

# Maternal Health



# Pre-pregnancy Overweight/Obesity

Over the last decade, obesity prevalence in the United States increased dramatically – by 74% between 1991 and 2001.<sup>1</sup> In 1991, only four of 45 states who participated in the U.S. Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System (BRFSS) reported an overall prevalence of adult obesity of 15% or greater. By 2001, all but one of 50 states had obesity rates of 15% or more. Among Alaskan adults, the prevalence of obesity was 21%.<sup>2</sup>

- Over 42% of Alaskan women who delivered a live birth in 2001 were overweight or obese prior to becoming pregnant. The prevalence of pre-pregnancy overweight/obesity increased from 26.8% in 1991 to 42.4% in 2001 – a 58% increase.
- Alaska Native women had a higher prevalence of pre-pregnancy overweight/obesity (49.3% in 2001) than the overall population of women who recently delivered. Despite a higher race-specific prevalence, Alaska Native women reported a decline of 7% in pre-pregnancy overweight/obesity between 2000 and 2001.
- In 2001, overweight/obesity was less prevalent in the pre-pregnancy population (42.4%) than in the general population of Alaskan women ages 18 or older (56.7%)<sup>2</sup>; however, the rate of increase in overweight/obesity was higher in the pre-pregnancy population. Between 1991 and 2001, pre-pregnancy overweight/obesity increased by 58%, compared to an increase of 47% in the prevalence of overweight/obesity among adult females surveyed by Alaska’s BRFSS.<sup>3</sup>
- Region-specific prevalence of pre-pregnancy overweight/obesity ranged from 38.7% in the Interior to 52.9% in the Northern region during 1999-2001. In general, the regions with larger urban populations (Anchorage/Mat-Su and Interior) reported lower rates of pre-pregnancy overweight/obesity than more rural regions.

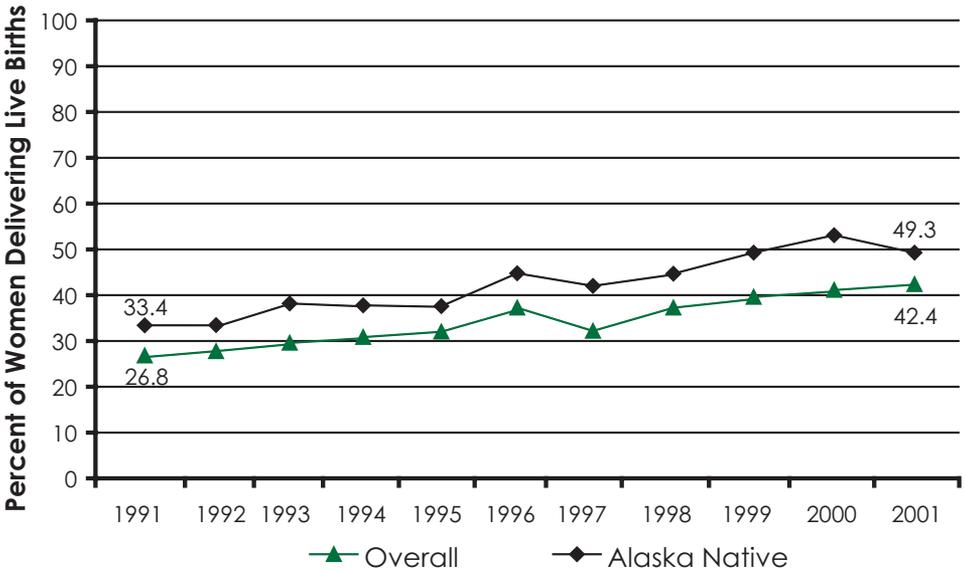
<sup>1</sup> Centers for Disease Control and Prevention. Obesity Trends: Prevalence of Obesity Among U.S. Adults by State 1991-2001. [http://www.cdc.gov/nccdphp/dnpa/obesity/trend/prev\\_reg.htm](http://www.cdc.gov/nccdphp/dnpa/obesity/trend/prev_reg.htm). (09/2004).

