

FIRST STEPS DATABASE

SAFE BABIES, SAFE MOMS

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January 2004
Fact Sheet Number 4.36f
Olympia, Washington 98504-5204

SAFE BABIES, SAFE MOMS (formerly the Comprehensive Program Evaluation Project, or CPEP) seeks to improve the health and welfare of substance abusing mothers and their young children. The project attempts to improve long-term outcomes for these families and represents an investment in their future. The comprehensive services offered to substance abusing mothers who are pregnant and/or parenting children under age 3 include Targeted Intensive Case Management (TICM), Residential/Outpatient Chemical Dependency (CD) Treatment, Housing Support Services for Transitional Housing, Parenting Education, and Child Development Assessments and Referrals.

The project is a collaborative effort between the Department of Social and Health Services (Division of Alcohol and Substance Abuse, Medical Assistance Administration, Economic Services Administration, Children's Administration, Research and Data Analysis) and the Department of Health. Three pilot sites—Benton-Franklin Counties, Snohomish County, and Whatcom County—served 445 substance abusing women and their children from January 2000 through June 2003.

This brief report supplements the *SAFE BABIES, SAFE MOMS* Program Evaluation report of October 2003 with additional outcome measures and longer periods of follow-up. The number of women and children included in each analysis varies according to the time frame required for the six measures.

Key Findings

- **The low birth weight rate for infants born after program entry decreased by 66%**, compared to those born before program entry. The low birth weight (LBW) rate for infants born after program entry (5.5%) was lower than the 8.9% LBW rate for identified substance abusers who gave birth in 1999 and received prenatal treatment for chemical dependency, and closer to the 4.8% LBW rate for Medicaid women with no known substance abuse.
- **The rate of accepted CPS referrals during the first year of life decreased by 35%** for infants whose mothers enrolled in *SAFE BABIES, SAFE MOMS* before delivery compared to those enrolled after delivery.
- **Criminal justice involvement of *SAFE BABIES, SAFE MOMS* clients is extensive, with an average of 1.5 arrests per woman in the two years before program entry. A decrease of more than 50% in the arrest rate was observed for clients with CD treatment.**
- **Two-thirds of *SAFE BABIES, SAFE MOMS* clients (67.5%) received at least one Medicaid-paid family planning method in the year after enrollment.** At one-year follow-up, one-third (34%) received non-reversible or more effective methods.

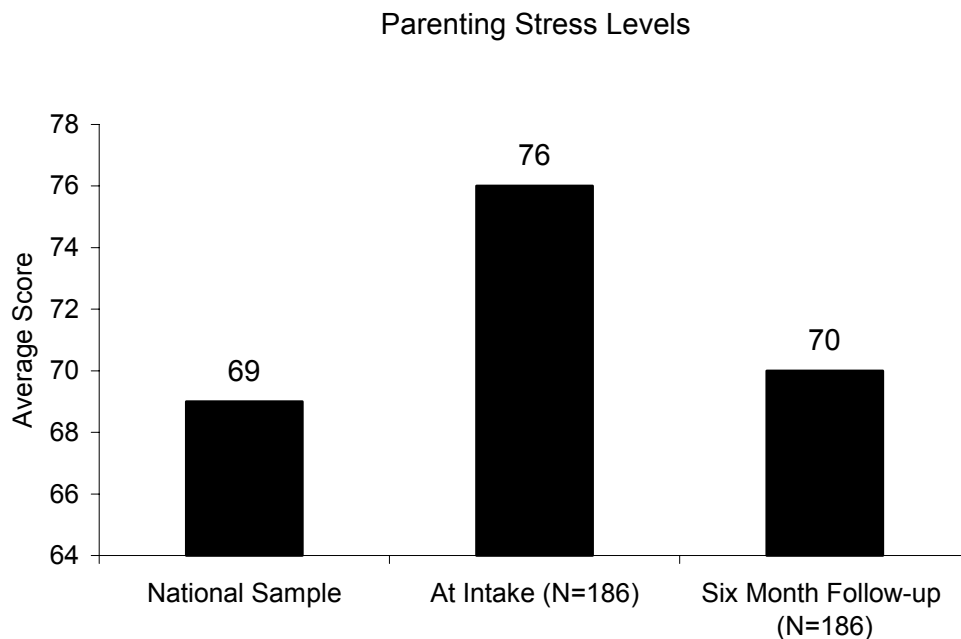
CONCLUSION: Children born to *SAFE BABIES, SAFE MOMS* clients are healthier, based on improved birth weight, and safer, based on fewer CPS referrals. Clients have demonstrated behavior change in their use of more effective family planning methods, reduced levels of parenting stress, and decreased arrest rates. These changes indicate that the program is achieving its goal—to improve the health and welfare of substance abusing mothers and their young children. The continuation of these comprehensive services is an investment in positive long-term outcomes.

