data. First, the most commonly cited barrier was lack of insurance or delays in the process of getting coverage from AHCCCS. This suggests that interventions to simplify or speed the process of obtaining AHCCCS coverage for prenatal care may be helpful. Also, a number of women reported fears about immigration, their lack of legal status, and the recent passage of Proposition 200 as reasons for their delay in seeking prenatal care.

Approximately 14% of women reported that they didn't know how to find a provider, or didn't know where to go (7%), which could also delay entry into care. Few of the women surveyed (10%) attended childbirth classes. It will be important in follow-up studies to understand their reasons for not attending classes (e.g., barriers versus lack of perceived need), and where women are receiving their information regarding pregnancy and childbirth (e.g., grandmothers, television, etc). These findings, along with the finding of low acculturation in the majority of the sample suggest that culturally relevant community education and outreach efforts will continue to be an important means of increasing access to health care. It is likely that different educational and outreach approaches will be effective depending on whether or not it is the first pregnancy for women. In addition, the distribution to prenatal care providers of a comprehensive list of child birthing classes available to AHCCCS consumers may provide an important means of increasing women's access to these services.

Although the majority of women who received prenatal care felt satisfied with the treatment they received, 26% reported trouble communicating with their provider due to language differences, suggesting that providers will need to continue to make efforts to make culturally-competent translators available. It is also important to note that about 20% of the women felt that they were mistreated or discriminated against by a health care provider, which could represent a significant barrier to receiving a sufficient number of prenatal care visits, or could delay entry into

prenatal care for future pregnancies. Focus groups within key communities are recommended as a method to obtain a more in-depth understanding of women's specific experiences with discriminatory treatment and the impact their experiences have on the receipt of prenatal care. It will also be important to assess their perceptions of provider caring and concern. In other words, what did the providers do that women really appreciated? The knowledge gained from focus groups will be critical in the development of effective interventions to improve prenatal care delivery and utilization.

Ratings of the hospital where the women gave birth were overall quite high. Given limited resources, these findings indicate that improvement of hospital amenities may not be a priority for future interventions. Most of the women reported being treated with respect by the hospital staff, however a significant number (13-18%) felt they did not have enough control over what happened during labor and delivery, or were not fully informed about who would be delivering their babies (15%). Because the perception of control is a recognized source of resilience and can contribute to lower stress levels, this may be an important area for hospital staff and/or administration to consider.

Almost half (45%) of the women in this sample reported that they did not want to be pregnant at that time, although 74% were not using any form of birth control. Reasons for not using birth control for women who did not want to be pregnant included a belief that she could not get pregnant, unwanted side effects from birth control, a husband/partner who did not want her to use it, and just not thinking about it or not wanting to use it. Future focus groups may want to explore women's beliefs and knowledge regarding birth control and reasons for believing that they could not become pregnant. These findings again reinforce the importance of continuing efforts at culturally competent community outreach and education.

Women were also asked about cultural identity and religious beliefs, as these can be important sources of support and resilience. They endorsed a strong belief in traditional cultural norms and beliefs, and a high degree of ethnic pride. These findings strongly support the need for cultural sensitivity and competence to be the foundation of any planned intervention. Further, an intervention that respects and builds upon this important resilience resource is recommended. About half of the sample reported being moderately or very religious. About one-third of the sample reported attending church once a month or more. For these women, church-based interventions and educational efforts may be effective. However, approximately two-thirds of the women will be difficult to reach through faith-based approaches. These results suggest a multi-pronged approach to outreach efforts will be necessary. A large number of women reported concerns with their neighborhoods and a belief that their neighbors could not be trusted, indicating the need for community-level interventions to build neighborhood cohesion and support.

Women in the sample also reported a high number of stressful events that occurred during their pregnancies, including frequent moves, homelessness, drug and alcohol abuse by a loved one, and physical violence. Because women experiencing these stressors are less likely to receive adequate prenatal care, it may be

beneficial to consider provision of prenatal care programs or outreach efforts at homeless shelters, rehab centers, or other relevant community locations. Women in the sample reported high levels of positive emotions and positive attitudes and expectations for their child. This also represents an important resilience resource that can be drawn upon in planning interventions. However, it will be important to continue to screen for distress levels, as early intervention to address ongoing stressors and depression may significantly impact prenatal care utilization and infant health outcomes. Finally, although the majority of women reported high levels of social support from close friends and families, a significant number of women (9%) reported that they had no support available to them. This feeling of isolation can have serious physical and mental health consequences for the woman and her child, and suggests that peer networks within targeted communities may be an appropriate intervention to boost support for vulnerable women.