<sup>2</sup> Health Risks in Alaska Among Adults. (See References for full citation)

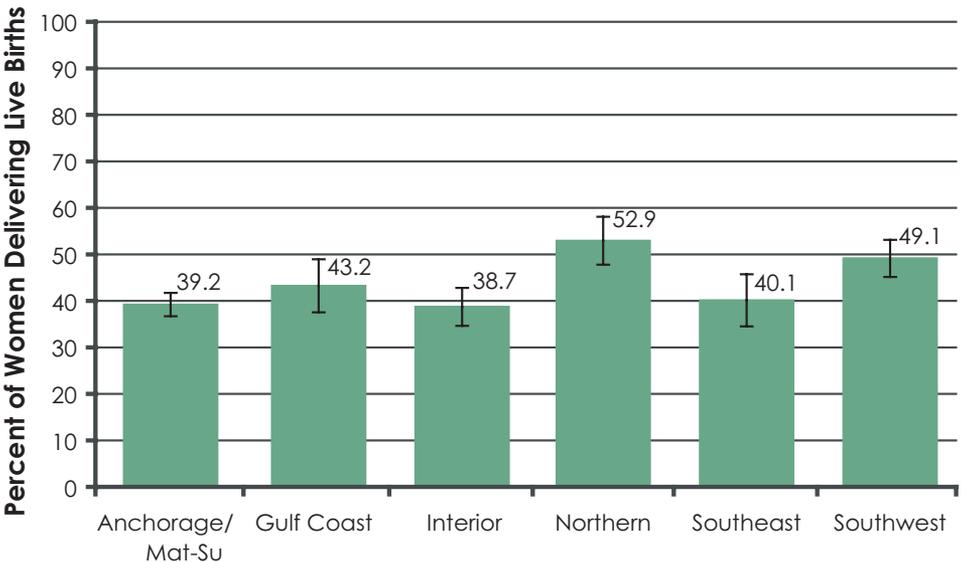
<sup>3</sup> Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System (BRFSS), Trends data, Alaska, Grouped by Gender, Overweight and Obesity, 1991 and 2001. <http://apps.nccd.cdc.gov/brfss/Trends/sexchart.asp?qkep=10080&state=AK>. (08/2005).

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Pre-pregnancy Overweight/Obesity by Race and Year  
Alaska, 1991-2001



Pre-pregnancy Overweight/Obesity by Region  
Alaska, 1999-2001



# Pre-pregnancy Overweight/Obesity

Obesity (a body mass index of 30kg/m<sup>2</sup> or higher) is associated with multiple health consequences. Among these health conditions are some of the leading causes of mortality in the U.S. – including coronary heart disease, stroke, cancers of the breast and colon, and type 2 diabetes. Obesity is associated with poor female reproductive health and pre-pregnancy obesity has been found to be an independent risk factor for adverse pregnancy and neonatal outcomes.<sup>1</sup> Pregnancy complications associated with obesity include gestational diabetes, gestational hypertension, preeclampsia and complications in surgical delivery.

- In 2001, the race group with the lowest prevalence of pre-pregnancy overweight/obesity in Alaska was Asian or Pacific Islanders (26.1%). Between the two largest race groups in Alaska, Alaska Natives had a significantly higher prevalence of pre-pregnancy overweight/obesity (49.3%) than whites (40.6%). Black women appeared to be at greatest risk for pre-pregnancy overweight/obesity.
- Younger mothers were less likely to experience pre-pregnancy overweight/obesity than older mothers; but as the adolescent obesity rate grows,<sup>2</sup> the association between maternal age and pre-pregnancy overweight/obesity may diminish. This phenomenon may account for the rapid increase in pre-pregnancy obesity in Alaska compared to the increase among adult females.
- Women who had at least some college were slightly less likely to be considered overweight or obese prior to pregnancy; but neither of the two most commonly used indicators of socio-economic status (years of education and Medicaid status) were significantly correlated with an increased risk for pre-pregnancy overweight/obesity in Alaska.