PARENTING STRESS: After six months of participation in the *SAFE BABIES, SAFE MOMS* program, clients demonstrated significantly lower levels of Parenting Stress.

Parenting education is a core service provided in the *SAFE BABIES, SAFE MOMS* program. Although active parenting may be the desired goal of many clients, the reality of such parenting can be very stressful, especially for women who are trying to establish a clean and sober lifestyle. Other researchers have reported that parenting skills training is the most frequently self-identified need of pregnant substance abusing women.

The level of parenting stress is based upon client responses recorded on the Parenting Stress Index (PSI) Short Form. The PSI identifies dysfunctional parenting and predicts the potential for parental behavior problems and child adjustment difficulties within the family system. The client completes the initial PSI at intake (or shortly after) if she has recent parenting experience, or after she has gained such experience if she does not. The client completes a second PSI six months after the first.

As of November 30, 2003, a total of 186 clients had completed both the initial and the six-month follow-up PSI. The results are displayed below, with the average score of a national comparison group as described on the PSI:



Based on these results, participation in *SAFE BABIES, SAFE MOMS* is associated with a reduction in overall parenting stress:

- Clients' parenting stress levels at intake (average score = 76) were significantly higher than those of a national sample (average = 69).
- At six-months follow-up, clients' parenting stress levels (average score = 70) were significantly lower than at intake (average = 76).
- The improvement in the PSI scores at six months' follow-up was due to improved scores on two subscales: the average score for the Parental Distress Index decreased from 30 to 28 and the average score for Parent-Child Dysfunctional Interaction Index decreased from 21 to 19. The average Difficult Child score decreased slightly from 25 to 24.

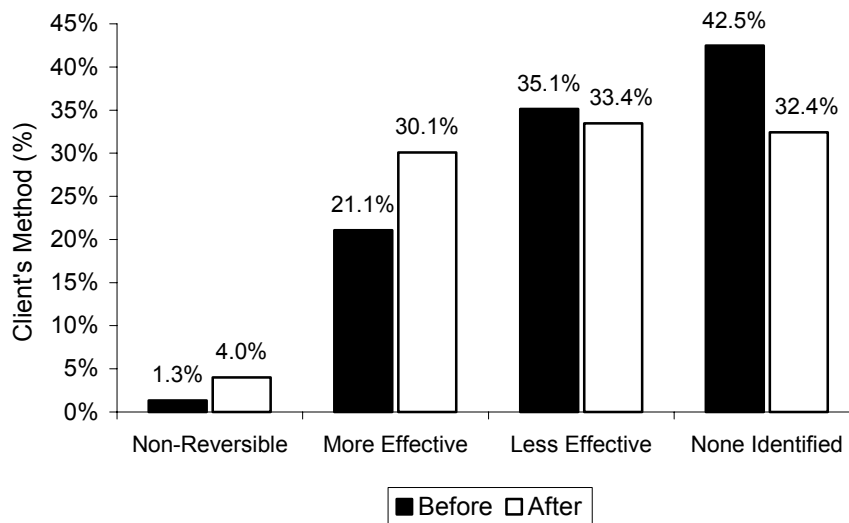
USE OF FAMILY PLANNING SERVICES. Two-thirds of clients (202 of 299, or 67.5%) received at least one family planning method in the year after enrollment in *SAFE BABIES*, *SAFE MOMS*. At one-year follow-up, 102 clients (34%) had received non-reversible or more effective methods.

SAFE BABIES, *SAFE MOMS* seeks to reduce subsequent pregnancies for clients. The targeted intensive case management team offers family planning education and unintended pregnancy prevention services and referrals. Not enough time has elapsed since the inception of the program to adequately measure a reduction in the number of subsequent births. One available measure of program outcomes is the use of family planning methods.

