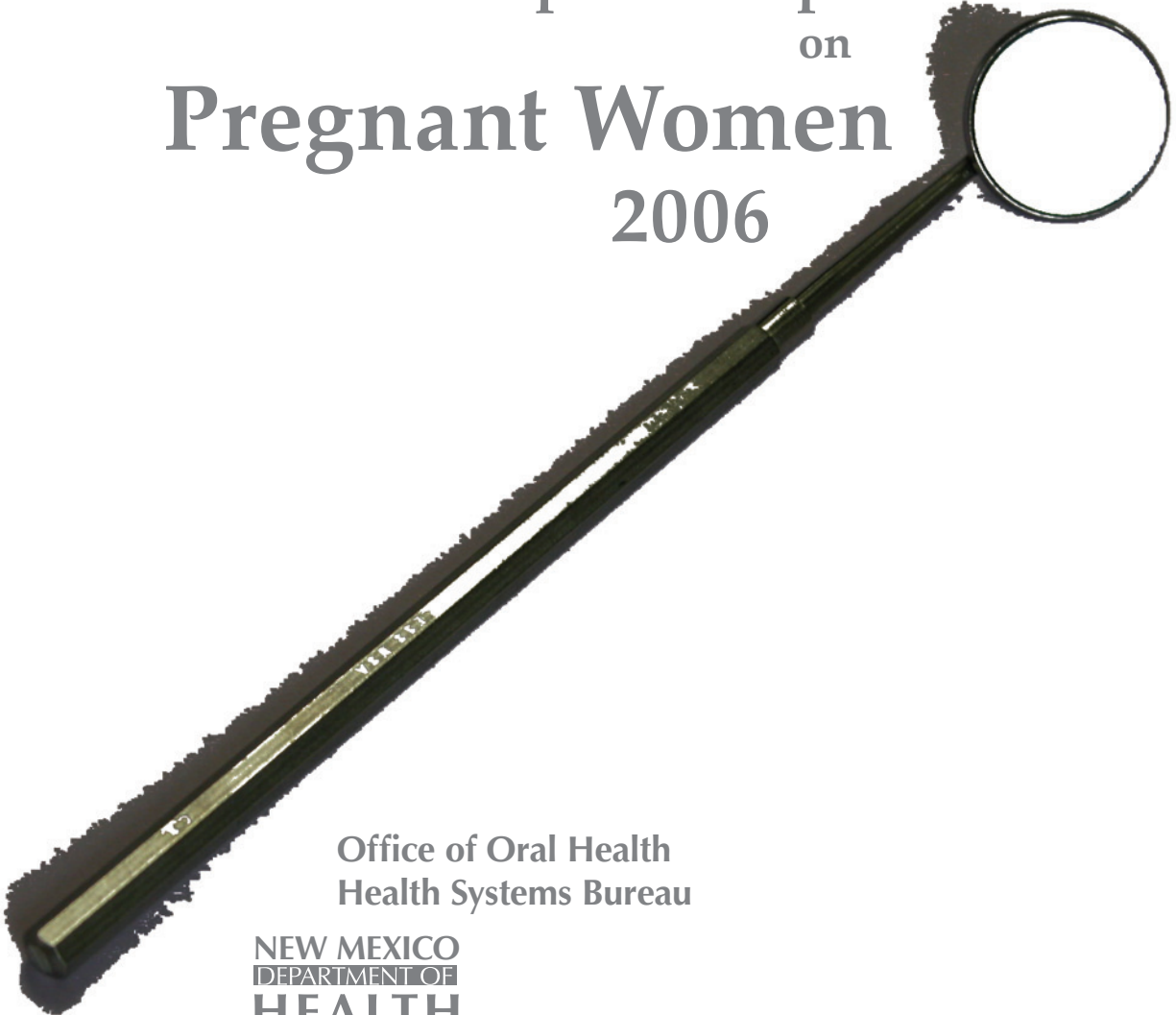


New Mexico Oral Health Surveillance System

NMOHSS Special Report
on
Pregnant Women
2006



Office of Oral Health
Health Systems Bureau

NEW MEXICO
DEPARTMENT OF
HEALTH



State of New Mexico

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New Mexico Oral Health Surveillance System (NMOHSS)
Special Report on Pregnant Women, 2006