<sup>1</sup> Bo S, Menato G, Signorile A, et al. Obesity or Diabetes: What is Worse for the Mother and for the Baby? *Diabetes/ Metabolism Reviews*; 29(2 Pt 1): 175-178. Apr 2003.

<sup>2</sup> Centers for Disease Control and Prevention and National Center for Health Statistics. National Health and Nutrition Examination Survey, Hispanic Health and Nutrition Examination Survey (1982-84), and National Health Examination Survey (1963-65 and 1966-70). Hyattsville, MD.

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## Prevalence of Pre-pregnancy Overweight/Obesity by Selected Demographics Alaska, 2001

|                                 | Percent       | Weighted n | Standard Error | 95% CI        |
|---------------------------------|---------------|------------|----------------|---------------|
| <b>Maternal Race</b>            |               |            |                |               |
| White                           | <b>40.6</b>   | 2410       | 2.0            | (36.6 - 44.5) |
| Alaska Native                   | <b>49.3</b>   | 1101       | 1.8            | (45.8 - 52.8) |
| Black                           | <b>54.4 *</b> | 231        | 8.1            | (38.5 - 70.3) |
| Asian or Pacific Islander       | <b>26.1</b>   | 139        | 6.2            | (13.9 - 38.3) |
| <b>Maternal Ethnicity</b>       |               |            |                |               |
| Hispanic                        | <b>36.3</b>   | 191        | 6.5            | (23.4 - 49.1) |
| Non-Hispanic                    | <b>42.6</b>   | 3407       | 1.6            | (39.5 - 45.7) |
| <b>Maternal Age</b>             |               |            |                |               |
| 15-19 years                     | <b>27.6</b>   | 250        | 4.0            | (19.8 - 35.4) |
| 20-24 years                     | <b>37.3</b>   | 977        | 2.7            | (32.1 - 42.5) |
| 25-34 years                     | <b>48.6</b>   | 2239       | 2.2            | (44.3 - 52.8) |
| 35 years or older               | <b>41.1</b>   | 463        | 4.2            | (33.0 - 49.3) |
| <b>Maternal Education</b>       |               |            |                |               |
| <12 years                       | <b>42.8</b>   | 426        | 3.8            | (35.4 - 50.1) |
| 12 years                        | <b>45.4</b>   | 1793       | 2.2            | (41.1 - 49.7) |
| >12 years                       | <b>39.4</b>   | 1578       | 2.4            | (34.8 - 44.0) |
| <b>Prenatal Medicaid Status</b> |               |            |                |               |
| Medicaid                        | <b>43.0</b>   | 1597       | 2.2            | (38.6 - 47.3) |
| Non-Medicaid                    | <b>42.0</b>   | 2282       | 2.0            | (38.1 - 45.8) |
| <b>OVERALL</b>                  | <b>42.4</b>   | 3929       | 1.5            | (39.5 - 45.3) |

% Missing = 3.7

Core; Q5, Q6

\* Data may be unreliable. Number of respondents was at least 30 but less than 60.

# Postpartum Tobacco Use

Women who smoke are at increased risk for many cancers, heart disease, high blood pressure and other leading causes of female mortality and morbidity. Postpartum tobacco use not only endangers the health of the mother, but the outcome of future pregnancies and the health of the newborn infant and other children in the home. Exposure to environmental tobacco smoke is associated with an increased risk of infant inner ear and respiratory infections and may exacerbate childhood asthma.