Family planning methods used during the year prior to program enrollment were compared to methods used during the year after enrollment. Medicaid expenditures were used to identify family planning methods. Two hundred ninety-nine (N=299) women received Medicaid services during the period September 1997 through February 2003 and were enrolled in *SAFE BABIES*, *SAFE MOMS* prior to February 1, 2002. Because some family planning methods, such as condoms, may have been obtained without charges to Medicaid, these numbers likely underreport actual use of certain family planning methods. Claims data provide no indication of user effectiveness, which should improve after *SAFE BABIES*, *SAFE MOMS*. No information about the frequency of sexual abstinence was available.

Family planning expenditures were classified according to reversibility and effectiveness of the method. Non-reversible methods include tubal ligations and hysterectomies; more effective (reversible) methods include IUDs, implantable systems, oral and other hormonal contraceptives; diaphragms, condoms, and emergency contraception were categorized as less effective methods.

Family Planning Methods Received By *SAFE BABIES*, *SAFE MOMS* Clients



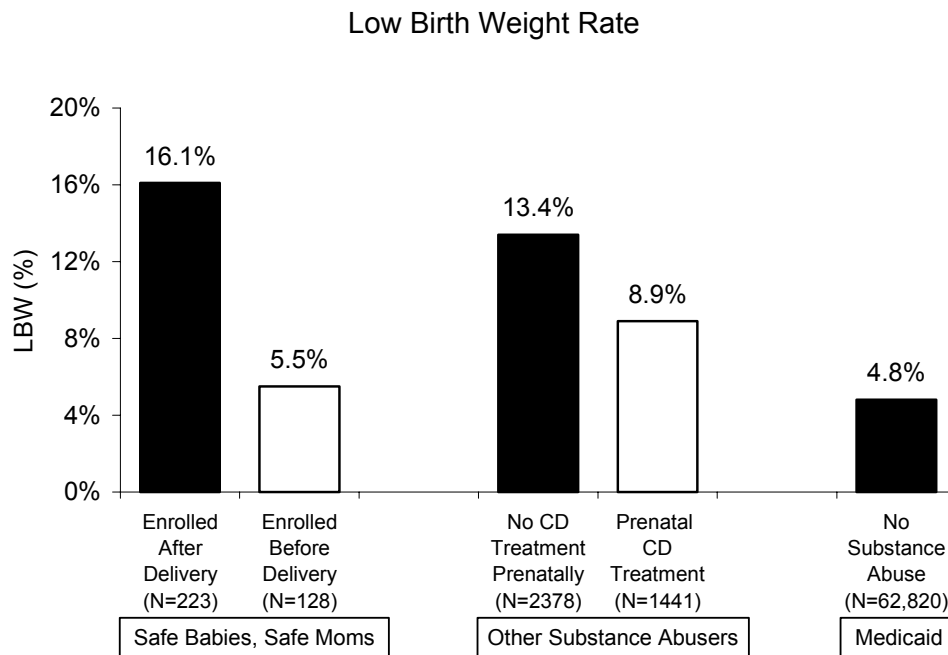
Participation in *SAFE BABIES*, *SAFE MOMS* is associated with more effective family planning behaviors:

- More than two-thirds of clients (202 of 299, or 67.5%) received at least one family planning method in the year after enrollment in *SAFE BABIES*, *SAFE MOMS*. At one-year follow-up, 102 clients (34%) had received non-reversible or more effective methods.
- A small, but significant number of clients had hysterectomies or tubal ligations: four before program entry and eight following enrollment in the program.
- The number of clients using more effective methods increased by 43%, from 63 in the year before enrollment to 90 in the year after enrollment.

LOW BIRTH WEIGHT: The low birth weight (LBW) rate decreased by 66%, for infants whose mothers enrolled in *SAFE BABIES*, *SAFE MOMS* before delivery compared to those enrolled after delivery. This decrease in the low birth weight rate was nearly twice as great as the decrease observed for prenatal CD treatment (34%) without participation in *SAFE BABIES*, *SAFE MOMS*.

Birth weight is a primary indicator of the health of the newborn infant. Infants with birth weight of less than 2500 grams (5.5 pounds) are classified as low birth weight. Low birth weight is associated with increased risk of infant death and a wide range of disorders including neuro-developmental conditions, learning disorders, and respiratory tract infections.

