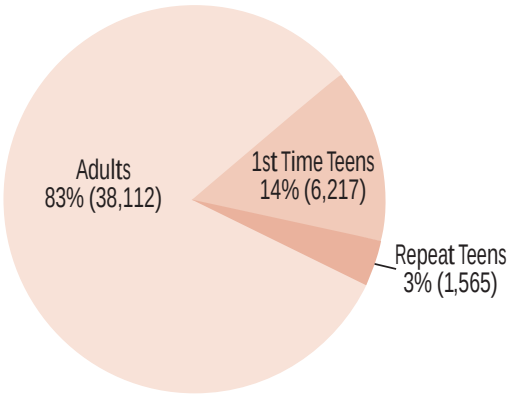
PRAMSGRAM
OKLAHOMA PREGNANCY RISK ASSESSMENT MONITORING SYSTEM · VOL 7 NO 1

Repeat Births to Teens in Oklahoma

One-quarter of teen (< 20 years of age) mothers have a second child within 24 months of the first birth. A closely spaced second birth is most likely among young teens whose first birth occurred prior to age 17.[1] Studies show that babies born to a mother less than 20 years of age with a previous live birth (repeat teens) are at significantly higher risk for low birth weight and infant mortality than babies of adult mothers.[2,3] Data suggest the increased risk may result from a combination of both young age and the social and economic disadvantages apparent in the lives of young mothers.[4] Adolescents with a poor outcome in their first pregnancy had at least a *three-fold* risk of repeating that poor outcome in their second pregnancy.[5] Repeat teens are generally less educated, have poorer health outcomes, have larger families and have higher levels of non-marital, unintended births than teens who delay subsequent childbearing beyond the teenage years.

Figure 1 1995 Oklahoma Live Births



The purpose of this report is to look at young mothers who have had subsequent births while still in their teens. This population is one of the most vulnerable for poor health, low education and worsening economic outcomes for themselves and their children. The goal is to identify strategies that will help delay rapid repeat births among teens. This is particularly timely in light of the current changes in the welfare system that institute a 60-month (5-year) lifetime cap on all public assistance and mandate specific regulations related to pregnant and parenting teens. Recent welfare reform discussions have focused attention on teenage mothers as a group at greater risk for welfare dependency than females who delay childbearing until their twenties.

In Oklahoma

- 20 percent of repeat teen mothers have had at least two children before their most recent birth.
- African American mothers are nearly twice as likely to be a repeat teen mother as white or American Indian mothers.
- One-third of repeat teen mothers intend to get pregnant.
- Nearly half of repeat teen mothers were on Medicaid at the time they are sure they were pregnant.
- Repeat teen mothers are three times more likely to report physical abuse from the husband or partner than adults.
- More than 20 percent of repeat teen mothers are hospitalized during their pregnancies (not including admission for delivery).
- Repeat teen mothers are more likely than adults to have low birth weight or short gestational age babies.
- Estimated infant mortality rates suggest repeat teen mothers are 4.5 times more likely to experience an infant death than an adult mother.
- An estimated 7 percent ($7.6 million) of the fiscal year 1992 Medicaid budget for pregnancy related services and neonatal intensive care was spent on repeat teen mothers.

Though less than five percent of mothers on welfare are teenagers, a large proportion of women who begin childbearing as teenagers eventually end up on welfare.[6]

In 1995, 17 percent (7,782) of the 45,365 live births in Oklahoma were to teen mothers (Figure 1). More than 1,500 babies were born to a repeat teen mother; 20 percent of these were to a mother with *two or more* previous live births. Nearly 300 infants were born to an Oklahoma repeat teen mother less than 18 years of age.

Materials and Methods

In the past, several Oklahoma Pregnancy Risk Assessment Monitoring System (PRAMS) reports have focused on teenage mothers as a group.[7,8,9] Until recently, the PRAMS sample has not been large enough to confidently explore possible risks which may exist specifically for mothers who have given birth for at least the second time while still a teenager. In order to describe the population of repeat teens in Oklahoma, comparisons will be made between rates of various prenatal characteristics and birth outcomes among all adults and teens having a subsequent birth. (Whereas first time teens would be considered more similar overall to repeat teens, adults will be used as a baseline, as they are more reflective of the general population.) Data on first time teen mothers will be presented in the tables for the reader's benefit, although it will not be discussed in the text.

