

Family Health Dataline

IN THIS ISSUE:

During 1991-1994:

- One in 15 women younger than 20 years had a live birth.
- One in nine Alaska Native and black women younger than 20 years had a live birth.
- Among births to teen mothers less than 18 years of age, the mean age of the father was 20.2 years and 36% were over 20 years.
- Approximately 5% of teen mothers were the victims of second-degree statutory rape.
- Teen mothers were more likely to have had an unwanted or unplanned pregnancy, to have received Medicaid or WIC support, and to have experienced domestic violence than older mothers.
- 16% of teen mothers less than 18 years of age were currently sexually active yet not doing anything to prevent pregnancy.
- 17% of teen mothers less than 18 years of age planned their pregnancy.

Dear Readers:

In the January/February 1997 Family Health Dataline issue (Teen Live Births in Alaska During 1991-94), we reported an inaccurately high proportion of teen births due to fathers who were older than teens. This Dataline replaces that issue with corrected paternal age data.

You will find this issue and all back issues of the Dataline on the Internet at: <http://health.hss.state.ak.us/HTMLSTUF/DPH/dataline/DATALINE.HTM>

An upcoming article entitled "Experience of Violence Among Teenage Mothers in Alaska" in the *Journal of Adolescent Health* (scheduled for publication in May 1998) also incorporates the corrected paternal age.

Teen Live Births in Alaska During 1991-94

Introduction

Teen pregnancy has become one of the most pressing issues in the United States. Births to teenagers are frequently unwanted or unplanned, which in turn places the infant at risk for abuse or neglect. Teenagers who have children are usually unmarried and may have fewer resources with which to support a family. Consequently, they may depend more on government support through such programs as Medicaid or the supplemental food program for Women, Infants, and Children (WIC). Unmarried teens with children may drop out of school thereby decreasing their future potential for employment and increasing their dependence on others. In sum, teenagers who have live births may contribute disproportionately to continuing problems with poverty and poor education.

To provide Alaska-specific information for policy makers, program managers, and clinicians who work with teenagers, we used data from the Alaska Pregnancy Risk Assessment Monitoring System (PRAMS) covering birth years 1991-94 to determine characteristics of teenagers who delivered a live infant and the circumstances surrounding their pregnancy and pre-pregnancy period.

Methods

Teen live birth rates

Alaska has not routinely collected data on the number of pregnancies which occur so we limited our analysis to live births. To determine teen live birth rates by census area and race for 1991-1994, we obtained the number of live births to teens aged 15-19 by census area, race, and year from the Bureau of Vital Statistics. The population of females aged 15-19 for the same time period, racial groups, and census areas were obtained from the Alaska Department of Labor. Rates for specific sub-groups were calculated as the number of live births to women belonging to the sub-group divided by the population of women in the sub-group over the time period in question. All birth rates are reported as live births per 1000 persons per year.

Analysis of PRAMS data

We used the PRAMS survey, an ongoing population-based survey of mothers of newborns, to evaluate specific risk categories. For these analyses, we stratified age into three groups: less than 18, 18-19, and over 19 years of age. The age range for respondents was 13 years old to 45 years old. We evaluated PRAMS questions which dealt with Medicaid status when the respondent was sure she was pregnant, enrollment in WIC during pregnancy, indications that this pregnancy was unwanted or unplanned, experience of domestic violence, pre-pregnancy substance use, and postpartum birth control practices by age group.

All topics except the latter two were also evaluated by family health region defined as specific collections of census areas:

<u>Region</u>	<u>Census Areas</u>
Anchorage	<i>Anchorage</i>
Fairbanks North Star	<i>Fairbanks North Star Borough</i>
Interior	<i>Denali Borough, SE Fairbanks, Yukon-Koyukuk</i>
North/Northwest	<i>Nome, North Slope, Northwest Arctic B</i>
South Central	<i>Kenai Peninsula, Matanuska Susitna, Valdez-Cordova</i>
Southeast	<i>Haines, Juneau, Ketchikan Gateway, Prince of Wales, Sitka, Skagway/Hoonah/Angoon, Yakutat, Wrangell-Petersburg</i>
Southwest	<i>Aleutians East, Aleutians West, Bristol Bay, Dillingham, Kodiak Island, Lake and Peninsula</i>
Yukon-Kuskokwim	<i>Bethel, Wade Hampton</i>