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Introduction: Public Health Importance

A pregnant woman's oral health affects the woman, her fetus, and infant. In pregnant women, periodontal disease, which affects the gums and adjacent bone, is associated with pre-term and/or low birth-weight delivery. After delivery, infants or young children may develop cavities from maternal oral bacteria.¹

This report shows several areas of need during the prenatal period: 1) utilization of dental services, not only to treat dental problems, but also to provide preventive care, and disparities in dental services in different geographic regions or among different demographic groups; 2) study of ways to improve timely entry to prenatal care and use of dental services, which are correlated; and 3) discussion about oral hygiene during prenatal care. The NMOHSS Annual Report outlines actions in New Mexico to improve awareness of, access to, and utilization of dental services.²

NMOHSS

The NMOHSS is coordinated by the Health Systems Bureau of the NM Department of Health (NMDOH) and collaborates with many agencies. NMOHSS has established and maintains a central repository for data related to oral health; it oversees analysis and dissemination of this data to aid evaluation and development of policies and programs designed to improve oral health of New Mexicans. The first annual report of the NMOHSS will be released in 2006.

Oral health is not the primary focus of most of the collaborating agencies that share data from oral health components of their programs. Therefore, there are limitations on the consistency of data. Pregnancy status is not captured by most of the agencies. The only information at this time about the oral health of pregnant women comes from the New Mexico Pregnancy Risk Assessment and Monitoring System (PRAMS).

New Mexico Pregnancy Risk Assessment and Monitoring System (PRAMS)

PRAMS is a project of the NMDOH and the national Centers for Disease Control and Prevention (CDC). This population-based surveillance system addresses selected maternal behaviors and experiences occurring before, during, and after pregnancy. Data are used to help plan and evaluate programs, inform policymakers, and educate healthcare providers and the public. PRAMS reports contain a wealth of information on many topics, including the public health importance of each topic, actions addressing the issues, and the methodology of the PRAMS project. NM PRAMS information and reports are available online.³

Interpreting text and tables, 95% CI

The Appendix of this report and NM PRAMS Surveillance Report discuss PRAMS methods.¹ In the text, terms such as "significant," "associated with," "less than," or "more than" refer to statistically significant differences. Terms such as "similar" or "no difference" mean that differences were not statistically significant. Expressions such as "apparent" or "seemed" mean that we need more statistical tests to draw conclusions about whether differences were statistically significant. In general, lack of significance is due to small sample size: there may be a true difference, but the survey did not include enough respondents to show this.

Confidence intervals

For surveys, special calculations are done to account for the survey design. These calculations usually include weights, allowing each respondent to "speak" for several others. The resulting estimates refer to the entire population of interest (not just the respondents). These estimates must be reported with a margin of error, the 95% confidence interval (95% CI). In this document, if the 95% CIs do not overlap, differences are significant. However, sometimes, differences are significant even if the 95% CIs overlap. Strikethroughs caution the reader about estimates with a wide margin of error. Data are omitted for subgroups with fewer than 50 respondents.

Respondents and population

Statements in this report about "all women" or "new mothers" refer to the NM PRAMS-eligible population, most of the residents with in-state live birth. Estimates are calculated from respondents' answers. As the response rate decreases, potential bias increases.

Statewide data⁴

From 2001 to 2003, an average of 13% of new mothers reported being aware of a dental problem during pregnancy. Only 32% of women received dental services, and 23% recalled prenatal discussion with a health care worker about care of the teeth and gums (Table 1). Moreover, less than half of women with a dental problem (48%) received dental care during pregnancy (Table 2).

Table 1. NM PRAMS oral health questions: 4,589 respondents represented 78,291 NM PRAMS-eligible residents with in-state live birth from 2001-2003.