The low birth weight rate was compared for singleton liveborn infants whose mothers enrolled in *SAFE BABIES*, *SAFE MOMS* after delivery (N=223) and those whose mothers enrolled before delivery (N=128). Low birth weight was also measured for singleton liveborn infants born in 2000-01 to identified substance abusers: those without prenatal treatment for chemical dependency (N=2378) were compared to those with prenatal chemical dependency (CD) treatment (N=1441). Infants born to other Medicaid women with no known substance abuse (N=62,820) provided an additional comparison group. Birth weight was obtained from the birth certificate.



- The low birth weight rate decreased by 66%, from 16.1% for infants whose mothers entered the *SAFE BABIES*, *SAFE MOMS* program after delivery to 5.5% for those whose mothers enrolled before delivery.
- For other identified substance abusers who did not participate in *SAFE BABIES*, *SAFE MOMS*, the low birth weight rate decreased by 34%, from 13.4% for infants of substance abusers who had no prenatal CD treatment to 8.9% for infants whose mothers received CD treatment before delivery.
- The LBW rate after enrollment in *SAFE BABIES*, *SAFE MOMS* (5.5%) is much lower than the 8.9% LBW rate for identified substance abusers who received prenatal CD treatment, and closer to the rate for Medicaid women with no known substance abuse (4.8%).

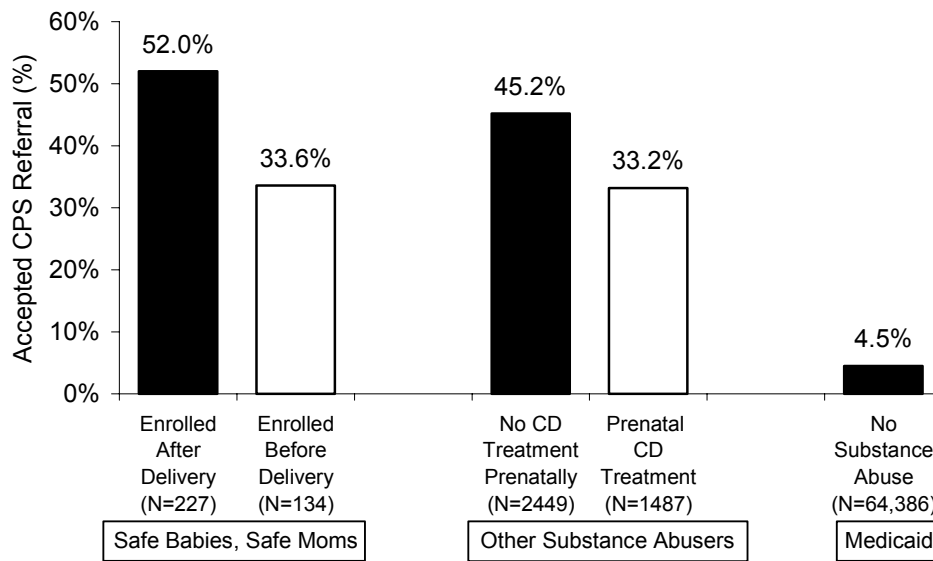
These findings show that birth outcomes were better for infants born after their mothers enrolled in *SAFE BABIES*, *SAFE MOMS*. Improved birth weights suggest these infants will have lower risk of health problems associated with low birth weight and will incur lower medical care costs during infancy and early childhood.

ACCEPTED REFERRALS FOR CHILD ABUSE/NEGLECT: The rate of accepted CPS referrals during the first year of life decreased by 35%, for infants whose mothers enrolled in *SAFE BABIES*, *SAFE MOMS* before delivery compared to those enrolled after delivery.

Child abuse and neglect is one of the most important consequences of maternal substance abuse. Referrals to Child Protective Services (CPS) are evaluated with a risk assessment model that focuses on the parents’ ability to protect and care for their children. Substance abuse by parents is one of the risk factors considered. One of the *SAFE BABIES*, *SAFE MOMS* core services is parenting education including support and training for parents in early childhood development.

The rate of accepted CPS referrals during the child’s first year of life was compared for liveborn infants whose mothers enrolled in *SAFE BABIES*, *SAFE MOMS* after delivery (N=227) and those whose mothers enrolled before delivery (N=134). CPS referrals were also measured for liveborn infants born in 2000-01 to identified substance abusers: those without prenatal treatment for chemical dependency (N=2449) were compared to those with prenatal chemical dependency (CD) treatment (N=1487). Children of other Medicaid women with no known substance abuse (N=64,386) provided an additional comparison group. Accepted CPS referrals were obtained from CAMIS for children born before September 30, 2002, to allow for one year of follow-up.

