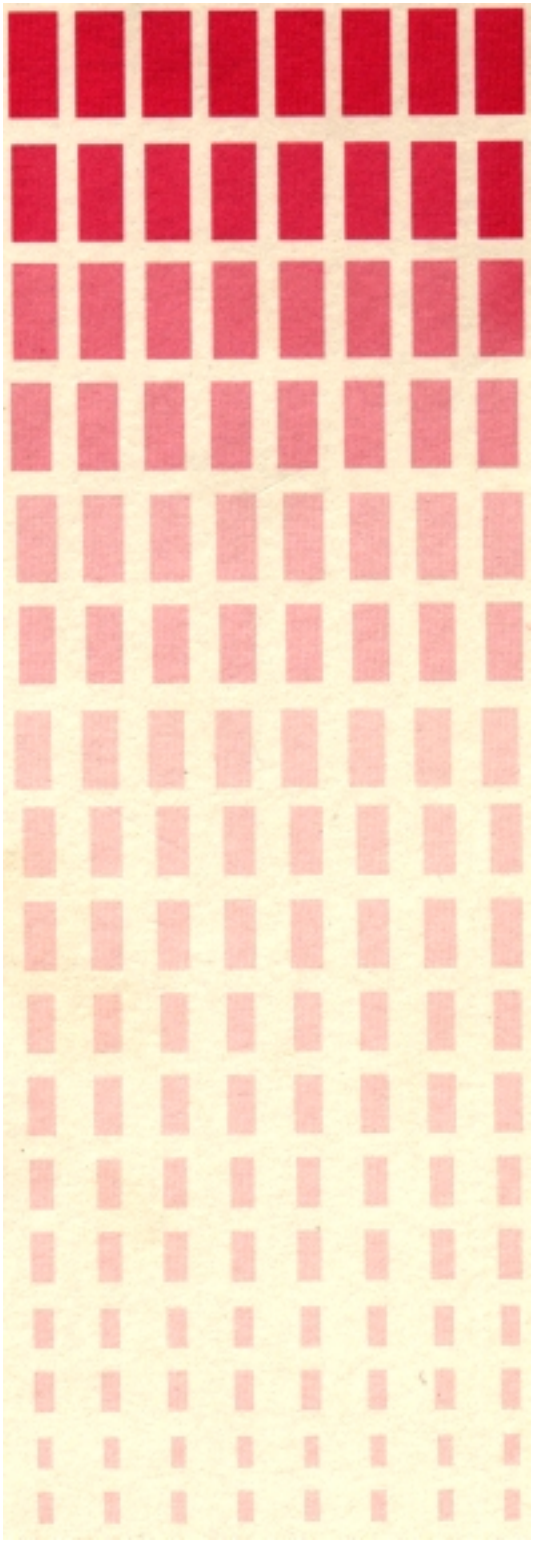

First Steps PLUS

Yakima First Steps Mobilization Project for Pregnant Substance Abusers

Washington State Department of Social and Health Services
Budget Division
Office of Research and Data Analysis

FIRST STEPS PLUS

YAKIMA FIRST STEPS MOBILIZATION PROJECT FOR PREGNANT SUBSTANCE ABUSERS

An Interim Evaluation Report

Daniel J. Nordlund, Ph.D.
Trisha Keenan, M.A.
Anne Anderson, M.D.
Laurie Cawthon, M.D., M.P.H.

July l996

First Steps Database
Office of Research and Data Analysis
Department of Social and Health Services
Olympia, Washington 98504-5204

DEPARTMENT OF SOCIAL AND HEALTH SERVICES

Lyle Quasim, Secretary

BUDGET DIVISION

Wolfgang Opitz, Ph.D., Director

OFFICE OF RESEARCH AND DATA ANALYSIS

Timothy R. Brown, Ph.D., Chief

DIVISION OF ALCOHOL AND SUBSTANCE ABUSE

Kenneth D. Stark, Director

In Conjunction with
DEPARTMENT OF HEALTH

Bruce Miyahara, Secretary

FIRST STEPS PLUS WORKGROUP

Kathy Apodaca, Chair, Christi Bristow, Laurie Cawthon, Diana Larsen-Mills,
Dan Nordlund, Florence Reeves, Nancy Reid, Thelma Robinson, Diane Tiffany