	Said a healthcare worker or dentist discussed care of teeth and gums		Said they had a dental problem during pregnancy			Went to a dentist or dental clinic during pregnancy		
Maternal characteristic or experience	%	95% CI	%	95% CI		%	95% CI	
All new mothers	23.2	21.9 24.5	13.2	12.1	14.3	32.4	30.9	33.8

Table 2. Among women who had a dental problem, percentage who did not receive dental services, birth years 2001-2003. Estimates based on 608 respondents with a dental problem, representing 10,328 mothers.

Among women who had a dental problem, % who did not receive dental services		
	%	95% CI (%)
Did not receive dental services	52.3	48.0-56.6
Did receive dental services	47.7	43.4-52.0

County-level data

In all counties combined, from 1998-2003, only 20.3% (19.4% to 21.2%) of new mothers recalled that a prenatal health care worker discussed how to care for the teeth and gums. This estimate ranged from 14.1% (7.6% to 20.5%) in Roosevelt to 26.6% (19.3% to 33.8%) in Cibola (data not shown).⁵

Among women with a dental problem, the percentage of women who went for dental care varied by county (Table 3). The statewide estimate was 44.9% (41.7 to 48.1). For Bernalillo County, the estimate was 51.5%, but it was below 20% in Colfax, Eddy, or Lea (upper 95% CI was less than 32%)⁶

Table 3. Oral health questions, NM PRAMS, birth years 1998-2003, by county. The “All” line reports data from all NM counties, even for counties with too small a sample to report data separately (Catron, De Baca, Guadalupe, Hidalgo, Mora, Quay, Sierra, and Union counties). First 6 columns: 9,436 respondents, representing 156,048 new mothers. Last 3 columns: 1213 respondents, representing 20,267 new mothers.

County	Among all mothers, percent who...						Among women with a dental problem, % who		
	Had a dental problem			Went for dental care			Went for dental care		
	Percent	95% CI		Percent	95% CI		Percent	95% CI	
All counties	13.0	12.2	13.8	28.3	27.3	29.4	44.9	41.7	48.1
Bernalillo	12.2	10.7	13.7	33.7	31.6	35.9	51.5	44.8	58.1
Chaves	13.1	9.4	16.8	18.4	14.4	22.3	39.9	25.5	54.3
Cibola	11.1	5.6	16.5	27.0	20.0	34.0	53.7	27.9	79.5
Colfax	13.5	5.4	21.7	27.2	15.6	38.8	12.5	-3.9	29.0
Dona Ana	14.1	11.5	16.8	25.8	22.8	28.9	46.2	36.2	56.2
Eddy	12.8	9.2	16.4	13.5	9.1	17.9	18.9	8.2	29.5
Grant	13.6	7.4	19.9	26.9	19.4	34.3	29.7	8.3	51.0
Lea	14.6	10.1	19.2	18.0	13.8	22.1	19.9	8.2	31.5
Lincoln	25.8	14.9	36.8	28.8	17.9	39.7	48.7	24.4	73.0
Los Alamos	13.9	6.7	21.2	52.4	40.8	64.0	72.1	48.1	96.0
Luna	11.5	5.3	17.7	16.8	10.3	23.3	23.1	2.0	44.2
McKinley	10.6	7.8	13.4	20.9	17.2	24.7	48.4	34.4	62.3
Otero	18.2	13.6	22.9	29.9	24.4	35.4	41.0	26.8	55.2
Rio Arriba	9.9	6.6	13.3	26.8	21.0	32.7	39.0	22.0	56.0
Roosevelt	15.2	8.4	22.1	20.3	13.0	27.7	33.4	12.1	54.6
Sandoval	12.9	9.0	16.7	33.8	28.4	39.1	54.5	38.6	70.5
San Juan	13.4	10.5	16.3	22.5	19.2	25.8	33.8	23.1	44.5
San Miguel	14.7	9.5	19.8	34.7	27.1	42.3	69.2	52.4	86.0
Santa Fe	12.0	9.4	14.7	32.6	28.8	36.4	51.4	39.8	62.9
Socorro	21.9	11.7	32.2	35.1	24.8	45.4	57.2	29.2	85.1
Taos	10.3	5.4	15.1	33.2	24.4	42.0	71.5	49.7	93.2
Torrance	14.9	4.6	25.3	35.1	20.0	50.3	39.9	4.1	75.7
Valencia	12.6	7.8	17.3	23.4	17.5	29.3	36.5	16.7	56.3

Maternal characteristics and experiences (Table 4)

Use of dental services also differed by region. Going for dental care was less likely among some of the women who were more likely to have dental problems: those who received public assistance or had Medicaid as a payer of prenatal care, or who entered prenatal care after the first trimester or not at all (delayed/no PNC).