Overall, the findings from this survey suggest a number of important topics for follow-up with targeted focus groups. These findings also provide some preliminary clues that will be useful in planning interventions to improve prenatal care utilization and infant health outcomes with this important population. Specific recommendations are provided below.

**Recommendations**

| | |
|---|---|
| I. | Expand use of best practices and develop new interventions to increase prenatal care utilization of low-income and culturally diverse women, for example expand doula programs, the use of community mobilizers, and prenatal “toolkits”. |
| II. | Develop neighborhood and asset based community-level interventions to build cohesion, supportive networks, and community engagement |
| III. | Conduct focus groups to obtain more in-depth understanding of women’s experiences with discrimination, cultural beliefs related to pregnancy and prenatal care, and the impact on prenatal care utilization. |
| IV. | Continue/expand culturally relevant provider and community education and outreach efforts focused on access to health care and WIC usage, pregnancy and birth control education, and addressing illegal immigrant fears. Have interactive media provided during prenatal visits. |
| V. | Expand psychosocial screening during prenatal care visits, including assessment of significant ongoing stressors and resilience factors. Also assess programs available in homeless shelters for pregnant women. |
| VI. | Work with AHCCCS and the Baby Arizona program to facilitate and publicize the process of obtaining AHCCCS coverage for prenatal care. Assess availability of information regarding AHCCCS coverage in Spanish-language media outlets. |
| VII. | Work with prenatal care providers, WIC, and other health care agencies, organizations, and institutions to improve patient information recall of HIV prevention, domestic violence, proper nutrition, and other essential components of good health discussed during prenatal visits. |
| VIII. | Devise an intervention promoting that if you are sexually active, not on birth control, and miss a period you should have a pregnancy test. |

## METHODOLOGICAL NOTES

Results from the current study represent the responses of low-income women from Maryvale and South Phoenix, Arizona who were AHCCCS or FES eligible. This sample was largely Hispanic, and most were not born in the United States. This sampling strategy enabled us to access a population with significantly later entry into prenatal care than are found in other areas in Maricopa County. However, results should not be generalized to represent other populations. This sample is most likely not representative of the responses that would be obtained had other communities in Maricopa County been surveyed. Further, only women who were 18 years or older were surveyed, therefore the barriers to access to prenatal care for pregnant youth cannot be determined from the current data. Our sample is likely to be older on average than the total population of women whose births are paid for by AHCCCS in Maryvale and South Phoenix.

Survey responses were only obtained from women who were willing to participate. As was mentioned earlier in this report, several women revealed fears about their immigration status being revealed or fears about new legislation in Arizona that they believed may require hospital workers to report them to the immigration board. This implies that there may have been many women with similar concerns who were too afraid to speak to our interviewers and who were not represented in survey results. The positive feelings that are common after giving birth to a healthy baby may also be a source of bias in recall of events and experiences leading up to and during the birth. Women who were experiencing negative feelings and/or excessive fatigue following the experience may have been less willing to participate in the survey.

It is also important to note that survey responses are based on self-report, and the accuracy of women's responses and recall cannot be verified. For example, data on the timing of women's entry into prenatal care is based on self-report and may be inaccurate due to recall errors or a desire to report a more socially acceptable response. Also, responses represent women's perceptions only, and perceptions may in some cases differ from actual events. For example, women may not recall having discussed HIV prevention when in fact providers presented the information to them. Furthermore, cultural or language barriers may have inadvertently led in some cases to inaccurate responses. For example, women may have reported that they were on AHCCCS during their pregnancies due to confusion between AHCCCS and FES.

Because surveys were conducted bedside in the hospital where they had just given birth, some women may have felt the need to only report positive experiences at the hospital for fear of jeopardizing future care. Although the interviewers were trained to try and circumvent such "socially desirable" responses, it is not possible to always avoid potential biases. Only women who had given birth to a live baby were interviewed, and the experiences of mothers who had a negative birth outcome may be quite different.