PERINATAL COMMUNITY TASK FORCE/
FIRST STEPS ADVISORY COMMITTEE

Kathy Apodaca, Rachel Balsa, Bill Baker, Cathy Bambrick, Nicola Bocek, Maura Brown,
Pat Brown, Keith Bruner, Katherine Cahn, Gwen Chaplin, Donna Choate, Linda Coleman, Eleanor Ficele, Wayne Figgs, Wendy Harvey, Rhonda Hauff, Laura Koenig,
Carol Hutchinson, Terri Jones, Dianna Kallis, Sue Kent, Karen Kershaw, Diane Leibe,
Scott Munson, Russ Myers, Patty Nagle, Betsy Nagle-McNaughton, Don Oswalt, Ellen Overby, Diane Patterson,
Cheryl Peterson, Mary Pleger, Ko Lynn Powell, Ted Rudd, Roger Rowles, Stella Vasquez, Beth Wasson,
Kathleen O'Meara-Wyman, Gail Weaver, Vickie Ybarra

When ordering, please refer to Report 7.71A

ACKNOWLEDGMENTS

The Yakima First Steps Mobilization Project for Pregnant Substance Abusers, known as First Steps PLUS (FS PLUS), is possible thanks to a demonstration grant funded by the Health Care Financing Administration. The project protocol was a collaborative effort of the Department of Social and Health Services (DSHS) and the Department of Health (DOH). Equally responsible for FS PLUS's existence is the partnership between the DSHS Office of First Steps (now Medical Assistance Administration Division of Client Services), the DSHS Division of Alcohol and Substance Abuse, other DSHS and DOH divisions represented on the First Steps Steering Committee, and the Perinatal Community Task Force/First Steps Advisory Committee.

We would like to acknowledge the FS PLUS participants for their courage to take the first steps toward change by acknowledging substance use during pregnancy.

Many thanks go to the FS PLUS Executive/Project Steering Committee for their thoughtful suggestions upon reviewing this report, including Kathy Apodaca, Cathy Bambrick, Maura Brown, Margie Fontana, Janie Martinez, Scott Munson, and Don Oswalt. Special thanks go Kathy Apodaca, the FS PLUS Project Coordinator, for her tireless explanations and attention to detail.

Our gratitude extends to the following individuals who shared their knowledge and insights with the evaluation staff who visited Yakima: Kathy Apodaca, Maura Brown, Mary Hart, Shelly McAllister, Linda Moore, Scott Munson, Ko Lynn Powell, Janie Sabedra and Beth Wasson.

Appreciation goes to the members of the First Steps Database (FSDB) team who contributed to this report. James Joyce performed a preliminary analysis of Maternity Case Management, parenting education, and treatment information in the Treatment and Report Generation Tool (TARGET). Vera Barga matched TARGET, FS PLUS Screens, and the FS PLUS Residential Treatment Monthly Census reports to the FSDB to form the FS PLUS Project database. Stacey Schubert thoughtfully reviewed this report and helped with the design of data presentation. Lisa Connor provided editorial assistance and patiently typed revised versions of the report. Tim Brown, Chief of the Office of Research and Data Analysis (ORDA), DSHS provided oversight and overall project management.

Sincere thanks go to Bob Boyce and Francia Reynolds for maintaining the ORDA computer network, a system that meets the diverse demands of ORDA's managers, researchers, analysts, programmers, and talented support staff.

The First Steps Database would not exist without the contribution of the Center for Health Statistics, DOH, which provides birth certificate data files, and the Medical Assistance Administration, DSHS, which provides Medicaid claims data.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Yakima First Steps Mobilization Project for Pregnant Substance Abusers

The Yakima First Steps Mobilization Project for Pregnant Substance Abusers, known as First Steps PLUS (FS PLUS), is a demonstration project which began providing services in July 1993 and is funded by the Health Care Financing Administration under cooperative agreement No. 11-C-06108/0-02.

This project seeks to improve the health outcomes of pregnant substance abusing women and their infants by enhancing existing perinatal services provided through Washington's First Steps Maternity Care Program and by integrating and coordinating maternity care services with comprehensive substance abuse intervention services.

Key project objectives are to mobilize the community, especially medical practitioners, to the complex medical health, social, and educational needs of low income, pregnant, substance abusing women and to complete the continuum of care in the treatment of chemical dependency.

First Steps PLUS Project Components

Community Mobilization

- Community Advisory Group
- Community-based Project Coordinator
- Provider Training
- Media Campaign
- Screening
- Mobile Assessment Workers

Continuum of Care

- Hospital Detoxification Guidelines
- Medical Stabilization in Short-term Residential Treatment
- Specialized Long-term Residential Treatment
- Therapeutic Child Care and Crisis Nursery Services
- Parenting Education
- Maternity Case Management Add-On Fees

Major accomplishments of the FS PLUS program during its first two and one-half years of operation are described in this report:

- improved coordination and linkages between maternity care providers and chemical dependency treatment providers, especially via outreach, mobile assessment workers, and maternity case managers;

- implementation of a medical stabilization protocol in a free-standing residential treatment facility (Sundown M Ranch) as an alternative to hospital-based intensive inpatient treatment programs for chemical-using pregnant women (CUP). For women admitted to this facility for primary chemical dependency treatment (N=122),

    treatment completion rates increased from 57% for women admitted July-December 1993 to 78% for women admitted July-December 1995;

    the proportion whose first residential admission was in the prenatal period increased from 56% for women admitted July-December 1993 to 76% for admissions during July-December 1994;

    the average stay at Sundown M Ranch was 18.9 days at an average cost of $120 per day compared to an average stay of 19.5 days for women in CUP programs at an average cost of $256 per day; and

    only one woman has been discharged for medical reasons.