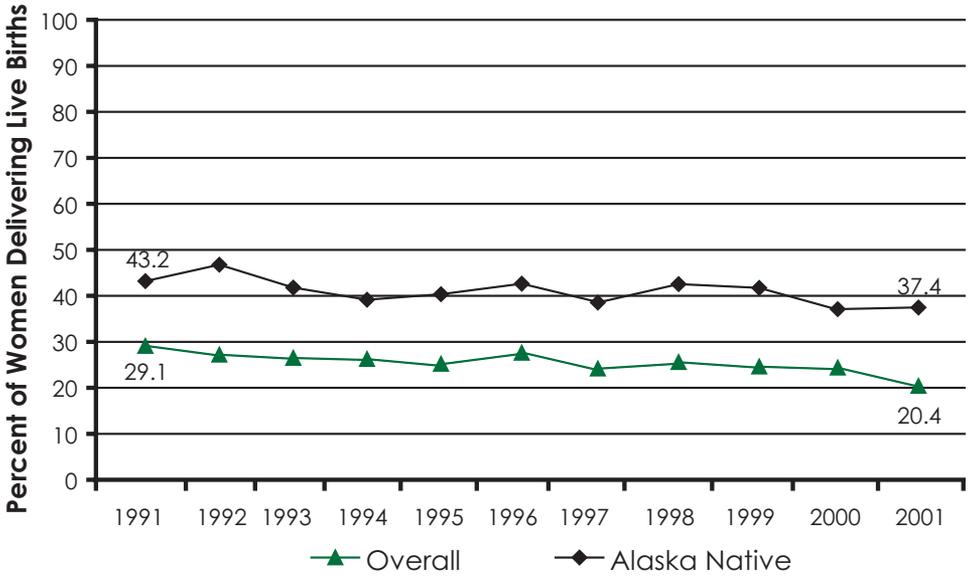
- Just over 20% of Alaskan women smoked cigarettes after delivering a live-born infant. This is consistent with the national estimate for smoking prevalence among adult females (21.6%)<sup>1</sup> but lower than the prevalence of smoking among the general population of Alaskan women ages 18 or over (25.9%).<sup>2</sup>
- The prevalence of postpartum smoking in Alaska decreased by 30% between 1991 and 2001. Between 2000 and 2001, postpartum smoking prevalence decreased by 16%, the largest annual decline since 1991.
- The racial disparity in the prevalence of postpartum smoking has not improved for Alaska Native women since 1991. Over 37% of Alaska Native women reported that they smoked cigarettes postpartum in 2001.
- The prevalence of smoking postpartum was 1.4 times higher than the prevalence of smoking during the last three months of pregnancy, indicating that some women who refrain from smoking during pregnancy start smoking again in the postpartum period.
- Women in the Northern region of Alaska were significantly more likely to use tobacco after having a baby than women from any other region of Alaska.

<sup>1</sup> Centers for Disease Control and Prevention. Percentage of Adults Ages 18 Years and Older by Cigarette Smoking Status And Number Of Cigarettes Smoked Per Day By Current Smokers. National Health Interview Surveys: 1997, 1998, 1999, 2000 (combined). [http://www.cdc.gov/tobacco/research\\_data/adults\\_prev/adstat5.htm](http://www.cdc.gov/tobacco/research_data/adults_prev/adstat5.htm). (10/ 2004).

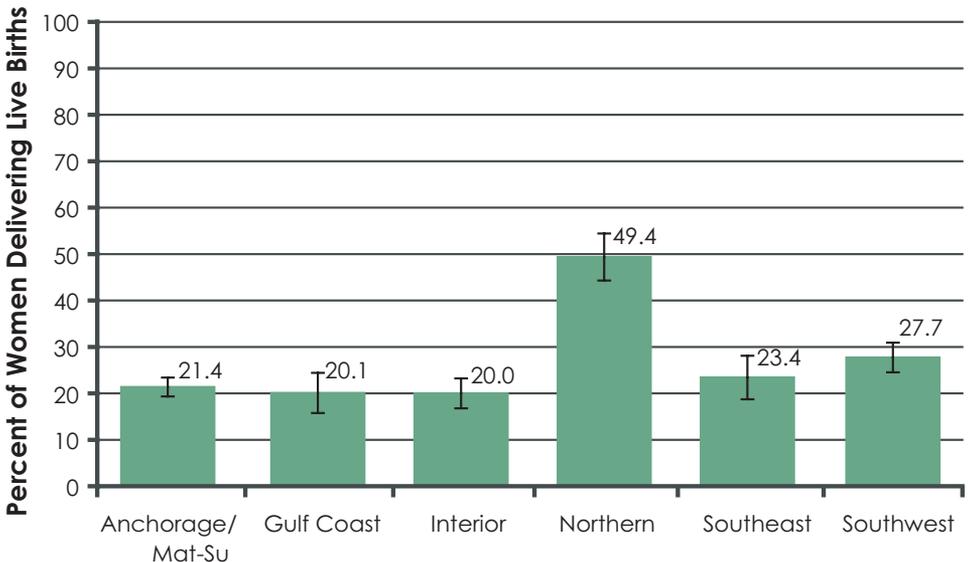
<sup>2</sup> Health Risks in Alaska Among Adults. (See References for full citation)