Rate of Accepted CPS Referrals During Child’s First Year of Life



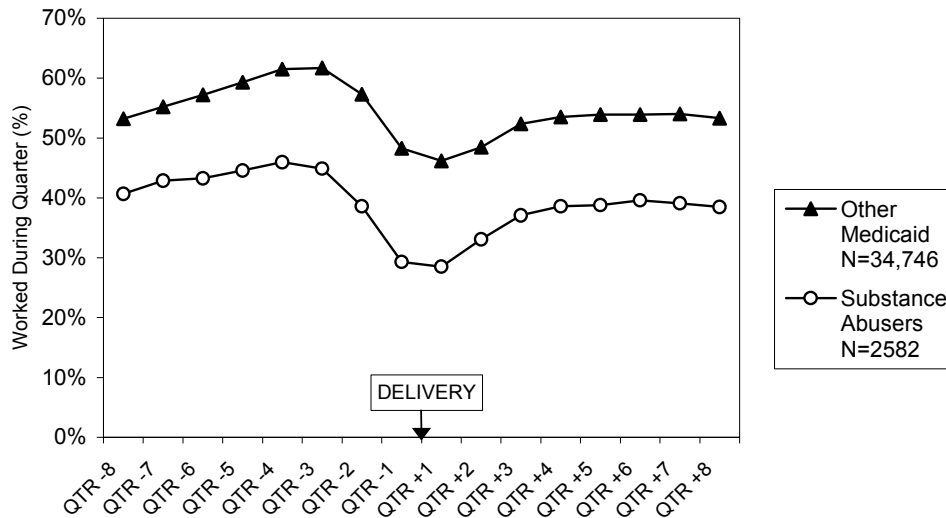
- The CPS referral rate decreased by 35%, from 52% for infants whose mothers entered *SAFE BABIES*, *SAFE MOMS* after delivery, to 33.6% for those whose mothers enrolled before delivery.
- For other identified substance abusers who did not participate in *SAFE BABIES*, *SAFE MOMS*, the rate of accepted CPS referrals decreased by 26%, from 45.2% for infants of substance abusers without prenatal CD treatment, to 33.2% for infants whose mothers received CD treatment before delivery.
- The decrease in the rate of accepted CPS referrals was greater for infants born to *SAFE BABIES*, *SAFE MOMS* participants (35%) compared to that for infants born to mothers who received prenatal CD treatment without participation in *SAFE BABIES*, *SAFE MOMS* (26%). The rate of accepted CPS referrals was somewhat higher for *SAFE BABIES*, *SAFE MOMS* participants who enrolled after delivery than for infants born to other identified substance abusers, and rates for both groups were much higher than the rate for Medicaid women without identified substance abuse (4.5%).

EMPLOYMENT HISTORY. Change in employment over time was more strongly related to the birth of the client’s baby than any other factor tested. Employment rates were substantially higher for non-substance abusing Medicaid women than for substance abusers.

The purpose of the *SAFE BABIES, SAFE MOMS* program is to help clients and their families become financially independent, safe, healthy, and drug-free. This goal is consistent with the goals of the WorkFirst program and DSHS overall.

The proportion of women who worked was measured for each quarter starting two years before delivery and ending two years after delivery. If a woman had any wages reported in a given quarter according to the Employment Security Department, she was counted as having worked during that quarter. All clients enrolled in *SAFE BABIES, SAFE MOMS* and all other substance abusers were combined in a single group for presentation since the differences in employment rates between these groups were very small. This analysis was restricted to women who gave birth between January 1999 and March 31, 2001, to permit two years’ follow-up.