PRAMS respondents with a live birth between April 1988 and March 1995 were divided into three groups: 1) first time teen mothers – mothers less than 20 years of age who recently gave birth to their first child, 2) repeat teen mothers – mothers less than 20 years of age who recently gave birth to *at least* their second child and 3) adults – all mothers age 20 or older with a recent birth. Frequency distributions are presented along with corresponding 95% confidence intervals (95% CI).

As PRAMS surveys women three to six months following delivery, true infant mortality (death of a live born infant before his/her first birthday) cannot be measured by that project. In order to calculate infant mortality rates (IMR) for repeat teens and adults, the 1990-93 linked infant birth/death file was used. This file contains both the birth and the death certificate of those children who were born January 1990 through December 1993 and died before one year of age. The linked file is necessary as death certificates do not record birth information, such as mother's age and parity. Infant mortality rates were calculated by dividing the number of infant deaths recorded for infants born in Oklahoma in January 1990 through December 1993 by the number of live births occurring during that same time period. In order to determine the incidence of infant mortality attributable to repeat teen pregnancy in Oklahoma, population attributable risk (PAR) and percents[10] were calculated using the linked file.

I. General Demographics

Repeat teen mothers were an average of 16.3 years of age (95% CI: 16.0, 16.6) when they gave birth to their first child(ren) and 18.4 years of age when they gave birth to their last child(ren) (95% CI: 18.2, 18.5). This would suggest they were an average of 15.5 years old when they became pregnant the first time. While 82.0 percent (95% CI: 75.1, 88.8) of repeat teens have only given birth once before, for nearly 15 percent this is their third birth, and for more than three percent, this is at least their fourth birth.

Although white mothers make up the majority of repeat teen births (68.5%) (Table 1), African American mothers are at highest risk of becoming a repeat teen mother. Eight percent of African American mothers are teens giving birth to at least their second child, compared to three percent of white mothers and four percent of American Indian mothers (data not shown).

Sixty percent of repeat teen mothers were unmarried, but one-third reported their pregnancies were intended before conception (Table 1). Repeat teens were the least likely group to begin prenatal care during the first trimester and the most likely group to delay entering prenatal care until the third trimes-

PRAMS is a population-based survey of Oklahoma women with a recent delivery. Analysis weights were applied to adjust for selection probability and non-response. By using weighted analysis, researchers can make strong statements about the pre-conception and perinatal periods for the entire population of women in Oklahoma delivering a live birth. Thus, state-specific decisions on policy and program development can be made. A stratified systematic sampling approach is used to select approximately 200 new mothers each month from the state's live birth registry. Up to three mailed questionnaires are used to solicit a response. Telephone interviews are attempted for non-respondents. Data for this report reflect live births occurring between April 1988 and March 1995. The overall response rate was 71 percent. This analysis includes information collected from 11,611 mothers: 1,252 first time teens, 358 repeat teens and 10,001 adults. The median age of infant death was calculated exclusively from mothers reporting infant death, which included 76 first time teens, 27 repeat teens and 422 adults. All data represent state estimates.

The infant birth/death file of babies born 1990-1993 has a 93 percent match rate. There were 140 infant deaths matched to repeat teen mothers and 1,339 infant deaths matched to first time teens or adult mothers.

ter or receive no prenatal care at all. Compared to adults, repeat teens were 1.5 times more likely to use the hospital for prenatal care, 3.2 times[t] more likely to use local health departments and half as likely to use private physicians for prenatal care as adults.