A woman had an unwanted pregnancy if she responded that she "didn't want to be pregnant then or at any time in the future". She had an unplanned pregnancy if she stated that she was not doing anything to prevent pregnancy but she did not plan to become pregnant or that she was

doing something to prevent pregnancy but became pregnant anyway. Women who reported that they had been physically hurt by their husband or partner during the 12 months before their delivery or that they had been physically hurt by someone close to them during the last 2 years were considered to have experienced domestic violence. For pre-pregnancy substance use, we evaluated cigarette and alcohol use during the 3 months before pregnancy and marijuana and cocaine use during the 1 month before pregnancy. Alcohol use during the last 3 months of pregnancy was also evaluated.

The Alaska Statute (AS) which addresses statutory rape, or sexual abuse of a minor, in the second degree [AS 11.41.436(a)(1)] gives the following criteria: the offender, being 16 years of age or older, engages in sexual penetration with a person who is 13, 14, or 15 years of age and at least three years younger than the offender. The crime is applicable when the offender is not married to the victim. We determined the percentage of teenage mothers who delivered a live birth during 1991-1994 and met the above criteria for statutory rape in the second degree. Marital status and paternal age were obtained from the birth certificate.

We analyzed data from 7178 respondents. The overall response rate was 74% while the response rate among teens was 66%. PRAMS weighted estimates are adjusted for non-response based on the assumption that women in a particular subgroup who responded represent those who did not respond. On average, questions were answered 4.4 months postpartum. Since PRAMS is a population-based survey, the percentages reported reflect the percentages of Alaskan resident women who had

Figure 1. Age and race specific live birth rates; Alaska, 1991-94

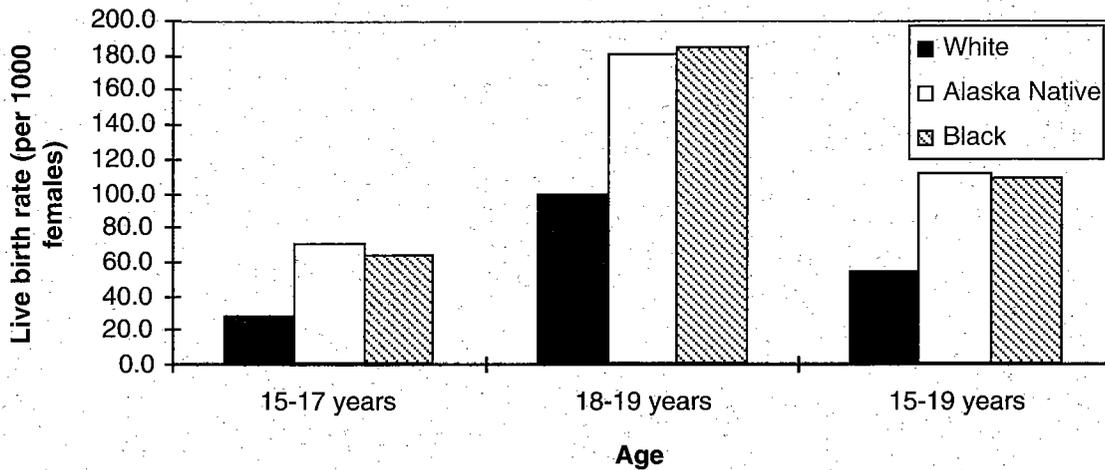
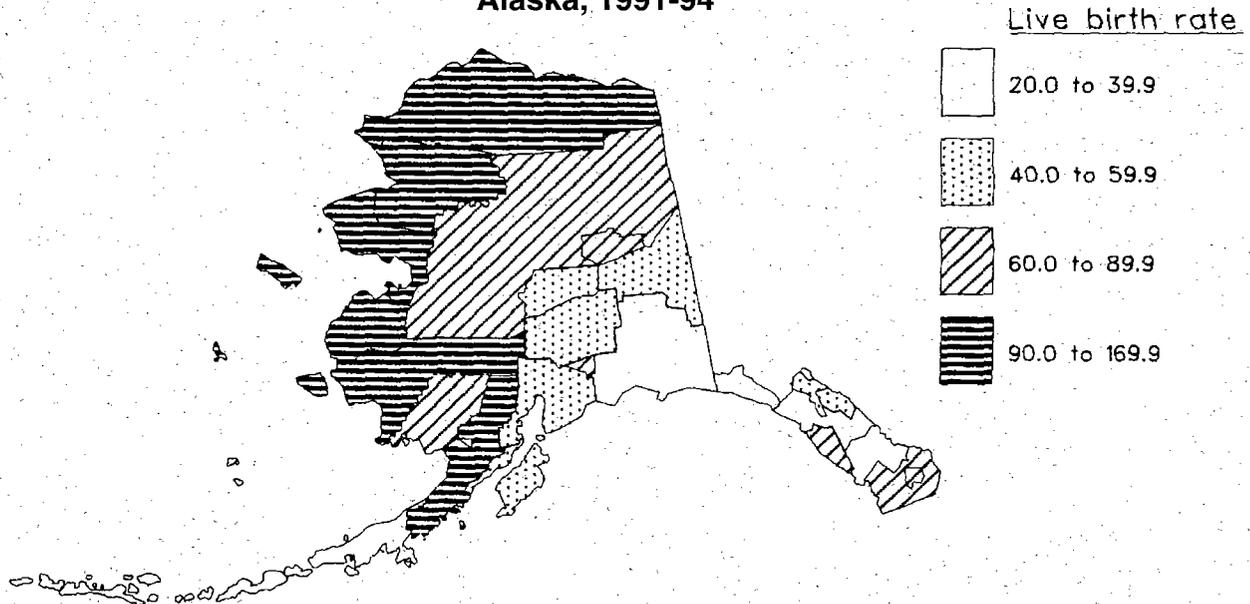