- county-wide implementation of a screening tool to assess risk of substance abuse.

    A total of 7,362 screening forms were completed during the first 2.5 years of the project in Yakima County;

    About 10 percent (191 / 1944) of the women screened were identified as At Risk. If scarce outreach resources were focused only on the At Risk group, nearly 80 percent (55 / 69) of the diagnosed substance abusers would have been targeted, while reducing the proportion of women without a diagnosis who would be followed to approximately 7 percent (136 / 1875).

    Women identified as At Risk on the screening form are more likely to have an adverse birth outcome than those not so identified. At Risk women were 5.5 times more likely to deliver very prematurely, and 2.6 times more likely to have a low birthweight baby than women who are not identified as At Risk.

Conclusions: This project has demonstrated key methods for improving coordination and linkages between maternity care and chemical dependency treatment providers, increasing the range of treatment options for pregnant substance abusers, and augmenting the content of treatment for chemical dependency among pregnant women. First Steps PLUS has increased access to both medical care and chemical dependency treatment for substance abusing pregnant women and has changed the standard of care for these high risk women in Yakima County.

INTRODUCTION

The Yakima First Steps Mobilization Project for Pregnant Substance Abusers is a demonstration project which began in July 1993 and has been funded by the Health Care Financing Administration (HCFA). This interim report will summarize development of the project components, describe their implementation, and analyze the outcome data available to date. While more data pertaining to birth outcomes will be available in the future as data sources are processed, this interim report has been compiled while the project is still operational to take advantage of first-hand information from agencies and individuals involved in the project. A final report is scheduled for preparation in 1997 when outcome data are complete.

This report emphasizes process evaluation, especially related to (1) the creation and county-wide implementation of a screening tool to assess risk of substance abuse among Medicaid women as one component of community mobilization and (2) completion of the continuum of care for treatment of chemical dependency through improved availability of treatment options. Process measures are described from the beginning of the project in July 1993 through December 1995. Outcome measures are presented for births which occurred between July 1993 and December 1994. Demographic characteristics, risk factors, and birth outcomes are compared for Medicaid and Non-Medicaid women residents of Yakima and for Medicaid women who were and were not screened for risk of substance abuse.

This report provides preliminary indications of the effects of community mobilization and a more comprehensive continuum of care for pregnant substance abusers which have been accomplished during the first two and one-half years of project implementation.

PROJECT DEVELOPMENT

In response to a request for proposals by HCFA, the Washington State Department of Social and Health Services (DSHS) in collaboration with the Washington State Department of Health (DOH) submitted a project protocol entitled Yakima First Steps Mobilization Project for Pregnant Substance Abusers. This project represents a partnership of the DSHS Office of First Steps (now Medical Assistance Administration Division of Client Services), which provides funding for maternity care services, the DSHS Division of Alcohol and Substance Abuse, which funds treatment services for substance abusing pregnant women, other DSHS and DOH divisions represented on the First Steps Steering Committee, and the Yakima Perinatal Community Task Force/First Steps Advisory Committee.

Washington was one of five states awarded demonstration grants in 1991 by HCFA. The Yakima First Steps Mobilization Project, known as First Steps PLUS (FS PLUS), seeks to improve the health outcomes of pregnant substance abusing women and their infants

by enhancing existing perinatal services provided through Washington's First Steps program and integrating and coordinating Medicaid-funded services with comprehensive substance abuse intervention services. The goals of FS PLUS are to intervene in the progression of the severe, sometimes fatal, disease of substance abuse, and to substantially reduce or eliminate the negative outcomes associated with substance abuse in pregnancy, including medical complications to mothers and infants, medical costs for drug-exposed children, and the impact on the child welfare and justice systems.

Yakima County, the seventh largest in Washington and largely rural, was selected as the site for this demonstration project for several reasons. It has a high arrest rate for felony drug offenses and had other markers of high prevalence for substance abuse (i.e., high rates of Hepatitis B); a large portion of its pregnant women are Medicaid-eligible; and it has a strong foundation of prenatal care and substance abuse treatment upon which to build.