Finally, results reported here only provide a cross-sectional study of women's

experiences with pregnancy, prenatal care, and delivery, with the information collected only at one point in time (just after delivering the baby). Caution should be taken in interpreting the data, in that conclusions about causation cannot be drawn from this type of data collection. For example, positive emotions were correlated with time of entry into prenatal care, however it cannot be concluded that positive emotions caused women to enter care earlier. It is equally possible that early entry into prenatal care caused more positive emotions, or that neither is causally related to the other. However, this data will be useful in developing preliminary targets for future studies and interventions.

## APPENDIX I – National Neonatal Statistics

**Table A1. National statistics ***

| | All races | Caucasian | Hispanic | African-American |
|---|---|---|---|---|
| **Mother unmarried** | 34.6% | 23.5% | 45.0% | 68.5% |
| **Mother did not graduate high school** | 21.5% | 11.7% | 48.1% | 24.3% |
| **Low birth weight infant** | 7.9% | 7.0% | 6.7% | 13.5% |
| **Preterm infant** | 12.3% | 11.3% | 11.9% | 17.8% |
| **Cesarean birth** | 27.6% | 27.7% | 26.6% | 29.3% |

**Table A2. Arizona statistics ****

| | All races | Caucasian | Hispanic | African-American |
|---|---|---|---|---|
| **Mother unmarried** | 41.9% | 24.8% | 53.9% | 62.0% |
| **Mother did not graduate high school** | 29.8% | 10.5% | 50.4% | 21.9% |
| **Low birth weight infant** | 7.2% | 7.2% | 6.5% | 11.6% |
| **Preterm infant** | 11.0% | 11.4% | 10.3% | 11.6% |
| **Cesarean birth** | 23.7% | 25.9% | 21.9% | 25.8% |

**Table A3. Current sample**

| | All races | Caucasian | Hispanic | African-American |
|---|---|---|---|---|
| **Mother unmarried** | 44.9% | 32.6% | 45.6% | 53.6% |
| **Mother did not graduate high school** | 47.6% | 53.1% | 48.4% | 14.3% |
| **Low birth weight infant** | 6.4% | 2.0% | 6.7% | 3.7% |
| **Preterm infant** | 11.3% | 8.6% | 11.6% | 7.4% |
| **Cesarean birth** | 25.8% | 32.7% | 24.2% | 32.1% |

***** Martin, J.A., Kochanek, K.D., Strobino, D.M., Guyer, B., & MacDorman, M.F. (2005). Annual summary of vital statistics – 2003. *Pediatrics, 115*, 619-634.

** Mrela, C.K., & Torres, C. (2005). Arizona Health Status and Vital Statistics, 2004. Arizona Department of Health Services.

## APPENDIX II: Preliminary Analyses

Preliminary analyses were conducted with statistical techniques that included multiple regression, correlations, Pearson Chi-Square, and analyses of variance. Only analyses that reached a statistical probability level of $p \leq .05$ were considered significant. A probability level is an indication of the potential for false-positive findings, i.e., the likelihood that a result is purely due to chance. For example, a $p = .05$ suggests that a similar result would be found purely at random (meaning it is not a true finding) in approximately 5% of analyses. It is a convention in behavioral studies to use $p \leq .05$ as an indication that a finding is likely to be "true". For correlational analyses, the correlation coefficient (R) is reported, which indicates the strength of the relationship between two variables. Correlation coefficients range between –1 and +1. The closer the correlation is to –1 or +1, the stronger the relationship between the variables. A correlation coefficient of zero means there is no relationship between variables. A positive correlation means that both variables change in the same direction (i.e., as one increases the other increases, or as one decreases the other decreases). A negative correlation means that the variables change in opposite directions (i.e., as one increases the other *decreases*).

### a. Predictors of time of entry into prenatal care

These analyses examined the relation of demographic and psychosocial variables to the number of weeks at prenatal care entry (Question 33 on the survey). Of the demographic variables, education, marital status, and the country of birth were the best predictors of the time of entry into prenatal care. Women who were more highly educated, married/partnered, or born in the US reported earlier entry into care. The number of adults in the home also predicted entry into care, with women reporting 2 adults (including themselves) reporting earlier entry into care than those with one or more than 2. However, if marital status is controlled for, this relation is no longer predictive, suggesting that married women are most likely to report 2 adults in the home, and are more likely to seek earlier prenatal care. Results of demographic analyses are summarized in Table A4.