Figure 2. Live birth rates for females 15-19 years of age by census area; Alaska, 1991-94



PRAMS is a population-based survey of Alaska resident women who have recently delivered a live infant. A systematic, stratified sampling approach is used to select approximately 160 mothers of newborns each month from the state's live birth records where the infant is between 2 and 8 months of age. Questions cover the prenatal and postpartum period. Up to three mailed questionnaires are used to solicit a response. Prevalences reflect state-wide estimates for Alaska-resident women delivering a live birth during the specified time period.

a live birth during the period 1991-1994. Women who had a live birth but put their baby up for adoption at birth or shortly thereafter are excluded from PRAMS. Weighted prevalences and standard errors were calculated with Survey Data Analysis (SUDAAN) software (Shah et al, 1995).

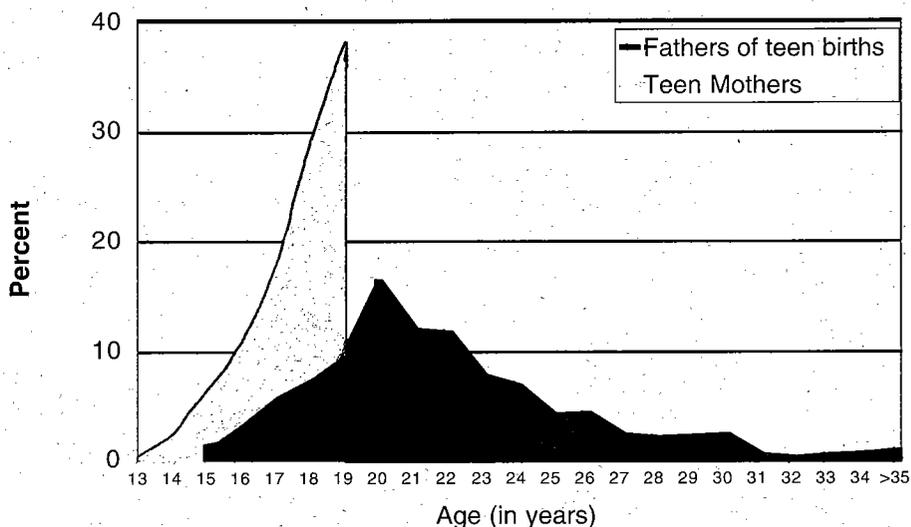
Results

Teen live birth rates

In Alaska during 1991-94, an av-

erage of 1224 live births per year were delivered to females 15-19 years of age for an overall live birth rate of 68.6. The live birth rate declined from 71.6 during 1991 to 66.5 during 1994 (χ^2 for trend = 6.5; $p = 0.09$). Among females 15-17 and 18-19 years of age, the live birth rates were 37.7 and 118.7, respectively during 1991-94. We found that Alaska Natives and blacks had approximately equal live birth rates for females 15-17, 18-19, and 15-19 years of age and that these groups had live birth

Figure 3. Percent of teen births by maternal and paternal ages; Alaska PRAMS, 1991-94*



*The age of the father was not known for 24% of births to females aged 13-19 years.

rates two to two and a half times greater than similar aged white females (Figure 1).

Among females 15-19 years of age, the live birth rate varied over eight-fold among census areas from 20.3 (Bristol Bay Borough) to 168.5 (Wade-Hampton Census Area) (Figure 2). In general, the western and northern regions of the state had the highest live birth rates while the Aleutians and southeastern region had the lowest.

Marital status and father's age

Overall, 89% of females under 18 years of age and 64% of females 18-19 years of age who had a live birth were unmarried at the time of delivery. For females under 18 years of age, this percentage varied from a low of 77% in the South Central [Family Health] Region to a high of 100% in the North/Northwest, Southwest, and Interior Regions. For females 18-19 years of age, this percentage varied from a low of 51% in the South Central Region to a high of 89% in the Southwest Region.