Statewide, from 2001-2003, only 23% of all new mothers recalled prenatal discussion of oral hygiene. Thirteen percent of new mothers said they had a dental problem during pregnancy. Thirty-two percent said they went for dental care.

Prenatal discussion: care of teeth and gums

Recalling this discussion was more likely among women who were Native American than Hispanic white, attained an educational level beyond high school (compared with less than high school), did not have a previous live birth, received public assistance, entered prenatal care within the first trimester (three months), or had either insurance or Indian Health Service as payer of prenatal care (compared with women on Medicaid or no third-party payer).

Dental problem

A dental problem was more likely among women who were over 20 years of age, had a previous live birth, received public assistance, had prenatal care paid by Medicaid (compared with insurance only), or had delayed/no PNC.

Dental services

These were more likely among women who were non-Hispanic white than either Native American or Hispanic white, had higher levels of education, were married, resided in central (urban) NM or the northeast than in other areas, did not receive public assistance, had prenatal care paid by insurance, or entered prenatal care in the first trimester. Dental services were less likely among women lacking a third-party payer than IHS, Medicaid, or insurance.

Table 4. NM PRAMS results for questions about having 1) a discussion about proper care of their teeth and gums, 2) a dental problem, or 3) dental care, by demographic and prenatal care characteristics. NM resident in-state births from 2001-2003, with 4,589 respondents representing 78,291 new mothers. "IHS" means IHS with or without Medicaid and/or insurance; "Medicaid" means with or without insurance, and without IHS.

Table 4	Healthcare worker discussed care of teeth and gums			Had a dental problem during pregnancy			Went to a dentist or dental clinic during pregnancy		
	%	95% CI		%	95% CI		%	95% CI	
All new mothers	23.2	21.9	24.5	13.2	12.1	14.3	32.4	30.9	33.8
Age									
15-17	31.6	25.3	37.9	9.2	5.6	12.7	28.9	22.8	35.0
18-19	22.7	18.6	26.9	8.0	5.2	10.8	25.5	21.1	29.9
20-24	22.9	20.5	25.2	14.6	12.6	16.6	26.5	24.0	29.0
25-34	22.6	20.6	24.6	13.7	12.0	15.3	36.2	33.9	38.6
35 +	22.1	18.1	26.1	14.4	11.0	17.9	42.0	37.1	46.8
Ethnicity									
Non-Hispanic White	24.5	22.1	26.8	14.7	12.8	16.7	41.9	39.2	44.6
Native American	27.7	23.7	31.8	12.5	9.5	15.5	28.2	24.1	32.2
Hispanic White	21.0	19.2	22.8	12.2	10.8	13.7	26.8	24.9	28.8
Education									
Less than high school	20.6	18.1	23.1	14.4	12.2	16.6	20.2	17.7	22.7
High school	22.5	20.2	24.8	13.7	11.8	15.6	26.8	24.3	29.2
More than high school	25.7	23.5	27.9	11.4	9.9	13.0	46.2	43.7	48.7
Marital status									
Married	24.0	22.2	25.8	11.9	10.6	13.3	38.6	36.6	40.7
Not married	22.3	20.3	24.2	14.7	13.0	16.3	25.4	23.3	27.4
Any previous live birth									
No	25.7	23.5	27.8	10.2	8.7	11.7	34.1	31.8	36.5
Yes	21.6	20.0	23.3	15.2	13.7	16.6	31.2	29.3	33.1
Residence									
Central: District 1 urban	23.8	21.3	26.4	12.3	10.3	14.3	37.4	34.5	40.4
Northeast: District 2	23.8	21.1	26.4	14.0	11.8	16.3	35.8	32.8	38.7
Southwest: District 3	23.5	20.8	26.1	15.3	13.0	17.7	29.8	26.9	32.7
Southeast: District 4	21.2	18.7	23.7	13.6	11.5	15.7	22.9	20.4	25.4
Northwest: Dist1 rural	22.6	19.5	25.8	12.2	9.7	14.7	28.4	25.0	31.7
Public assistance									
No	22.0	20.5	23.4	11.1	10.0	12.2	34.3	32.6	36.0
Yes	27.2	24.3	30.1	20.0	17.4	22.6	26.2	23.3	29.1
Payer of prenatal care									
IHS with/without Medicaid/insurance	30.3	24.7	35.9	13.5	9.3	17.8	31.3	25.7	37.0
Medicaid with/without insurance; no IHS	21.4	19.5	23.2	15.3	13.6	17.0	23.9	22.0	25.9
Insurance only	27.5	25.1	29.9	10.4	8.7	12.0	50.2	47.5	52.9
None	14.8	11.7	17.8	13.0	10.2	15.9	15.7	12.5	18.8
Entry to prenatal care									
First trimester PNC	24.0	22.4	25.6	12.5	11.2	13.7	35.5	33.7	37.3
Late or no PNC	20.8	18.4	23.2	14.8	14.8	16.9	24.5	21.8	27.1