**Table A4. Demographic predictors of time of entry into prenatal care**

| | N | Avg (weeks) | Significance |
|---|---|---|---|
| **Education** | | | F(2,429)=6.4, p=.002 |
| Less than High School | 206 | 12.6 | |
| High School Diploma | 173 | 11.5 | |
| Beyond High School | 51 | 8.5 | |
| **Marital Status** | | | F(4,428)=3.7, p=.006 |
| Married/Living with Partner | 255 | 10.9 | |
| Single, Never Married | 151 | 12.4 | |
| Separated | 13 | 17.9 | |
| Divorced | 8 | 12.9 | |
| Widowed | 2 | 6.0 | |

**(Continued on next page)**

| (Table A4 continued) | | | |
|---|---|---|---|
| **Country of mother's birth** | | | F(1,415)=7.3, p=.007 |
| United States | 112 | 10.1 | |
| Mexico | 305 | 12.3 | |
| **Number of adults in the home** | | | F(2,427)=5.2, p=.007 |
| 1 | 26 | 12.8 | |
| 2 | 239 | 10.6 | |
| 3 or more | 165 | 13.0 | |

We also examined psychosocial predictors of entry into prenatal care. Self-reported positive affect, distress levels, personal mastery, and social support were each significantly correlated with entry into prenatal care. The number of stressful events women reported in the past year was weakly correlated with entry time. Women reporting more positive emotions, lower distress, higher mastery, better social support, and fewer life stressors reported earlier entry into prenatal care. Women's attitudes about being pregnant showed some relation to prenatal care entry time. Women who were happier about being pregnant and whose partners were proud of her pregnancy reported earlier entry into prenatal care. Women whose partners were angry about the pregnancy reported later entry into care. Similarly, women who wanted to be pregnant sooner reported the earliest entry into care, while those who didn't want to be pregnant showed the latest entry. Results are summarized in Table A5.

**Table A5. Psychosocial predictors of entry time into prenatal care**

| | **N** | **R** | **Significance** |
|---|---|---|---|
| **Positive emotions** | 424 | -.014 | p=.005 |
| **Distress during pregnancy** | 427 | +0.16 | p=.001 |
| **Personal Mastery** | 428 | -0.11 | p=.03 |
| **Social support** | 421 | -0.15 | p=.003 |
| **Satisfaction with support from friends & family** | 403 | -.019 | p<.001 |
| **Satisfaction with support from baby's father** | 400 | -0.14 | p=.004 |
| **Stressful life events** | 429 | +0.09 | p=.07 |
| **Happiness about pregnancy** | 406 | -0.14 | p=.005 |
| **Father's anger about pregnancy** | 403 | +0.16 | p=.001 |
| **Father's pride about pregnancy** | 395 | -0.15 | p=.004 |
| | **N** | **Mean** | **Significance** |
| **Woman's desire to be pregnant** | | | F(3,409)=3.2, p=.02 |
| Wanted to be pregnant sooner | 88 | 9.9 | |
| Wanted to be pregnant then | 129 | 11.3 | |
| Wanted to be pregnant later | 116 | 12.6 | |
| Never wanted to be pregnant | 80 | 13.1 | |

### b. Predictors of the number of prenatal care visits

For this set of analyses, the same demographic and psychosocial predictors as above were used to predict the number of visits women reported that they made for prenatal care (Question 42 on the survey). The only demographic variable that predicted the number of visits was women's educational level, in which more educated women reported more visits (Pearson Chi-square, $\chi^2$ (10)=34.3, p<.001). As would be expected, the gestational age of the infant was correlated with the number of visits (F(5,414)=2.9, p=.01), as was the time of entry into prenatal care (F(5,419)=26.5, p<.001). Demographic results are summarized in Table A6.