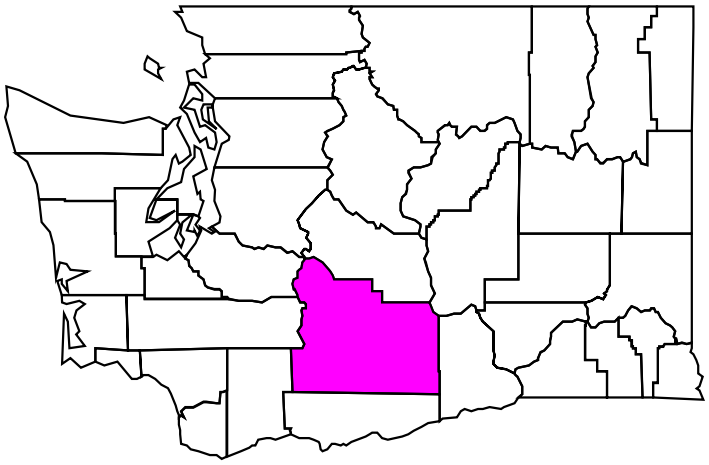

Figure 1. Yakima County, Washington State

BACKGROUND

The abuse of alcohol or illicit drugs during pregnancy endangers infant and maternal health. It is associated with low birthweight, infant mortality, developmental delay, and medical complications (Jones and Lopez, 1990). The reduction of low birthweight is a major public health objective because low birthweight is associated with infant mortality and childhood morbidities such as neurological problems, mental retardation, learning disorders, and lower respiratory tract infections (*Healthy People 2000*, 1991; Paneth, 1995). A primary long-term consequence of illicit drug use is child placement in foster care (Feldman et al., 1992; Robbins and Mills, 1993).

Prevalence estimates of substance abuse among pregnant women vary widely, but most large-scale studies suggest that between 8% and 20% of births are to substance abusing women (Chasnoff et al., 1990; United States General Accounting Office, 1990).

Evidence suggests that rates in Washington State are comparable to those across the nation. In Seattle, at the University of Washington Medical Center, self-reported cocaine use during pregnancy increased dramatically from less than 1% in 1974-75 to 16% in 1989-1990 (Streissguth, 1990). The state of Washington has examined the prevalence and outcomes of substance abuse in women whose deliveries were paid for by Medicaid. In 1993 Washington Medicaid paid for 41% of nearly 78,000 births. Six percent of women with Medicaid-paid deliveries were identified as abusing drugs or alcohol, either during their pregnancy or in the year following delivery (First Steps Database, 1995). The rate of low birthweight babies in the substance abusing Medicaid women was 12.3%, compared to 4.9% in other Medicaid births, and 2.0% in non-Medicaid births. The latest data available on the rate of out-of-home placements of infants born to substance abusing mothers for the year July 1991 through June 1992 shows a rate of 18.3% compared to 1.9% in other Medicaid births, and 0.2% in non-Medicaid births.

Women who abuse illicit drugs during pregnancy often do not seek medical and health services during pregnancy and frequently do not receive treatment for their addictions (Gehshan, 1993). In part this is because access to drug and alcohol treatment is denied pregnant women at many agencies (National Council on Alcoholism and Drug Dependence, Inc., 1990). It is also true that the vast majority of such women are not actively seeking treatment from drug and alcohol facilities (Gerstein & Harwood, 1990; Moss, 1991). If they do seek pregnancy-related services, it may be only at delivery.

Adoption of an alcohol intervention model for the substance abuser at any encounter during pregnancy may be effective in initiating change in drug-related behavior. Gentilello et al. (1995) developed, tested, and refined a model for routine alcohol screening, intervention, and referral in trauma centers. This model takes advantage of the unique opportunity for intervention and change created by a health problem requiring treatment by medical providers. In addition, an increase in addictions-related knowledge and skills among providers in prenatal care settings, along with systematic support for addressing addiction, can maximize the effectiveness of treating substance-abusing pregnant women (Corse, McHugh, and Gordon, 1995).

In 1989, Washington State enacted two major statutes related to the care of pregnant substance abusers: the Maternity Care Access Act, known as First Steps, and the Omnibus Drug Act. First Steps expanded Medicaid eligibility for pregnant women to 185% of the Federal Poverty Level, added Maternity Support Services to basic prenatal care, and provided Maternity Case Management for women at high risk of poor pregnancy outcomes. At the same time, the Omnibus Drug Act gave the highest priority to pregnant women for eligibility determination and placement in publicly-funded substance abuse treatment. These statutes served as the foundation for program components developed in FS PLUS.