Table 1 General Characteristics

	% Teen 1st Birth	95% CI	%Teen Repeat Birth	95% CI	% Adult Any Birth	95% CI
Race[1]						
White	70.4	(65.8,75.0)	68.5	(60.0,76.9)	82.1	(80.8,83.3)
African Am	14.8	(10.9,18.6)	20.2	(12.5,27.9)	8.0	(7.0,8.9)
Am Indian	14.1	(10.8,17.4)	10.3	(5.2,15.4)	8.3	(3.2,13.4)
Marital Status[2]						
Single	82.5	(79.1,86.0)	59.7	(51.2,68.2)	26.8	(25.3,28.2)
Pregnancy Intention[2]						
Intended	28.9	(24.5,33.3)	34.2	(25.5,42.9)	59.0	(57.4,60.6)
Mistimed	58.9	(54.0,63.8)	50.5	(41.4,59.7)	28.6	(27.1,30.1)
Unwanted	12.2	(8.7,15.6)	15.3	(8.6,22.0)	12.4	(11.2,13.5)
Entered Prenatal Care						
1st Trimester	66.5	(61.8,71.1)	57.7	(48.9,66.5)	84.3	(83.1,85.5)
2nd Trimester	27.1	(22.7,31.6)	34.5	(25.9,42.9)	13.3	(12.2,14.4)
3rd Trimester/ No Care	6.4	(3.7,9.1)	7.8	(3.3,12.3)	2.4	(1.8,2.9)
Prenatal Care Location						
Hospital	20.2	(16.2,24.2)	19.6	(12.6,26.5)	13.1	(11.9,14.2)
Health Dpt	21.0	(16.8,25.3)	22.0	(14.1,29.8)	7.0	(6.1,7.8)
Priv MD/HMO	43.0	(38.1,47.9)	40.7	(31.8,49.8)	66.7	(65.1,68.2)
IHS	10.7	(7.7,13.7)	11.2	(5.3,17.1)	7.2	(6.5,8.1)
Other	5.1	(2.9,7.2)	6.5	(2.5,10.5)	6.0	(5.2,6.7)

[1] Other race not reported due to sample size

[2] at conception

II. Prenatal Risks

Repeat teen mothers were significantly more likely to report smoking cigarettes three months prior to pregnancy than adults (Table 2). Additionally, one-third of repeat teen mothers reported smoking during the three months prior to delivery. In other words, they were 1.5 times more likely than adults to report smoking during pregnancy than adults (31.5% vs. 21.6%). However, repeat teen mothers were significantly less likely to report drinking any alcohol three months before pregnancy than adult mothers. One-third of repeat teen mothers reported they had someone close to them with a drug or alcohol problem during the year prior to delivery.

Nearly 30 percent of repeat teen mothers reported their husband/partner had lost his job – twice[t] the rate of adult mothers (28.9% vs. 14.3%)(Table 2). One in seven repeat teen mothers reported being physically hurt by their husband/partner during the 12 months prior to delivery – nearly three times[t] the rate for adults (15.1% vs. 5.3%). Approximately one-third of repeat teen mothers reported they were either separated or divorced from their husband/partner prior to delivery. Repeat teen mothers were 3.2 times more likely to report having been homeless during the year prior to delivery than adults (8.0% vs 2.5%).

Table 2 Prenatal Risks

	% Teen 1st Birth	95% CI	%Teen Repeat Birth	95% CI	% Adult Any Birth	95% CI
Smoked 3 months before pregnancy? Yes	39.8	(35.0,44.5)	42.1	(33.1,51.1)	30.4	(28.9,31.9)
Smoked 3 months before delivery? Yes	21.4	(17.5,25.4)	31.5	(22.8,40.1)	21.6	(20.3,23.0)
Drank 3 months before pregnancy? Yes	33.9	(29.2,38.5)	29.8	(21.4,38.3)	44.0	(42.4,45.6)
Drank 3 months before delivery? Yes	3.4	(1.7,5.1)	4.1	(0.7,7.4)	8.2	(7.2,9.1)
Someone close had drug/alcohol problem[1] Yes	26.9	(22.6,31.1)	34.9	(26.2,43.5)	16.6	(15.4,17.9)
Husband/partner lost job[1] Yes	20.7	(16.9,24.5)	28.9	(20.7,37.0)	14.3	(13.2,15.5)
Mom physically hurt by husband/partner[1] Yes	7.8	(5.2,10.4)	15.1	(8.7,21.4)	5.3	(4.5,6.0)
Mother divorced/ separated from husband/partner[1] Yes	30.7	(26.2,35.1)	31.3	(23.1,39.5)	16.8	(15.5,18.0)
Mother was homeless[1] Yes	5.0	(2.8,7.1)	8.0	(3.0,13.0)	2.5	(2.0,3.0)

[1] Experienced during 12 months prior to delivery

[t] significant at =.05

III. Birth Outcomes and Complications

One in five repeat teen mothers reported being hospitalized for at least one night during her pregnancy (not including admission for delivery) (Table 3). Repeat teen mothers were more likely to have a low birth weight (< 2500g) or a premature (< 37 weeks) infant than adults, but these differences were not statistically significant. They were also more likely to report their baby was admitted to an intensive care unit (ICU); however, repeat teen mothers reported shorter hospital stays for their babies following delivery than did adults (data not shown).