**Table A6. Demographic predictors of the number of prenatal care visits**

| **Number of prenatal care visits:** | **1-3 visits** | **4-7 visits** | **8-10 visits** | **10+ visits** |
|---|---|---|---|---|
| **Education** | | | | |
| Less than High School | 9% | 24% | 25% | 42% |
| High School Diploma | 3% | 13% | 23% | 61% |
| Beyond High School | 0% | 8% | 27% | 65% |
| **Time of entry into care (avg in weeks)** | 20.4 | 17.1 | 11.4 | 8.9 |
| **Infant gestational age (avg in weeks)** | 37.4 | 38.1 | 38.6 | 38.8 |

We also evaluated psychosocial correlates of the number of prenatal care visits. Significant positive correlations were found for personal mastery, positive emotions, and social support such that women with more mastery beliefs, positive emotions, and social support reported more frequent visits for prenatal care. More distressed women reported fewer visits for prenatal care, as did women who reported more stressful life events. Results are summarized below in Table A7. Because many of the predictor variables are correlated with each other, stepwise multiple regression analyses were conducted with all psychosocial and demographic predictors in the model to determine the best predictors. In the final model, educational level, social support, gestational age, and stressful life events were significant predictors of the number of visits for prenatal care.

**Table A7. Psychosocial correlates of the number of prenatal care visits**

| | **1-3 visits** | **4-7 visits** | **8-10 visits** | **10+ visits** | **Significance** |
|---|---|---|---|---|---|
| **Positive emotions** | 11.5 | 12.8 | 14.0 | 14.1 | F(5,416)=2.9, p=.01 |
| **Distress during pregnancy** | 6.3 | 4.2 | 3.7 | 3.5 | F(5,419)=3.0, p=.01 |
| **Personal Mastery** | 21.9 | 22.6 | 23.6 | 24.5 | F(5,420)=5.0, p<.01 |
| **Social support** | 14.3 | 16.3 | 17.0 | 17.6 | F(5,413)=7.4, p<.01 |

**(Continued on next page)**

| (Table A7 continued) | | | | | |
|---|---|---|---|---|---|
| **Satisfaction with support from friends & family** | 2.6 | 3.2 | 3.0 | 3.3 | F(5,413)=4.0, p<.01 |
| **Stressful life events** | 3.8 | 2.6 | 2.0 | 2.0 | F(5,421)=3.1, p<.01 |
| **Desire to be pregnant…** | | | | | $\chi^2$ (15)=30.6, p=.01 |
| Sooner | 3% | 7% | 23% | 67% | |
| Then | 3% | 23% | 30% | 44% | |
| Later | 10% | 19% | 24% | 48% | |
| Never | 6% | 20% | 22% | 52% | |

### c. Predictors of infant health outcomes

The birth outcomes data collected in the current study included APGAR scores (1 minute and 5 minute), gestational age (in weeks), and birth weight (in grams). Linear multiple regression analyses were conducted to determine the best predictors of each of the birth outcomes using psychosocial and demographic variables. For APGAR scores, the only variable to be significant was mother's employment, in which infants of employed women had higher 1-minute APGAR scores. At 5-minutes, this difference was no longer significant.

For gestational age, only two variables were found to be significant: self-rated religiosity and the number of visits for prenatal care. More visits for prenatal care predicted higher gestational age. For religiosity, women who were not at all religious had lower gestational ages than those who endorsed any degree of religiosity. Stressful life events, personal mastery, age, distress levels, education, marital status, social support, country of birth, WIC use, the time of entry into care, race, and cultural values were not significant predictors of gestational age. Similarly for birth weight, the only significant predictor variables were religiosity and number of visits for prenatal care. More visits for prenatal care and higher degree of religiosity predicted higher infant birth weights. Results are summarized in Table A8.