The FS PLUS Project objectives are to mobilize the community to respond to the complex medical, health, social and educational needs of low income, pregnant substance

abusing women and to complete the continuum of care for substance abusing pregnant women and their infants.

Community mobilization has been utilized as an intervention strategy in models of community based primary prevention programs aimed at reducing infant mortality (Plough and Olafson, l994) and cardiovascular disease (Puska et al., 1985; Shea and Basch, l990). Three traditional models of community mobilization, with correspondingly different orientation to goals, are locality development, social planning, and social action (Rothman and Tropman, 1987). In locality development, the focus is on process goals with resultant community empowerment to make decisions for itself. Underlying this approach is the assumption that the problem is a lack of meaningful human relationships and democratic problem-solving capacity. In the social planning approach, the goals focus on tasks, such as delivery of services. This focus is oriented towards the solution of substantive social problems including physical and mental health, housing and recreation. In the social action approach the focus may be on process or tasks depending on the circumstance. This approach sees problems as being disadvantaged populations suffering from deprivation, social injustice, and inequity. FS PLUS employed the social planning model of community mobilization and focused on increasing access to services, and more integration of services and programs targeted to the specific population of pregnant substance abusers.

A full continuum of chemical dependency services is available to pregnant women in Washington State although all services are not available in all counties. The continuum of care includes hospital-based detoxification, medical stabilization and intensive inpatient treatment; freestanding intensive inpatient treatment; long-term residential treatment, extended care recovery house, and transitional housing for women and their children; and intensive outpatient and outpatient treatment. Specialized programs have been established to address the special needs associated with pregnant and parenting women, and referrals are made to these programs whenever possible. Pregnant women are usually referred to treatment after assessment at an Alcoholism and Drug Addiction Treatment and Support Act (ADATSA) Assessment Center. The assessment uses standardized procedures, and the referral takes into account the gestational age of the fetus, mother's age, environment, and family support.

The Division of Alcohol and Substance Abuse (DASA) recommends that all pregnant women in need of intensive inpatient treatment be referred to hospital-based treatment in order to assure medical stabilization of the fetus. They also recommend that women using cocaine in any stage of pregnancy or actively abusing alcohol or illicit drugs in the last trimester of their pregnancy be given priority for placement in hospital-based inpatient treatment. Outpatient treatment, either intensive outpatient or outpatient treatment, is appropriate for pregnant women with social supports, judged able to maintain sobriety with outpatient services, or unwilling to accept residential or inpatient treatment. (See Washington State DASA, *Treatment Protocol for Chemical-Using Pregnant Women*, 1993, for more detail.)

In Yakima County, prior to FS PLUS, hospital-based intensive inpatient treatment was not available, and medical stabilization in a freestanding residential facility (Sundown M Ranch) was developed to fill this gap. Mobile assessment workers made it possible to assess pregnant women at sites other than the ADATSA Assessment Center. Improved coordination of maternity care and chemical dependency treatment services was accomplished through county-wide screening, expanded Maternity Case Management services, and activities of the mobile assessment workers. The following table lists the components of the FS PLUS program which were designed to facilitate community mobilization and to complete the continuum of care.

Table 1. First Steps PLUS Project Components

Community Mobilization

- Community Advisory Group
- Community-based Project Coordinator
- Provider Training
- Media Campaign
- Screening
- Mobile Assessment Workers

Continuum of Care

- Hospital Detoxification Guidelines
- Medical Stabilization in Short-term Residential Treatment
- Specialized Long-term Residential Treatment
- Therapeutic Child Care and Crisis Nursery Services
- Parenting Education
- Maternity Case Management Add-On Fees

Implementation of these components is described in the Process Evaluation section of the Study Results. It should be noted that chemical dependency treatment providers have used the term continuum of care in a focused way to refer to the array of services available for treatment of substance abuse. A key aspect of this project was to expand the notion of continuum of care to refer not only to treatment services, but to the full array of services which are necessary to meet the special social and health care needs of pregnant substance abusers.

METHODS

The primary sources of information for this report were the FS PLUS Project database, an evaluation staff site visit, annual reports by Mathematica Policy Research, and quarterly and annual progress reports by the project coordinator.

DATA SOURCES

Written Reports

Description of the implementation of FS PLUS components was based on information obtained from annual reports by Mathematica Policy Research and quarterly progress reports by the project coordinator. The national evaluation of all five demonstration sites is being conducted by Mathematica Policy Research and its subcontractors Health Systems Research (HSR) and the National Association for Family Addiction Research and Education (NAFARE). Quarterly and annual progress reports from the project coordinator are sent to the HCFA project officer.