Using the 1990-93 linked infant birth/death file, repeat teen mothers had an infant mortality rate (IMR) of 16.0/1000 compared to 7.2/1000 for adults. In other words, the IMR for repeat teens is 2.2 times higher than the IMR for adults. When population attributable risk (PAR) and percents were calculated, it was estimated that teens with a repeat birth were 4.5 times more likely to experience an infant death than an adult or first time teen mother. In 1995, 5.7 percent of Oklahoma infant deaths could be attributed specifically to *repeat* teen pregnancy. When the median age of the infant at time of death was compared, differences were discovered that, although not statistically significant, were startling. The median age at death for infants of repeat teens was less than one day versus seven days for infants of first time teens and eight days for infants of adults.

Table 3 Outcomes and Complications

	% Teen 1st Birth	95% CI	% Teen Repeat Birth	95% CI	% Adults Any Birth	95% CI
Hospitalized during pregnancy?						
Yes	17.3	(13.8,20.7)	21.1	(14.0,28.1)	14.8	(13.7,15.9)
LBW infant (<2500g)?						
Yes	7.7	(6.8,8.6)	7.7	(6.0,9.4)	5.9	(5.7,6.0)
Gestational Age < 37 weeks	10.4	(7.6,13.2)	13.0	(6.6,19.3)	8.4	(7.5,9.3)
Infant admitted to ICU?						
Yes	12.7	(9.9,15.4)	14.5	(8.9,20.0)	9.4	(8.6,10.2)

IV. Medicaid/Income

Repeat teens had a median annual family income of $8,166 (95% CI: $6,020, $10,277) which was less than half of the median income of $17,996 for adults (95% CI: $17,982, $18,702).

Sixty-nine percent of repeat teen mothers used Medicaid to pay for all or part of the cost of their prenatal care and/or delivery – almost 2.5 times[t] the rate for adults (68.7% vs. 30.3%) (Table 4). Adults were four times more likely to have private insurance cover their prenatal care or delivery than repeat teens (data not shown). One in two (46.1%) repeat teen mothers were already receiving Medicaid services when they were sure they were pregnant, compared to only one in eight adults (13.0%) (Table 4).

Table 4 Medicaid

	% Teen 1st Birth	95% CI	% Teen Repeat Birth	95% CI	% Adults Any Birth	95% CI
Medicaid fund PNC[1] or delivery?						
Yes	65.0	(60.4,69.5)	68.7	(60.5,76.8)	30.3	(28.8,31.7)
On Medicaid when sure pregnant?						
Yes	26.2	(21.3,31.1)	46.1	(35.5,56.7)	13.0	(11.7,14.4)

[1] PNC-Prenatal Care

In fiscal year 1992, Medicaid expenditures for prenatal care, delivery and newborn care were $82,423,071 (Table 4a). Using PRAMS, it is estimated that an average of $5.4 million is spent annually on repeat teen mothers. An additional $27,104,151 was spent on neonatal intensive care unit (NICU) services for infants. Again, using PRAMS data to estimate the number of infants in NICU, it is estimated that 2.1 million more dollars were spent on repeat teens for a total of $7.5 million. In other words, nearly seven percent of the entire Medicaid budget for pregnancy-related services and NICU were spent on women who have given birth to *at least* their second child prior to age 20; although they only make up three percent of childbearing population. [Using PRAMS, it is estimated that $1.4 million of Medicaid funds are spent annually on teens who recently gave birth to *at least* their third child.]

[t] significant at =.05

Table 4a Medicaid Costs (in millions)

Services	Total	1st Time Teens	Repeat Teens	Adults
Prenatal care, Delivery, and Newborn Care	$82.4	$18.6	$5.4	$58.4
NICU	$27.1	$6.2	$2.1	$18.8
Total	$109.5	$24.8	$7.5	$77.2
Percent	100.0%	22.6%	6.9%	70.5%

Discussion

Because the PRAMS sample is drawn from the Oklahoma resident live birth file, those pregnancies that resulted in either a spontaneous or induced abortion are not reflected. (Estimates presented in this report are, therefore, considered conservative.) It is important to note that this report does not intend to establish causal outcomes, but rather identify those risks and outcomes that are associated with repeat childbearing to teens. The increased risk for infant mortality to repeat teens has not been shown to be a direct result of a mother's age and parity, but is more likely a combination of those factors and the higher rates of low socio-economic status, low educational attainment, smoking, low birth weight infants and race (increased risk for African American infants) which have been shown to be associated with being a repeat teen and have been previously linked to infant mortality. [11]

The problems associated with teen pregnancy are not new issues to our state. Oklahoma's teen birth rate has historically ranked above the national average. In 1994, Oklahoma had the 14th highest rate of teen births (15-19 years of age) in the nation and in 1980 ranked as high as 4th. The costs and consequences of teen pregnancy to our communities are significant and serious, as they impact many generations at once: the teen parent, the baby and grandparents.