**Table A8. Predictors of infant health outcomes**

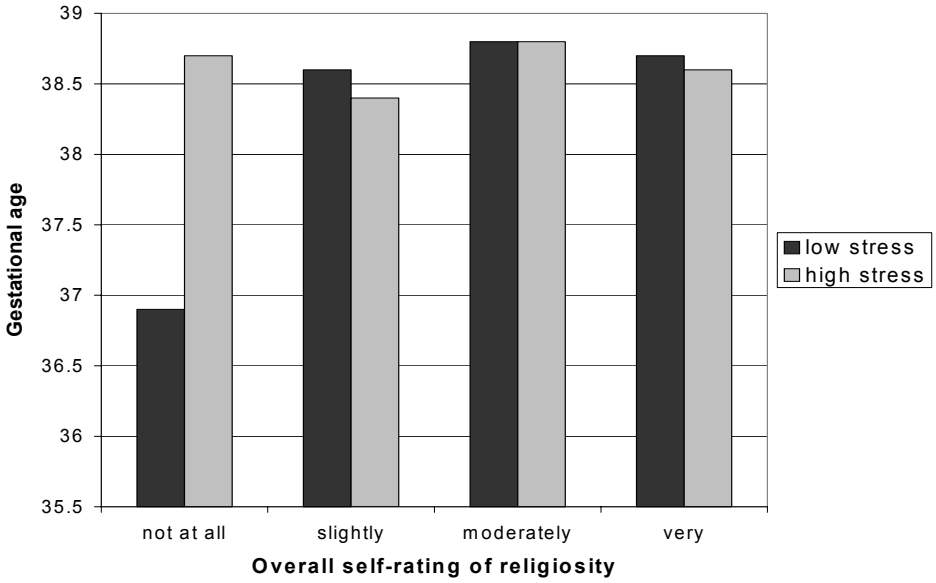
| | N | β | Significance |
|---|---|---|---|
| **Predictors of gestational age** | | | |
| Religiosity | 437 | +0.11 | p=03 |
| Number of prenatal care visits | 414 | +0.17 | p<.001 |
| **Predictors of birth weight** | | | |
| Religiosity | 437 | +0.12 | p=03 |
| Number of prenatal care visits | 414 | +0.11 | p=.03 |

### d. Moderating factors for differences in birth outcomes

This preliminary set of analyses examined psychosocial or demographic factors that moderated the impact on high stress on infant health. In other words, for women who reported high stress, what factors predicted good outcomes despite the stress? The factors tested were social support, religiosity, personal mastery, and positive emotions. Religiosity was the only factor moderating high stress.

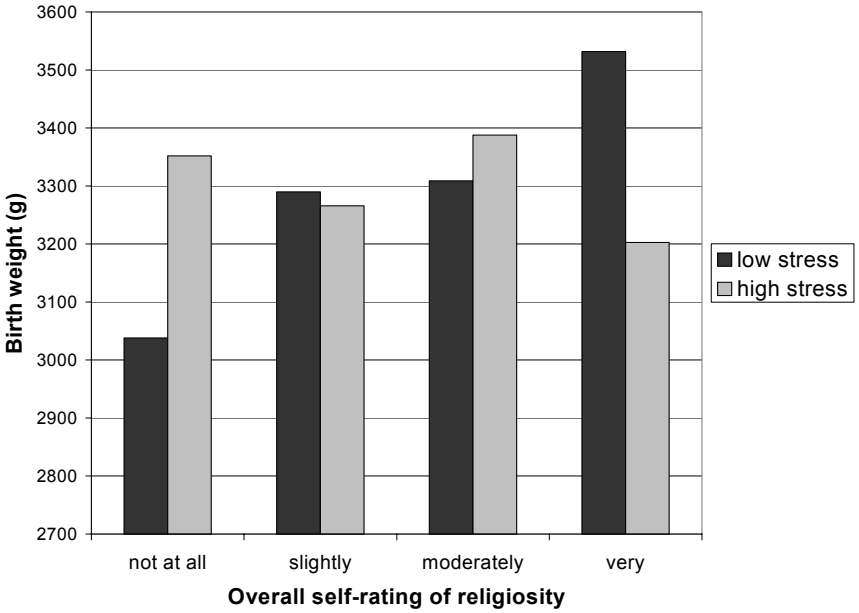
For infant gestational age, a significant interaction of religiosity and stressful events was found. Results show that less religious women tend to have babies with lower gestational ages when their stress levels are low. However, at higher stress levels religiosity is no longer associated with gestational age (see Figure A1). This result suggests that religiosity has the most protective effect during times of stress.

**Figure A1. Religiosity and Stress Levels Impact on Gestational Age**




A significant interaction of religiosity and stressful events was also found for infant birth weight (see Figure A2). However, for birth weight, religiosity exerted the greatest impact for women who reported lower stress levels. At high stress levels, religiosity was not associated with infant birth weight.