Evaluation Staff Site Visit

One of the data sources for the description of the development of components of FS PLUS was an evaluation site visit to Yakima. ORDA staff met with providers at the FS PLUS Executive Steering Committee, Center for Child Health Services at Yakima Valley Memorial Hospital, Triumph Treatment Services, Sundown M Ranch, Indian Health Service, and Riel House.

First Steps PLUS Project Database

The main data sources for the FS PLUS Project database are two databases maintained by Washington's Department of Social and Health Services (DSHS): the First Steps Database (FSDB), established and maintained by the Office of Research and Data Analysis (ORDA), and the Treatment and Report Generation Tool (TARGET), maintained by Division of Alcohol and Substance Abuse (DASA). In addition, two smaller datasets based on data collected from the FS PLUS Screening Forms and monthly Residential Treatment Census reports are included. Records from each of the data sources were linked through common identifiers including the name, date of birth, race, sex and zip code of residence of the mother and infant.

The First Steps Database provides a single repository for data elements from different source files (birth certificates, infant death certificates, maternal and infant services paid by Medicaid, and Medicaid eligibility history). Birth certificates provided by the Center for Health Statistics of the Department of Health contain data on prenatal care, pregnancy outcomes, and background information for all births to Washington State residents. The FSDB links birth certificates to Medicaid claims and eligibility. Medicaid claims contain

extensive information on Medicaid payments for maternal and infant care, type of medical care, and medical diagnoses.

The Treatment and Report Generation Tool records information on publicly-funded treatment services for substance abusers in Washington State. TARGET contains demographic, assessment, admission, treatment activity, and discharge data from treatment facilities across the state.

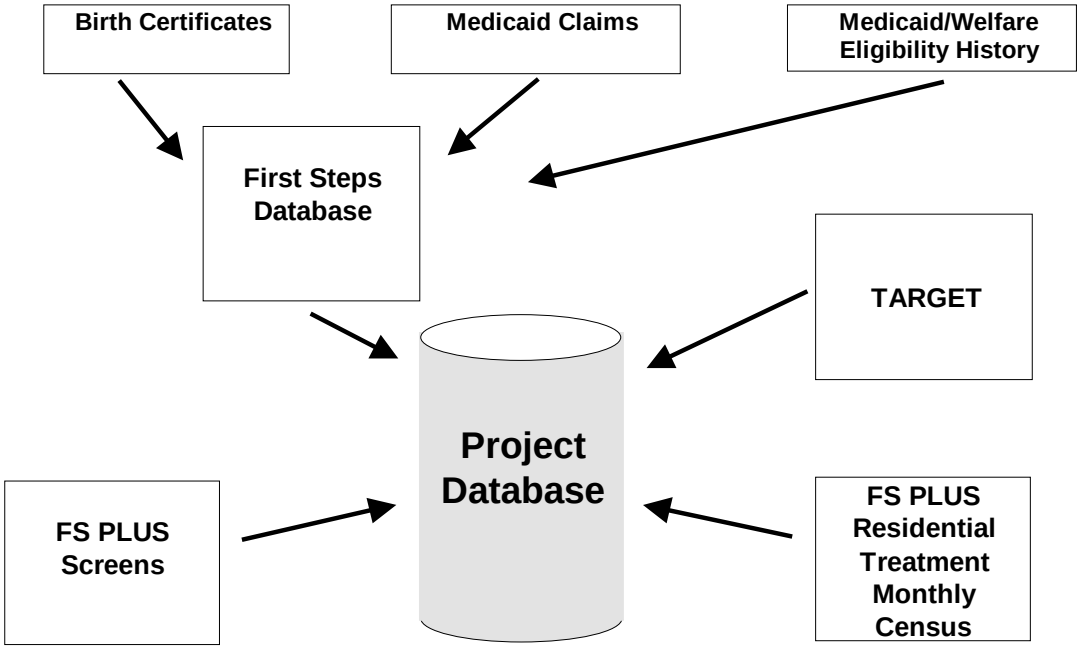

Figure 2. Data Sources for the FS PLUS Project Database

FS PLUS Screens

The FS PLUS screening questionnaire is a one-page, multipart screening form administered by prenatal health and social services providers in Yakima to pregnant women in their care. A copy of the screening form is included as Appendix A. Upon completion of the FS PLUS Screen, the original is forwarded to the Office of Research and Data Analysis. The women's individual responses to the nine questions comprising the FS PLUS Screen and the health provider's determination of level of risk are entered into the FS PLUS Project database.