Prenatal care (PNC) and dental services

Time of entry to prenatal care and going for dental services were correlated. Four mutually exclusive categories were based on whether women had a dental problem and whether they went to a dentist or dental clinic during pregnancy. This categorization is called “dental problem with dental care” (Tables 5).

Table 5. Dental problems and dental care, birth years 2001-2003, with 4,589 respondents representing 78,291 new mothers.

Dental problem with dental care Four mutually exclusive categories	%	95% CI
No dental problem & went to dentist or dental clinic	26.0	24.7 27.4
No dental problem & did not go to dentist or dental clinic	60.8	59.2 62.3
Had a dental problem & went to dentist or dental clinic	6.3	5.6 7.1
Had a dental problem & did not go to dentist or dental clinic	6.9	6.1 7.7

Most women (61%) had no dental problem and also no dental services, suggesting a lack of awareness about and/or access to services. Seven percent had a dental problem and no services. Six percent had a problem and did have services. Only 26% had no problem but did go for services, the desired combination.

Table 7. Dental problem with dental care, by time of entry into prenatal care, birth years 2001-2003, with 4,589 respondents representing 78,291 new mothers. Rows sum to 100%.

	Dental Problem with Dental Care							
	Had no dental problem & went to dentist/dental clinic		Had no dental problem & did not go to dentist /dental clinic		Had a dental problem & went to dentist/ dental clinic		Had a dental problem & did not go to dentist/dental clinic	
Entry to PNC	%	95% CI (%)	%	95% CI (%)	%	95% CI (%)	%	95% CI
First trimester	29.0	27.3 to 30.7	58.5	56.6 to 60.4	6.5	5.5 to 7.4	6.0	5.1 to 6.9
Delayed/noPNC	18.9	16.5 to 21.4	66.3	63.4 to 69.2	5.5	4.1 to 6.9	9.3	7.5 to 11.0

Table 6. Timing of Entry to Prenatal Care (PNC), birth years 2001-2003, with 4,589 respondents representing 78,291 new mothers.

Time of entry to PNC	%	95% CI
First trimester ("timely PNC")	70.7	69.3 72.2
After first trimester or no PNC ("delayed/no PNC")	29.3	27.8 30.7

In New Mexico, delayed prenatal care is common. Twenty-nine percent of women started prenatal care (PNC) after the first trimester (three months), referred to as “delayed/no PNC” (Table 6).⁷

In both PNC groups, the majority of women (59% of women with timely PNC, 66% of those with delayed/no PNC) had no dental problem and did not get dental care, suggesting a lack of awareness of and/or access to preventive services. Among women with timely PNC, 29% had no dental problem but did receive dental care, compared with women with delayed/no PNC, of whom only 19% had care despite lack of a problem. This suggests better access to and/or awareness of the need for preventive care among women with timely PNC. Conversely, among women with timely PNC, 6% had a dental problem and did not receive dental care, compared with 9% of women with delayed/no PNC, suggesting greater barriers to dental care among the latter group. Both PNC entry groups were similar for the combination of having a dental problem and getting care (Table 7).