**Figure A2. Religiosity and Stress Levels Impact on Birth weight**




### e. Pregnancy intent and birth control use

The goal of this set of analyses was to evaluate the relation between women's feelings about being pregnant at that time and their reported use of birth control when they became pregnant. Approximately 74% of the women surveyed were not using birth control when they became pregnant, and 51% reported that they wanted to be pregnant sooner or at that time. Women's intent concerning pregnancy was significantly associated with their use of birth control ($\chi^2$ (3)=34.6, p<.001). As expected, women who wanted to be pregnant were more likely to not be using birth control (87%) than women who did not want to be pregnant (62%). Results are summarized in Table A9.

**Table A9. Relation between pregnancy intent and birth control use.**

| | Number of women not using birth control | Number of women using birth control |
|---|---|---|
| **Wanted to be pregnant then** | 116 | 14 |
| **Wanted to be pregnant sooner** | 74 | 16 |
| **Wanted to be pregnant later** | 75 | 48 |
| **Never wanted to be pregnant** | 55 | 31 |

Women who were not using birth control were asked why they didn't use it. The most common response was wanting to get pregnant (51%). Next most common was the belief that she couldn't get pregnant (15%), while 16% endorsed an "other" reason. Frequency analyses for birth control use are reported in Content Area VI. Reasons for not using birth control were significantly related to women's pregnancy intent ($\chi^2$(24)=222, p<.001). Not surprisingly, women who wanted to be pregnant then or sooner were most likely to report that they weren't using birth control

because they wanted to be pregnant. Women who wanted to be pregnant later or who never wanted to be pregnant were most likely to report that they were not using birth control because they didn't think they could get pregnant. Results for women who were not using birth control are summarized in Table A10.

**Table A10. Pregnancy intent and reasons for not using birth control**

| Reason for not using birth control | Wanted to be pregnant… | | | |
|---|---|---|---|---|
| | Then | Sooner | Later | Never |
| Didn't think she could get pregnant | 5 | 3 | 16 | 25 |
| Didn't think she was going to have sex | 3 | 0 | 1 | 2 |
| Didn't want to use birth control | 4 | 1 | 9 | 7 |
| Side effects of birth control | 1 | 1 | 4 | 4 |
| Wanted to get pregnant | 68 | 68 | 5 | 3 |
| Husband/partner didn't want to use it | 3 | 0 | 6 | 1 |
| Don't know | 0 | 0 | 2 | 4 |
| Other | 10 | 1 | 29 | 12 |

### f. Demographics of participants by hospital

This set of analyses looked at demographic information for participants at each of the hospitals. The hospitals were mostly comparable in terms of the demographics for the survey participants, however more women who self-identified as Hispanic were surveyed at Maricopa Medical Center (MMC) and Maryvale Hospital relative to St. Joseph's and Banner-Good Samaritan (B-GS). It is important to note that this information only represents the demographic summaries of women who agreed to participate in the study and should not be considered a reliable description of the typical consumer at each of the hospitals. For example, the presence or absence of a bilingual interviewer at a given hospital could influence the demographics of the sample. Table A11 summarizes demographic information by hospital.

**Table A11. Demographic information by delivery site**

| | MMC | St. Josephs | Maryvale | B-GS |
|---|---|---|---|---|
| **Mother's age (mean, SD)** | 27.0 (5.4) | 25.8 (5.4) | 25.9 (5.1) | 25.4 (5.2) |
| **Ethnicity** | | | | |
| African-American | 2% | 8% | 4% | 12% |
| Caucasian | 4% | 13% | 9% | 12% |
| Hispanic | 89% | 76% | 85% | 69% |
| Other | 4% | 3% | 2% | 6% |
| **Educational level** | | | | |
| Less than HS | 43% | 54% | 43% | 53% |
| HS diploma | 51% | 29% | 51% | 29% |
| More than HS | 6% | 17% | 6% | 18% |
| **Country of birth** | | | | |
| United States | 9% | 43% | 17% | 37% |
| Mexico | 88% | 55% | 79% | 59% |
| Other | 3% | 2% | 4% | 4% |

### g. Correlations between psychosocial factors

Women were asked a number of questions on the survey regarding their psychological and social well-being. Items were chosen for the survey based on previous research, which has linked factors such as depression and social support to neonatal health outcomes. Basic analyses are provided that show the interrelations among the psychosocial factors (see Table A12). The relations among variables are shown in terms of the Pearson Correlation coefficient (ranges from –1 to +1, numbers closer to –1 or +1 represent a stronger relation). Women who report being more distressed during the time of their pregnancy also reported a lower sense of personal mastery, less social support, and more stressful life events.