Using identifiers available on the FS PLUS screening forms, screening responses were matched to the First Steps Database. There were 6,371 deliveries in Yakima County from July 1993 through December 1994, of which 4,735 were Medicaid-paid. The FSDB has information on deliveries for which the mother was not screened prenatally because the

program was just getting started and some women were late in their pregnancies. Of the deliveries in the FSDB in the time specified, 1,973 were matched to women who had been screened for substance abuse prenatally (29 of whom were not Medicaid recipients). More women were screened in this time period than could be matched in the FSDB for several reasons. Some of the women who were screened were early in their pregnancies and would not have delivered by the end of 1994. Some screening forms may have failed to match because of a name change between screening and delivery. Match failures also occurred because the mother's date of birth was recorded incorrectly in one or the other database.

FS PLUS Residential Treatment Monthly Census

The FS PLUS Residential Treatment Monthly Census Form tracks the number of FS PLUS clients in residential substance abuse treatment at Yakima's two residential treatment facilities, Riel House and Sundown M Ranch. This census form is filled out by each residential treatment program on a monthly basis and returned to the evaluator in Olympia. This form indicates the number of admissions, completions, and readmissions for both treatment centers.

ANALYSIS GROUPS

The analyses of screening and birth outcomes which rely on birth certificate data are limited to female residents of Yakima County who gave birth from July 1993 through December 1994, since birth certificates are not available for later time periods. Female residents of Yakima County who gave birth from July 1993 through December 1994 were included in this report. This time period represents the first one and one-half years of the three year duration of the FS PLUS Project. For purposes of analysis this cohort of women was divided into the following groups.

All Yakima County Medicaid and Non-Medicaid. In Yakima County 6,371 women gave birth between July 1, l993 and December 31, l994. Women with Medicaid-paid prenatal care and/or deliveries as indicated in the FSDB were identified as the Medicaid group (N = 4,735). This group was further divided into women who were and were not screened.

All Medicaid Not-Screened. Of the 4,735 Medicaid women, 2,791 were not administered the FS PLUS Screen.

All Medicaid Screened. The FS PLUS Screen was administered to 1,944 Medicaid women giving birth between July 1, l993 and December 31, l994. Women in this group were divided into two groups based on their screening tool results, *At Risk* or *Not At Risk*.

Screened At Risk. Of the 1,944 women screened, 191 were screened *At Risk*. The *At Risk* designation includes those women whose screening form indicated any of the following: *Use, At Risk*, or two or more "Yes" answers to questions 5 through 8 (a CAGE score equal to or greater than two). A FS PLUS participant is defined as a

pregnant or postpartum, Medicaid-eligible client who is known to be using or at risk of using alcohol or other drugs. Analyses that do not rely on data matched to birth certificates are based on a different cohort of women because they can include women who delivered after December 31, 1994 (for which birth certificates are not yet available). This concerns primarily the process evaluation of the mobile assessment, medical stabilization, specialized long-term residential treatment, parenting, and maternity case management add-on fee components of the project, but also affects the outcome evaluation of residential treatment. These findings include women who were participants in this demonstration during the first two and one-half years of the project, July 1993 through December 1995.

VARIABLES

This section describes the variables used in the tables and graphs presented in this report.

Demographic Characteristics

Demographic characteristics were obtained from the birth certificate and Medicaid claims and eligibility history.

Race. Maternal race was determined by self-report as recorded on the birth certificate. The terminology and definitions for race are consistent with those used by the National Center for Health Statistics with the exception of Hispanic women. The Washington birth certificate includes Hispanic in the choices for race, in addition to another question about Hispanic origin or descent. Women were identified as Hispanic if the race was listed as Hispanic, regardless of the response to the Hispanic origin/descent question.

Age. Mother's age at the time of delivery was computed from the mother's date of birth and the delivery date of her baby as reported on the birth certificate.

Marital Status. The mother's marital status at the time of delivery was obtained from the birth certificate.

Medicaid Eligibility. Women with Medicaid-paid prenatal care or delivery were identified as Medicaid eligible. These women were divided into three groups, based on the type of program which entitled them to Medicaid coverage. Grant Recipient women received Medicaid coverage as well as monthly financial assistance (cash grants). Most of the women in this group received cash grants through the Family Independence Program, Aid to Families with Dependent Children (AFDC), or a state-funded pregnancy program. Pre-First Steps Medicaid Only women were not eligible to receive grants, but were eligible for Medicaid services through programs such as Medically Needy, Medically Indigent, or Categorically Needy under the Omnibus Budget Reconciliation Act (OBRA) 86 legislation. In general, women in this group had incomes below 90% of the Federal Poverty Level (FPL). First Steps

Expansion women were eligible for Medicaid through the expansion of Medicaid coverage to pregnant women with incomes up to 185% of the FPL. This expansion, commonly known as First Steps, was implemented in August 1989. These eligibility groups provide an indication of income levels in the study populations.