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## Postpartum Tobacco Use by Race and Year Alaska, 1991-2001



## Postpartum Tobacco Use by Region Alaska, 1999-2001



# Postpartum Tobacco Use

Because cigarette smoking contributes to adverse birth outcomes and because pregnant women have frequent contact with the health care system, it is important to promote smoking cessation during pregnancy. About 80% of postpartum smokers in Alaska want to quit smoking; yet only 3% of Alaska mothers who had ever smoked indicated that they took classes on how to stop smoking while they were pregnant.<sup>1</sup>

- Alaska Native women were more than 2 times as likely to smoke in the postpartum period as white women. Alaska Native women were the most likely race group to take prenatal smoking cessation classes – about 5% during 1996 to 1999.
- Postpartum smoking was strongly correlated with age. Teenagers were the most likely age group to smoke cigarettes in both the prenatal and postpartum periods. While the prevalence of tobacco use increased during the postnatal period for all age groups, the difference in the proportion of mothers who smoked during the postnatal, versus the prenatal, period was highest for teenagers.
- Postpartum smoking was also correlated with socio-economic indicators. Postpartum smoking was significantly higher in Alaskan women with lower educational status and was more than 2 times as high in Medicaid as non-Medicaid recipients.
- Among the 80% of mothers who smoked who would like to quit, “craving for a cigarette” was the number one barrier to quitting smoking (85.4%). If cost were not an issue, 74% of mothers who smoked say they would use a nicotine patch, gum, nasal spray or inhaler to aid them in quitting smoking.<sup>2</sup>

<sup>1</sup> Alaska MCH Data Book 2003, p 132. (See References for full citation)

<sup>2</sup> Alaska MCH Data Book 2003, p 132. (See References for full citation)

# Maternal Health

## Prevalence of Postpartum Tobacco Use by Selected Demographics Alaska, 2001

|                                 | Percent     | Weighted n | Standard Error | 95% CI          |
|---------------------------------|-------------|------------|----------------|-----------------|
| <b>Maternal Race</b>            |             |            |                |                 |
| White                           | 15.9        | 946        | 1.5            | ( 13.0 - 18.9 ) |
| Alaska Native                   | 37.4        | 875        | 1.7            | ( 34.1 - 40.8 ) |
| Black                           | 7.4 *       | 31         | 4.2            | ( 0.0 - 15.7 )  |
| Asian or Pacific Islander       | 6.6         | 36         | 3.6            | ( 0.0 - 13.6 )  |
| <b>Maternal Ethnicity</b>       |             |            |                |                 |
| Hispanic                        | 11.8        | 63         | 4.1            | ( 3.7 - 19.9 )  |
| Non-Hispanic                    | 21.6        | 1741       | 1.2            | ( 19.3 - 24.0 ) |
| <b>Maternal Age</b>             |             |            |                |                 |
| 15-19 years                     | 38.3        | 362        | 3.9            | ( 30.7 - 45.9 ) |
| 20-24 years                     | 25.3        | 656        | 2.3            | ( 20.8 - 29.7 ) |
| 25-34 years                     | 15.7        | 731        | 1.5            | ( 12.8 - 18.5 ) |
| 35 years or older               | 13.6        | 157        | 2.6            | ( 8.4 - 18.8 )  |
| <b>Maternal Education</b>       |             |            |                |                 |
| <12 years                       | 48.9        | 505        | 3.7            | ( 41.7 - 56.1 ) |
| 12 years                        | 23.1        | 933        | 1.7            | ( 19.7 - 26.5 ) |
| >12 years                       | 10.4        | 412        | 1.5            | ( 7.5 - 13.2 )  |
| <b>Prenatal Medicaid Status</b> |             |            |                |                 |
| Medicaid                        | 30.1        | 1131       | 2.0            | ( 26.2 - 34.0 ) |
| Non-Medicaid                    | 13.6        | 750        | 1.2            | ( 11.3 - 16.0 ) |
| <b>OVERALL</b>                  | <b>20.4</b> | 1912       | 1.1            | ( 18.3 - 22.5 ) |