**Table A12. Correlations between psychosocial factors ***

| | Family trad. | Mastery | Neg. Emot | Pos. Emot | Social Support | # Stress events | Overall relig. | Relig. attend. |
|---|---|---|---|---|---|---|---|---|
| Distress during preg. | -.03 | -.31 * | .51 * | -.17 * | -.18 * | .42 * | .10 * | .05 |
| Family Traditionalism | 1.0 | .08 | -.15 * | .21 * | .20 * | -.15 * | .13 * | .09 |
| Personal Mastery | | 1.0 | -.20 * | .29 * | .29 * | -.25 * | -.11 * | -.08 |
| Negative Emotion | | | 1.0 | .02 | -.06 | .42 * | .13 * | .05 |
| Positive emotion | | | | 1.0 | .39 * | -.18 * | .14 * | .07 |
| Social support | | | | | 1.0 | -.19 * | .03 | .04 |
| # Stressful events | | | | | | 1.0 | .08 | .05 |
| Overall Religiosity | | | | | | | 1.0 | .51 * |

***** Statistically significant relation at $p < .05$

### h. Determination of pregnancy and time of entry into prenatal care

This analysis evaluated whether the method women reported for how they determined that they were pregnant was related to the time of entry into prenatal care. To do this analysis, a one-way ANOVA test was conducted with the number of weeks at entry into prenatal care (Q33) as the dependent variable, and the method of determination of pregnancy (Q90) as the independent variable. The statistical model was significant, showing that women who reported that they "didn't do anything – she just knew" had the latest entry into prenatal care. However, the number of women who reported they didn't do anything is very small, so results should be interpreted with caution. Results are summarized in Table A13.

**Table A13. Time of entry into prenatal care**

| | N | Mean # weeks | Significance |
|---|---|---|---|
| **How did you make sure you were pregnant?** | | | F(3,420)=5.2, p=.002 |
| Didn't do anything – just knew | 13 | 16.9 | |
| Took in-home pregnancy test | 211 | 12.2 | |
| Went to doctor | 167 | 10.3 | |
| Other | 33 | 13.7 | |

### i. Continuity of care and prenatal care utilization

The question to be addressed for these analyses was whether there was any indication that continuity of health care had an impact on utilization of prenatal care and infant health outcomes. For indicators of continuity of care, attendance at birthing classes (Q27), WIC use (Q99), whether or not the woman went to more than one care provider during her pregnancy (Q37), and if she was usually seen by the same person at that provider's location (Q38) were used. Although the initial intent was to include whether or not there was a place she usually went for health care (Q39) as a predictor variable, it lacked sufficient variability to be statistically valid. For indicators of prenatal care utilization the self-reported number of visits (Q42) and the number of weeks at entry into prenatal care (Q33a) was used. Infant health outcomes included APGAR scores, birth weight, and gestational age.

1. In analyses of the number of prenatal care visits, only WIC usage was a statistically significant predictor (p=.004). Women who received WIC went on average to 1 more prenatal care visit (8.7 visits) than those who were not on WIC (7.6 visits).

2. The number of weeks of entry into prenatal care was only significantly predicted by seeing more than one health care provider (p=.02) and WIC usage (p=.008). Women who reported that they went to more than one provider during their pregnancy reported an average first prenatal care visit at 10.2 weeks, while women who only went to one provider reported an average first prenatal care visit at 12.2 weeks. Women using WIC reported an average first prenatal care visit at 11.2 weeks, while those not on WIC reported an average first visit at 13.5 weeks.

3. Preliminary analysis III found that WIC usage and attendance at birthing classes did not predict infant health outcomes.

4. Being seen by more than one provider was a statistically significant predictor of 1-minute APGAR scores (p=.01), but the difference was very small and was no longer evident for 5-minute APGAR scores. The average 1-min APGAR of infants whose mothers' reported that they saw more than one provider was 8.2, while the average 1-min APGAR was 8.5 for those who only saw one provider.