The age of the father was not known for 34% of births to females less than 18 years of age and 19% of births to females 18-19 years of age. Among those for whom the paternal age was known, a disparity existed between maternal and paternal age (Figure 3). For births to women less than 18 years of age, the mean age of the father was 20.2 years (range, 15-39) and 36% of fathers were over 20 years of age. The percent of fathers over 20 years for births to teen mothers less than 18 years old varied from 26% in the Yukon-Kuskokwim Region to 69% in the Southwest Region. For births to females 18-19 years of age, the mean age of the father was 22.4 years (range, 15-47) and 66% of fathers were over 20 years of age. For teen mothers overall, 57% of births where the paternal age was known, showed the father to be over 20 years old.

We found that 2.8% of females less than 20 years of age who delivered a live birth during 1991-94 met the criteria for second-degree statutory rape. In Alaska, however, second-degree statutory rape is limited to

unwed females less than 16 years of age. Among this group, 66% of births for which the age of the father was known (58.6% of total births among this group) met the criteria for statutory rape, accounting for an average of 36 births per year. If 66% of the births where the father's age was missing also resulted from second-degree statutory rape, an additional 2% met the criteria for second-degree statutory rape. Based on 1224 live births per year, this suggests that approximately 59 births per year occur as the result of second-degree statutory rape.

Associations with teen pregnancy

Among females who delivered a live birth at less than 18, 18-19, and greater than 19 years of age, we found that the younger the age at delivery, the more likely that the mother received Medicaid and WIC support during pregnancy (Table 1). Additionally, younger mothers were significantly more likely to have had an unwanted or unplanned pregnancy than older

mothers (Table 2). Finally, younger mothers were significantly more likely to have ever experienced domestic violence than older mothers, a particularly striking finding since younger mothers had lived fewer years in which they could have experienced domestic violence.

Among mothers less than 20 years of age, the percent receiving Medicaid support during pregnancy varied from a low of 21% in the Fairbanks North Star Region to a high of 39% in the Southeast Region while the percent receiving WIC support varied from a low of 43% in the North/Northwest and Southeast Regions to a high of 77% in the Interior Region (Table 3). Although the percent of mothers who reported that their pregnancy was unplanned did not differ greatly by region, the percent who reported that their pregnancy was unwanted varied over three-fold from a low of 7% in the South Central Region to a high of 27% in the Yukon-Kuskokwim Region (Table 4).