Appendix

Methods:

Data collection and statistical calculations

Data collection

PRAMS surveys one in twelve new mothers within two to six months after delivery, asking about experiences, attitudes, and behaviors related to infant and maternal health. The sample frame is limited to New Mexico residents who delivered a live baby within the state of New Mexico, excluding mothers of multiples beyond triplets and those known to have placed their baby up for adoption when the birth certificate is filed.

From 1997 to 1999, the sample was stratified by ethnicity-race and birth weight. Starting in 2000, strata were changed to four NMDOH Public Health Division Districts and a fifth rural district separated from District 1. In 2005, the five strata were redefined because NMDOH reorganized its administrative areas into five Regions, which are similar, but not identical to the former Districts. Surveys are mailed, and if there is no response to three mailings, telephone interviews are attempted. Centers for Disease Control and Prevention (CDC) PRAMS provides technical assistance and weights the datasets. Protocols are standardized to allow national comparisons.

Sample sizes

From 1998-2003, a total of 14,379 mothers were contacted, with 10,300 responding (69.9% unweighted). For the oral health questions, 9,436 women responded, representing 156,048 NM residents with in-state live birth. For the subpopulation with dental problem, 1,213 responded, representing 20,267 new mothers. For birth years 2001-2003, there were 4,589 respondents representing 78,291 NM PRAMS-eligible residents with in-state live birth. The 608 respondents who had a dental problem represent 10,328 new mothers from the population.

Response rates

From 1999-2003, NM PRAMS weighted response rates were at least 70%. For each of these years, unweighted response rates ranged from 66.3% (1998) to 73.1% (2000). However, some subgroups had lower response rates than the desired 70%

(for example, women who were younger, less educated, or not married).

Unweighted response rates by county ranged from 61.6% to 85.7%, with six counties having rates between 61.6% and 67.3%, another six counties at least 80%, and the remaining 20 counties (including Bernalillo, Dona Ana and Santa Fe) falling between 69% and 79%. Counties with lower response rates were Cibola, McKinley, Lincoln, and Rio Arriba (61.6% to 64.8% response), and San Juan, Sandoval, Taos, Luna, Dona Ana, and Santa Fe (66.5% to 69.6%). Counties with very small birth populations may not produce enough PRAMS respondents to sustain a stable response rate.

Analysis

Survey datasets were sent to CDC PRAMS, where they were weighted. Analysis was done with SUDAAN v9.0.0 software (Research Triangle Institute, NC), which accounts for survey sample design. For each birth year, the weighted sample estimates can be used to infer information about the population of approximately 27,200 women giving live birth each year.

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2 Health Systems Bureau and Office of Oral Health. *New Mexico Oral Health Surveillance System Annual Report 2006*. Santa Fe, NM: Health Systems Bureau, Public Health Division, NM Department of Health, 2006.

3 Website www.health.state.nm.us/phd/prams/home.html.

4 For 2001-2003 births,
NM PRAMS oral health questions were:

This question is about the care of your teeth during your most recent pregnancy. For each item, circle Y (Yes) if it is true or circle N (No) if it is not true.

- a) I had a dental problem,
- b) I went to a dentist or dental clinic,
- c) A dental or other health care worker talked with me about how to care for my teeth and gums.

5 County-level data for most questions are available on the NM PRAMS website.

6 For these counties, despite large margins of error, the figures in the rightmost column under "95% CI" were less than 44.8%, the upper 95% CI limit for Bernalillo. If 95% CIs overlap, we need more tests to decide whether the estimates did or did not differ.

7 Although birth certificates were used to derive time of entry to PNC, PRAMS exclusions may result in estimates different from figures reported by NM Office of Vital Records.