The complications and problems which accompany teen pregnancy are increased if a teen mother becomes pregnant and delivers again before age 20. Obviously, teens with an early first birth are most at risk of repeat childbearing as a teen. Repeat teen mothers are an average 15.5 years of age when they give birth for the first time. In 1995, 1,348 babies were born to mothers 15 or 16 years of age. It is important to further note that births to younger teens are often the result of a rape or incest. According to the Alan Guttmacher Institute, 60 percent of girls who had a sexual experience prior to age 15 reported that it was involuntary.[12]

Most repeat teens are white, but African Americans are at highest risk of repeat childbearing as a teen. A majority are single and one-third intended to get pregnant at conception, indicating that repeat teen childbearing is a complicated issue and not merely the result of casual sexual relationships or poor birth control habits. Repeat teens are less likely to receive first trimester prenatal care (PNC) and are three times more likely to visit their local health department for PNC than are adults.

Also, repeat teens have lifestyle characteristics that increase their chances for poor pregnancy outcomes. Forty percent of repeat teens report smoking and 30 percent report drinking prior to pregnancy. One-third report someone close to them had a drug/alcohol problem. Repeat teens are twice as likely to report their husbands/partners had lost their jobs, three times more likely to report physical abuse, two times more likely to be divorced or separated and more than twice as likely to be homeless as adult women. Finally, repeat teens were more likely (though not significantly) to report poor pregnancy outcomes and complications than adults.

Though teen parents make up a small percentage of the overall welfare caseload, many adult women on welfare gave birth to their first child as a teen. The younger the teen mother, the more likely she is to have a repeat birth before age 20, thus amplifying the possibility of school dropout, poverty and future welfare dependency. Repeat teens are twice as likely to use Medicaid to cover PNC and/or delivery expenses as adults. Nearly one-half are already on Medicaid when they find out they are pregnant.

Limited education and skill levels, poor health status and lack of support from non-resident fathers put mothers who first give birth as a teen at high risk for living in poverty. The five-year lifetime cap on welfare benefits, as defined by the Personal Responsibility Act of 1996, mandates that women who receive welfare benefits as teens will have *little or no option* for public assistance for most of their adult life – ever. Additionally, individual states are given the prerogative under this legislation of setting even more restrictive limitations on the length of time that benefits would be available.

Clearly, this picture presents compelling economic and health-related reasons for our state and its com-

munities to place a high priority on reducing repeat births to teens. The current welfare restrictions and time limitations provide an *urgency* to do so. PRAMS estimates that eight percent of local health department clients receiving prenatal services in Oklahoma are repeat teen mothers. This is a population that can be easily identified and reached through the current service provider networks. Once identified, however, the key to the effective prevention of subsequent teen births involves active outreach and a coordinated service delivery effort that will work to ensure teens complete their education and are linked with the health, social service, employment and parenting support necessary to avoid a repeat teen pregnancy. At the same time, communities must expand their primary prevention efforts to achieve real, long-term prevention of teen pregnancy.

Recommendations

- Accessible, affordable and confidential family planning services should be available to all teen parents. These programs must provide outreach and services that are both developmentally and culturally appropriate for teen parents.
- Community partnerships need to be developed to identify, recruit and support teen parents. The most effective partnerships address these issues by blending education, health services, vocational guidance, employment skills, parenting, quality child care, counseling, family support services and access to transportation.
- Special counseling and intensive parenting and educational support are critical for the youngest teen parents (15 years of age), as they are the most vulnerable for a repeat teen pregnancy.
- Appropriate counseling and support services must be provided for teen parents who are victims of sexual abuse.
- Local communities need to ensure that pregnant and parenting teens stay in school, access needed health services and develop the employment, parenting and life skills necessary to build stable, self-reliant family units.
- Target whole families, including the teens' partners, parents, siblings and other significant adults in the lives of teen mothers.
- Address the issue of male responsibility, specifically the issue of older males and teen girls.

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