Teen births and pregnancy prevention

We found that regardless of the age of the mother, from 22-24% of females who delivered a live birth reported that they were doing something to prevent pregnancy but became pregnant anyway. Sixty-one percent of females less than 18 years of age, however, reported that they were not doing anything to prevent pregnancy and they did not plan their pregnancy compared with 48% of females 18-19 years of age and 24% of females over 19 years of age.

Among females less than 18 years of age who had had a live birth, 84% were currently doing something to prevent pregnancy including 16% who were not sexually active. Of the 68% who did not state that they were abstaining from intercourse but were doing something to prevent pregnancy, the most common types of

Table 1. Risks of reporting various characteristics, by age group, among women who delivered a live birth; Alaska PRAMS data, 1991-94.

Age group	Received Medicaid during pregnancy		Received WIC † during pregnancy	
	%	RR* (95% CI **)	%	RR* (95% CI **)
<18 years	36.4	2.7 (2.2, 3.4)	58.6	2.1 (1.8, 2.4)
18-19 years	24.3	1.8 (1.5, 2.2)	53.6	1.9 (1.7, 2.1)
>19 years	13.4	Ref.	28.4	Ref.

* Relative risk

** Confidence interval

† Supplemental food program for Women, Infants, and Children

Table 2. Risks of reporting various characteristics, by age group, among women who delivered a live birth; Alaska PRAMS data, 1991-94.

Age group	Pregnancy was unwanted		Pregnancy was unplanned		Ever experienced domestic violence	
	%	RR* (95% CI **)	%	RR* (95% CI **)	%	RR* (95% CI **)
<18 years	19.6	1.7 (1.2, 2.4)	83.2	1.8 (1.7, 2.0)	26.8	2.1 (1.6, 2.7)
18-19 years	11.3	1.0 (0.7, 1.4)	72.0	1.6 (1.4, 1.7)	23.8	1.9 (1.5, 2.3)
>19 years	11.4	Ref.	46.1	Ref.	12.7	Ref.

* Relative risk

** Confidence interval

Table 3. Risks of reporting various characteristics, by Family Health Region, among women less than 20 years of age who delivered a live birth; Alaska PRAMS data, 1991-94.

Family Health Region	Received Medicaid during pregnancy		Received WIC † during pregnancy	
	%	RR* (95% CI **)	%	RR* (95% CI **)
Anchorage	24.2	Ref.	45.7	Ref.
Fairbanks North Star	20.8	0.9 (0.5, 1.5)	65.1	1.4 (1.1, 1.8)
Interior	33.3	1.4 (0.6, 3.0)	76.5	1.7 (1.2, 2.4)
North/Northwest	27.8	1.2 (0.8, 1.7)	43.3	1.0 (0.7, 1.3)
South Central	37.1	1.5 (1.0, 2.4)	68.0	1.5 (1.2, 1.9)
Southeast	38.6	1.6 (1.0, 2.5)	43.4	1.0 (0.7, 1.4)
Southwest	29.6	1.2 (0.6, 2.3)	66.4	1.5 (1.1, 2.0)
Yukon-Kuskokwim	36.9	1.5 (1.1, 2.2)	72.9	1.6 (1.3, 2.0)

Italicized and bolded numbers indicate a cell size of <20 and results should be viewed with caution.

* Relative risk

** Confidence interval

† Supplemental food program for Women, Infants, and Children

birth control used were oral contraceptives (45%) and condoms (39%). Among the 16% not doing anything to prevent another pregnancy, the three most common reasons given were that they wanted to become pregnant again (17%), they did not

believe in birth control (17%), and their husband or boyfriend did not want them to use birth control (13%).

Among females 18-19 years of age, similar patterns were

Table 4. Risks of reporting various characteristics, by Family Health Region, among women less than 20 years of age who delivered a live birth; Alaska PRAMS data, 1991-94.