Employment Rates: Two Years Before Delivery versus Two Years After



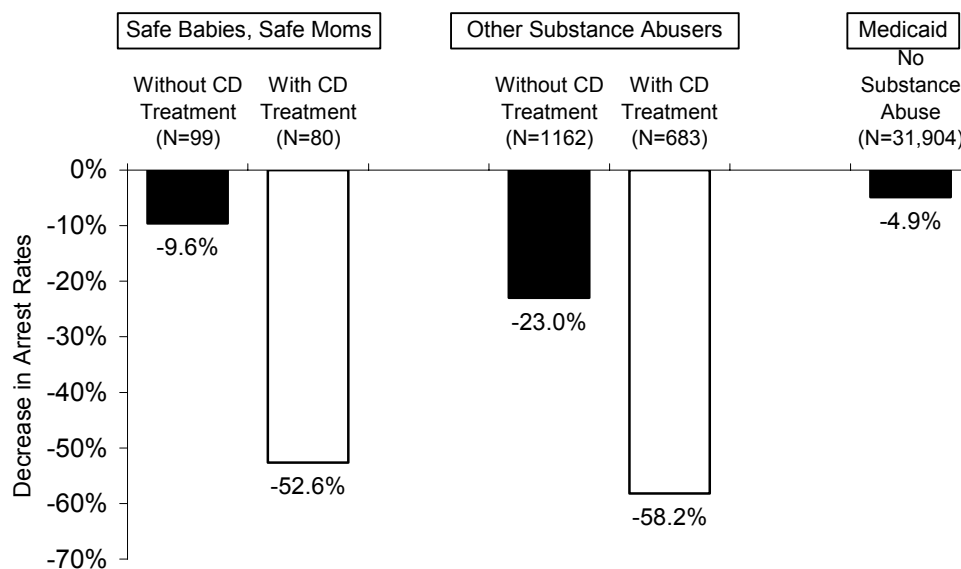
- Change in employment over time was more strongly related to the birth of the client’s baby than any other factor tested including demographics, timing of program enrollment, and admission to CD treatment. Employment rates were substantially higher for non-substance abusing Medicaid women than for substance abusers.
- Among other Medicaid women, not identified as substance abusers, the proportion who worked increased steadily until pregnancy began. Two years before delivery, 53% of these women worked. This proportion increased each quarter to 62% one year before delivery. During pregnancy, the proportion of Medicaid women who worked decreased, with just 46% working at any time during the quarter after delivery. Return to work was gradual. One year after delivery, 54% had resumed employment. This proportion was essentially stable during the second year after delivery.
- Employment patterns for substance abusing women were very similar: the major difference was that the proportion who worked was much smaller. Less than half (40 – 45%) the substance abusers were employed in the year prior to pregnancy, and 29% were employed in the quarter after delivery. (Among women enrolled in *SAFE BABIES, SAFE MOMS* prior to delivery, the proportion who worked in the quarter after delivery was only 13%.) Return to work was gradual. One year after delivery, less than 40% had resumed employment, and this proportion (39%) was essentially stable during the second year after delivery.

CRIMINAL HISTORY. Criminal justice involvement of *SAFE BABIES, SAFE MOMS* clients is extensive, with an average of 1.5 arrests per woman in the two years before program entry. A decrease of more than 50% in the arrest rate was observed for clients with CD treatment.

Criminal justice involvement is a significant issue for many pregnant, substance-abusing women. The majority of women held in local jails were convicted of non-violent, drug-related crimes such as possession, theft, fraud, and prostitution. Crime presents serious health and developmental risks to the unborn child, and the economic burden of drug- and alcohol-related crime to society is substantial.

Arrest rates in the two years before program entry were compared to arrest rates in the two years after program entry. If the client received treatment for chemical dependency, program entry was defined as the date the client was admitted for CD treatment. For other clients in *SAFE BABIES, SAFE MOMS*, program entry was defined as the date of enrollment. For other substance abusers and other Medicaid women who received neither CD treatment nor *SAFE BABIES, SAFE MOMS* services, arrests were measured two years before and after delivery. Program entry or delivery prior to June 1, 2001, was required to permit two years' follow-up. Arrest data were obtained from the Washington State Patrol.