% Missing = 2.6

Core; Q30

\* Data may be unreliable. Number of respondents was at least 30 but less than 60.

# Pre-pregnancy Physical Abuse

A growing body of research on violence and reproductive health suggests that violence may constitute a more common health threat to pregnant women than preeclampsia, gestational diabetes or placenta previa.<sup>1</sup> While a number of adverse outcomes have been identified, there is more that we need to understand regarding physical abuse around the time of pregnancy. We do know that about one-third of women who are physically assaulted suffer injury that requires medical care. Physical abuse may result in psychological symptoms, economic cost, and death. National data show American Indian/Alaska Native populations to be more likely than other race groups to report intimate partner violence. Domestic violence, alcoholism and depression have been linked to high suicide rates in Native American populations.<sup>2</sup>

- Over 9% of women who delivered a live-born infant during 2001 experienced physical abuse during the 12 months before they became pregnant.
- Alaska Native women consistently reported a higher prevalence of pre-pregnancy abuse than the State average. Trend analyses for 1996-2001 indicated there has been no significant decline in the prevalence of pre-pregnancy physical abuse among Alaska Natives or the overall population.
- Women in the Northern and Southwest regions of Alaska were the most likely to report pre-pregnancy physical abuse.
- During 1996-1999, 89% of Alaskan women who experienced physical abuse during the 12 months before they got pregnant mentioned one person as the abuser. Of women who said they were abused, 76% indicated that their husband or partner was the abuser.<sup>3</sup> Intimate partner violence accounts for approximately the same proportion of physical assault in the Alaska pre-pregnancy population as it does nationally.<sup>4</sup>

<sup>1</sup> Centers for Disease Control and Prevention, Division of Reproductive Health. Violence Against Women. <http://www.cdc.gov/reproductivehealth/violence/index.htm>. (10/2004).

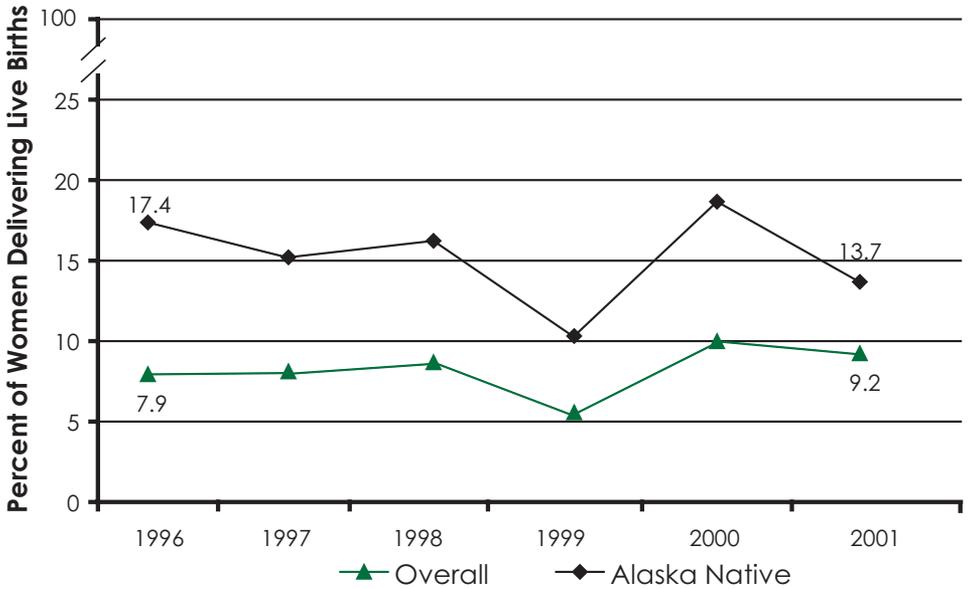
<sup>2</sup> Women's Health Information Center. Health Problems in American Indian/Alaskan Native Women: Suicide. <http://www.4woman.gov/minority/nasuicide.cfm>. (10/2004).