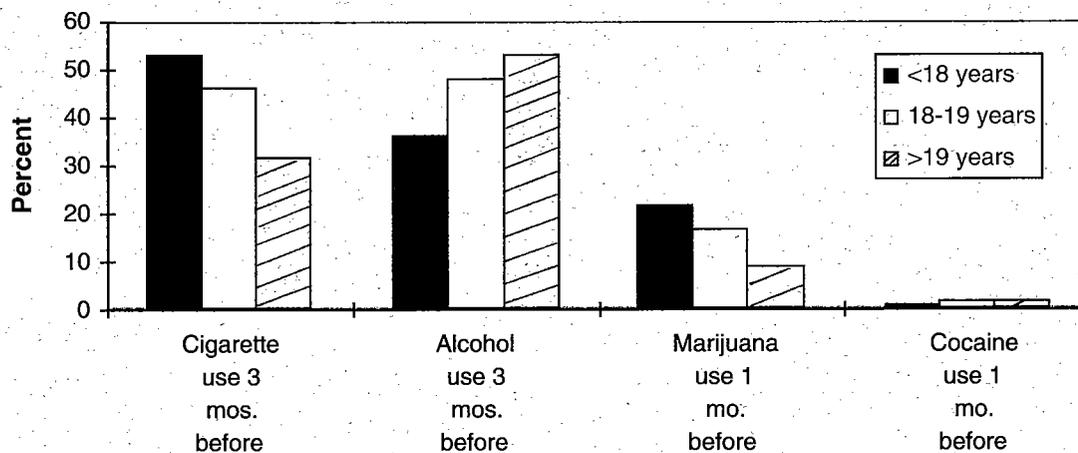
Family Health Region	Pregnancy was unwanted		Pregnancy was unplanned		Ever experienced domestic violence	
	%	RR* (95% CI **)	%	RR* (95% CI **)	%	RR* (95% CI **)
Anchorage	15.7	Ref.	78.4	Ref.	31.9	Ref.
Fairbanks/North Star	<i>10.1</i>	<i>0.7 (0.3, 1.5)</i>	74.7	1.0 (0.8, 1.1)	<i>19.0</i>	<i>0.6 (0.3, 1.0)</i>
Interior	<i>22.2</i>	<i>1.4 (0.7, 3.0)</i>	66.7	0.9 (0.6, 1.3)	<i>28.7</i>	<i>0.9 (0.4, 2.0)</i>
North/Northwest	23.1	1.5 (0.9, 2.5)	77.3	1.0 (0.8, 1.2)	26.8	0.8 (0.6, 1.2)
South Central	<i>6.8</i>	<i>0.4 (0.2, 1.2)</i>	69.3	0.9 (0.7, 1.1)	15.5	0.5 (0.3, 0.9)
Southeast	<i>7.4</i>	<i>0.5 (0.2, 1.0)</i>	80.3	1.0 (0.9, 1.2)	<i>17.8</i>	<i>0.6 (0.3, 1.1)</i>
Southwest	<i>16.2</i>	<i>1.0 (0.5, 2.3)</i>	62.5	0.8 (0.6, 1.1)	<i>18.1</i>	<i>0.6 (0.3, 1.1)</i>
Yukon-Kuskokwim	26.6	1.7 (1.0, 2.8)	78.4	1.0 (0.9, 1.1)	26.1	0.8 (0.6, 1.2)

Italicized and bolded numbers indicate a cell size of <20 and results should be viewed with caution.

* Relative risk

** Confidence interval

Figure 4. Self-reported pre-pregnancy substance use among women delivering a live birth; Alaska, 1991-94



seen: 85% were currently doing something to prevent pregnancy including 15% who were not sexually active. Of the 70% who did not state that they were abstaining from intercourse but were doing something to prevent pregnancy, the most common types of birth control used were oral contraceptives (43%) and condoms (31%). Among the 15% not doing anything to prevent pregnancy, the three most common reasons given were that they wanted to become pregnant again (31%), their husband or boyfriend did not want them to use birth control (27%), and they did not believe in birth control (18%).

Substance use and teen pregnancy

We found that teens who had had a live birth were more likely to report a history of pre-pregnancy cigarette or marijuana smoking but less likely to report a history of pre-pregnancy alcohol consumption or cocaine use than women over 19 years of age (Figure 4). Among females less than 18 and 18-19 years of age, 36% and 48%, respectively, reported pre-pregnancy alcohol consumption although only 3% and 5% reported alcohol consumption during the third trimester.