Decrease in Arrest Rates: Two Years Before Program Entry versus Two Years After



- The arrest rate for *SAFE BABIES, SAFE MOMS* clients averaged 1.5 arrests per woman in the two years before program entry. For clients who also received CD treatment, the arrest rate decreased by 52.6%, to 0.7 arrests per woman in the two years after admission to CD treatment. For other *SAFE BABIES, SAFE MOMS* clients who did not receive CD treatment, the arrest rate decreased by 9.6% in the two years after enrollment in the *SAFE BABIES, SAFE MOMS* program.
- Arrest rates for other substance abusing pregnant women were somewhat lower than those for *SAFE BABIES, SAFE MOMS* clients. For substance abusing pregnant women who received CD treatment, the arrest rate decreased by 58%, from 1.2 arrests per woman in the two years before CD treatment to 0.5 arrests per woman in the two years after. For substance abusing pregnant women who did not receive CD treatment, the arrest rate decreased by 23%, from 0.7 during the two years prior to delivery, to 0.6 arrests per woman in the two years after delivery.
- The arrest rate for other Medicaid women, 0.08 arrests per woman in the two years before delivery, was much lower than that for substance abusing pregnant women, and decreased just 5%, to 0.07 arrests per woman in the two years after delivery.

DISCUSSION. These findings supplement our October 2003 report, *SAFE BABIES, SAFE MOMS* Program Evaluation, with additional outcome measures and longer follow-up. An additional year of birth certificates (2002) was available for this report, and more children could be included in the analysis of accepted CPS referrals during the first year of life. The additional birth certificates permitted the comparison groups of other substance abusing pregnant women and other Medicaid women who gave birth to be more strictly comparable. The duration of follow-up remains short and the number of *SAFE BABIES, SAFE MOMS* clients remains small in other analyses, such as employment and criminal history.

The availability of outcome data depends critically on the nature of the outcome. Data lag behind real-time events even for immediate birth outcomes, such as low birth weight. For longitudinal outcomes occurring over a number of years, time lags in data availability result in potentially long delays before adequate numbers of clients can be included and the measures stabilize. Data for clients enrolled at the beginning of the program are available first. With changes in local providers over time and program maturation, those clients may not be representative of the overall population that received services.

The effect of prenatal *SAFE BABIES, SAFE MOMS* enrollment on low birth weight has been observed to be strong and consistent. With different methods and ever increasing numbers of clients included, we have reported a reduction in low birth weight of 60 to 70% associated with prenatal entry into the program. Rates of accepted CPS referrals presented here demonstrate for the first time in our series of reports a statistically significant decrease in the referral rate associated with prenatal *SAFE BABIES, SAFE MOMS* services. This is consistent with improvement in parenting skills reflected by results from the Parenting Stress Index (PSI) for *SAFE BABIES, SAFE MOMS* clients. Increased use of family planning methods implies a reduction in subsequent births to these women; however, it is still too soon to measure the rate of subsequent births.

The impact of *SAFE BABIES, SAFE MOMS* on longer-term outcomes is less clear-cut at the present time. Employment during the two years following delivery appears to be driven more by the requirements of parenting a newborn child than by receipt of *SAFE BABIES, SAFE MOMS* services or treatment for chemical dependency, alone or in combination. The wage earning capacity of these clients is very limited in the short-term because of limited education and job skills. They may need more time for their children to mature and for the mothers to improve job skills, and our analysis requires more time to elapse so that more clients can be included and follow-up periods can be longer.

Similar issues of small numbers and short follow-up periods affect our analysis of arrest rates. Criminal justice involvement of *SAFE BABIES, SAFE MOMS* clients is extensive, with an average of 1.5 arrests per woman in the two years before program entry. A decrease of more than 50% in the arrest rate was observed for *SAFE BABIES, SAFE MOMS* clients who received treatment for chemical dependency; however, the decrease was much smaller for those who did not receive CD treatment.

CONCLUSION. These findings support our prior conclusion that *SAFE BABIES, SAFE MOMS* is achieving its goal to help clients become financially independent, safe, healthy, and drug-free. Children are safer and healthier, and mothers are using more family planning services, improving parenting skills, and reducing criminal activity. Some program components appear to affect outcomes differentially. The *SAFE BABIES, SAFE MOMS* comprehensive program reduces low birth weight more than CD treatment alone. However, CD treatment appears to be a necessary component to reduce arrest rates.

Data sources for this report include the First Steps Database, DASA's TARGET, Children's Administration's CAMIS, Washington State Patrol, and Employment Security Department, in addition to the Safe Babies, Safe Moms database. The First Steps Database was developed as a program monitoring tool for the First Steps program. The database links Medicaid claims and eligibility history with birth and death certificates. Additional copies of this report (#4.36f) may be requested from DSHS Research and Data Analysis (phone 360-902-0707). RDA reports are available at the website, www1.dshs.wa.gov/rda.