<sup>3</sup> Alaska MCH Data Book 2003, p 134. (See References for full citation)

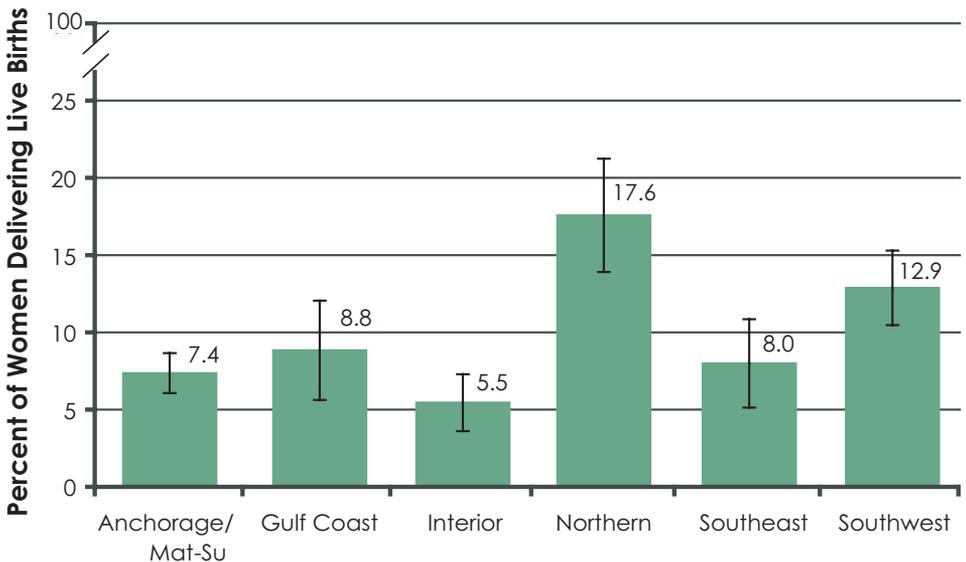
<sup>4</sup> Centers for Disease Control and Prevention and National Institutes of Justice. Prevalence, Incidence and Consequences of Violence Against Women: Findings from the National Violence Against Women Survey (1995-6). Nov 1998. <http://www.ncjrs.org/pdffiles/172837.pdf>.

# Maternal Health

Physical Abuse by Anyone 12 Months Before Pregnancy by Race and Year, Alaska, 1996-2001



Physical Abuse by Anyone 12 Months Before Pregnancy by Region, Alaska, 1999-2001



# Pre-pregnancy Physical Abuse

PRAMS provides some of the most useful data on the characteristics of women who experience physical abuse around the time of pregnancy. Analysis of pooled PRAMS data from 14 participating states found higher rates of physical abuse in women who were younger, black, unmarried, less educated, on Medicaid, living in crowded conditions, entering prenatal care late, or smoking during the third trimester. Women who had unintended pregnancies are more likely to have experienced pre-pregnancy abuse than women with intended pregnancies.<sup>1</sup> Understanding the characteristics of women who are most at risk for abuse may help reduce the number of women affected by violence. Screening for physical abuse and referral to appropriate services is an important part of prenatal care.