Discussion

Our analysis has shown the burden that teen births place on Alaska and the increased occurrence of teen births among specific groups. The overall rate of teen births which we report places Alaska among the top one third of states with the highest teen birth rates. Moreover, approximately one in nine black and Alaska Native women 15 to 19 years of age per year have a live birth. In some parts of Alaska this proportion approaches one in six.

The majority of these teenagers were unwed and had fathers many

years older than themselves. Over 50% of the births of teen mothers had fathers who were more than 20 years of age. This finding held true regardless of the geographic region examined. We also found that as many as 5% of the births to teen mothers may result from second-degree statutory rape. These findings clearly suggest that to address the problem of teen births, programs must find a way to intervene with young adult men since the burden of responsibility should rest more heavily on a 20-year-old male than a 15-year-old female. Unfortunately, this is a particularly difficult group to reach. Potential interventions might include education programs and increased prosecution of statutory rape cases. Additionally, local communities might work to increase the social stigmatization associated with relationships between teenage females and males of much greater age.

The majority of teen births were unplanned and a lesser number unwanted. The Institute of Medicine has recently summarized the consequences of unintended pregnancies, finding that women who have unintended pregnancies have poorer prenatal care, lower birth weight infants, higher rates of substance use during pregnancy, and their infants are more likely to be the victims of abuse or neglect (Institute of Medicine, 1995). Each of these outcomes in turn results in a host of other undesirable health and financial consequences.

For example, we found that teen mothers were two to three times more likely to receive Medicaid or WIC support and were twice as likely to have experienced domestic violence than those over 19 years of age. The latter finding is particularly remarkable since teen women had lived fewer years and thus had a shorter window of opportunity to have experienced do-

mestic violence. These outcomes suggest that many teen mothers from all areas of Alaska are at risk for becoming trapped in a cycle of dependency and violence. For example, Geronimus and Korenman evaluated data which followed over time women who had had a first birth as a teenager and compared them with women whose first birth came later (Geronimus & Korenman, 1992). Women who gave birth as a teen had a median family income 1.5 to 2 times lower than other women and were four times as likely to be on welfare.

In addition to consequences for the individual teen mother and her child, teen births have serious financial implications for society as a whole. A study in Illinois found that businesses and individual citizens paid \$10,047 (converted to 1997 dollars using an inflation rate of 5%) for each birth to a teen through taxes, employee medical costs, and out-of-pocket costs (Reis, 1987). Based on 1224 teen births per year, if this analysis holds true for Alaska it suggests that businesses and citizens in the state pay approximately \$12,300,000 each year to support teen births. A separate analysis by weeks found that in 1988 "\$51,400,000 in public assistance was spent on Alaska Families that were begun when the mother was a teenager" (Weeks, 1989).

Simple solutions to these problems do not exist. We found that over 60% of the youngest teen moms were not doing anything to prevent pregnancy at the time they became pregnant and did not plan their pregnancy. This suggests that a good deal of progress remains to be made educating young women and older men about women initiating sexual activity at a young age, appropriate contraceptive methods, and the consequences of unintended childbirth. Our finding that

only 15-16% of women under 20 years of age who had had a live birth currently were abstaining from intercourse suggests that changes in societal morays regarding the appropriateness of teen sexual activity may potentially have the largest impact on teen pregnancy. Finally, 17% of teens less than 18 years of age who had a live birth planned their pregnancy, suggesting that despite education and morays regarding contraception and sexual activity some teens desire to become pregnant.

Distressingly, among females who already had given birth to one infant, 16% of those younger than 18 and 15% of those 18-19 years of age did not state they were doing anything to prevent pregnancy, including abstaining from intercourse; only a minority of these women stated that they wanted to become pregnant again. These women should become the focus of the most urgent intervention, since they represent a group at high risk of a future unintended pregnancy and they have frequent contact with medical providers. Medical providers should use every opportunity to counsel teen mothers about the consequences of future pregnancies, both financial and physical, and the availability of appropriate contraceptive methods, including abstinence.

Contributed by Kathy Perham-Hester, MS, MPH and Brad Gessner, MD

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