- White women were the least likely to report pre-pregnancy abuse in Alaska. Approximately 6% of white women reported pre-pregnancy physical abuse in 2001. Alaska Native women were more than 2 times as likely as white women to have been abused, and black women may have been the most at-risk for pre-pregnancy abuse in Alaska.
- Alaskan women of all ages experienced pre-pregnancy physical abuse, but the youngest mothers were at greatest risk. Almost 19% of women under age 20 who delivered a live birth in 2001 experienced pre-pregnancy abuse.
- Pre-pregnancy abuse was more common among mothers who used Medicaid to help pay for their prenatal expenses. Physical abuse during the 12 months prior to pregnancy was 3 times higher among Medicaid than non-Medicaid recipients in 2001.
- Survey research in Alaska found that more than one-half of Alaska prenatal care providers estimated that 10% or more of their female patients had experienced abuse. Only 17% routinely screened for physical abuse at the first prenatal visit and 5% reported screening at follow-up visits.<sup>2</sup>

<sup>1</sup> Gazmararian JA, Petersen R, Spitz AM, et al. Violence and Reproductive Health: Current Knowledge and Future Research Directions. *Maternal and Child Health Journal*. 4(2):79-84. Jun 2000.

<sup>2</sup> Chamberlain L, Perham-Hester KA. Physicians' Screening Practices for Female Partner Abuse During Prenatal Visits. *Maternal and Child Health Journal*. 4(2): 141-148. Jun 2000.

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## Prevalence of Pre-pregnancy Physical Abuse by Anyone by Selected Demographics Alaska, 2001

|                                 | Percent    | Weighted n | Standard Error | 95% CI                |
|---------------------------------|------------|------------|----------------|-----------------------|
| <b>Maternal Race</b>            |            |            |                |                       |
| White                           | 6.1        | 371        | 1.0            | ( 4.2 - 8.1 )         |
| Alaska Native                   | 13.7       | 323        | 1.2            | (11.3 - 16.0 )        |
| Black                           | 28.4 *     | 121        | 7.5            | (13.8 - 43.0 )        |
| Asian or Pacific Islander       | 8.9        | 50         | 4.0            | ( 1.2 - 16.7 )        |
| <b>Maternal Ethnicity</b>       |            |            |                |                       |
| Hispanic                        | 13.7       | 75         | 4.8            | ( 4.2 - 23.1 )        |
| Non-Hispanic                    | 9.2        | 757        | 0.9            | ( 7.5 - 11.0 )        |
| <b>Maternal Age</b>             |            |            |                |                       |
| 15-19 years                     | 18.6       | 174        | 3.4            | (11.8 - 25.3 )        |
| 20-24 years                     | 10.5       | 282        | 1.6            | ( 7.4 - 13.6 )        |
| 25-34 years                     | 8.3        | 396        | 1.2            | ( 6.0 - 10.6 )        |
| 35 years or older               | 2.7        | 31         | 1.2            | ( 0.3 - 5.1 )         |
| <b>Maternal Education</b>       |            |            |                |                       |
| <12 years                       | 14.0       | 149        | 2.6            | ( 9.0 - 19.0 )        |
| 12 years                        | 11.4       | 465        | 1.4            | ( 8.6 - 14.1 )        |
| >12 years                       | 5.6        | 226        | 1.1            | ( 3.4 - 7.7 )         |
| <b>Prenatal Medicaid Status</b> |            |            |                |                       |
| Medicaid                        | 15.3       | 589        | 1.6            | (12.1 - 18.5 )        |
| Non-Medicaid                    | 4.8        | 271        | 0.8            | ( 3.3 - 6.4 )         |
| <b>OVERALL</b>                  | <b>9.2</b> | <b>883</b> | <b>0.8</b>     | <b>( 7.6 - 10.9 )</b> |

% Missing = 0.7

Core; Q35a, Q35b

\* Data may be unreliable. Number of respondents was at least 30 but less than 60.