Education. The mother's educational status was obtained from the birth certificate.

Prior Children. This number is the total of prior live births now living and now dead, reported on the birth certificate at the time of the new baby's birth.

Undocumented Women. Undocumented status was obtained from the Medicaid files. Although matched federal funds can only be used for emergency treatment including delivery for undocumented women, state funds have paid for prenatal care for these women since 1989.

Hispanic Origin. Hispanic mothers' countries of birth were based on information from the birth certificate.

Behavioral Risk Factors

Birth certificate and Medicaid claims and eligibility history were used as sources for these measures.

Substance Abuse. Identification of diagnosed substance abuse was obtained from medical diagnoses using ICD-9 codes (International Classification of Disease - Revision 9), hospital DRGs (Diagnostic Related Groups), and physician procedure codes, CPT-4 (Current Procedural Terminology, Fourth Edition). The specific codes used to identify substance abuse are listed in Appendix B.

Smoking. Smoking history during pregnancy was determined from the birth certificate variable for the number of cigarettes smoked per day during pregnancy. Smokers were mothers who reported any smoking during pregnancy.

Initiation of Prenatal Care. The trimester prenatal care began was computed from the month of pregnancy that prenatal care began as reported on the birth certificate.

Enhanced Prenatal Care

Enhanced prenatal care services available after the implementation of the First Steps Maternity Care Access program include Maternity Case Management (MCM) and Maternity Support Services (MSS). Information about the use of MSS and MCM was obtained from Medicaid claims.

Maternity Case Management. Maternity Case Management is targeted to women at high risk of poor pregnancy outcomes, including teens (less than 18 years of age),

chemically dependent women, women with alcohol or drug abuse present in their environment, and women with at least three risk factors associated with poor maternity outcomes (such as homelessness, lack of a support system, medical factors, education of eighth grade level or lower, and entry into prenatal care after 28 weeks). The goal of MCM is to identify factors in the woman's life which might adversely affect birth outcomes and to facilitate referrals to needed specialty services. This Medicaid service may continue for the woman and her family through pregnancy and the infant's first year. High risk pregnant women are eligible for at least one visit per month.

Maternity Case Management Add-on Fee. The monthly $25 case management add-on fee, a component of the FS PLUS project, allows providers additional compensation for screening for substance abuse, coordination with assessment workers, and more frequent contacts with the high risk FS PLUS participants.

Maternity Support Services. Maternity Support Services, available to all Medicaid-eligible women throughout pregnancy and 60 days postpartum, include nutritional services, psychosocial assessment and counseling, community health nursing, community health worker visits, childbirth education and child care. These services are provided by nurses, community health workers, nutritionists, social workers and childbirth educators. Child care and transportation for medical appointments are available. Women at high risk, including substance abusers, can receive up to twenty visits.

Parenting Education. Parenting education was added to the prenatal care package of MSS for FS PLUS project participants.

Birth Outcomes

Gestational Age. Gestational age was computed as the difference between delivery date and date of last menstrual period (LMP). If LMP was missing, clinical estimate of gestational age was used. The expected duration of pregnancy is 40 weeks, and infants who are more than 37 weeks of gestation age are considered full-term. Infants born at 37 weeks or earlier are considered premature. Premature delivery is one of the main causes for low birthweight. The gestational age of a newborn infant is a measure of the maturity of the newborn at delivery.

Birthweight: The weight of the newborn child is recorded on the birth certificate. Newborn infants weighing less than 2500 grams (5.5 pounds) are considered low birthweight (LBW). Those weighing less than 1500 grams (3.3 pounds) are considered very low birthweight (VLBW). The VLBW group is included within the LBW group. The rates of LBW and VLBW were calculated for singleton liveborn infants. Twins and higher order births were excluded because they often have lower birthweights whether they are healthy or not, and one such birth may unduly influence the rate of LBW in small groups.

RESULTS

This interim evaluation of the FS PLUS project includes assessment of both process and outcomes. The process evaluation provides a description of the development of each component of the project and the accomplishments to date. The outcome evaluation presents a preliminary analysis of the impact of the demonstration.

PROCESS EVALUATION

FS PLUS was designed with two main objectives: (1) to mobilize the community to recognize and respond to the complex medical, social, and educational needs of low income pregnant substance abusing women; and (2) to complete the county's continuum of care for pregnant substance abusers and their infants. The components of the FS PLUS program which address these two objectives are described.

Community Mobilization

Community mobilization was utilized to accomplish community-wide education and to integrate the existing social and health service structure of the community. Community education sought to improve knowledge, increase recognition of the scope and nature of perinatal substance abuse as a health problem in Yakima, and increase awareness of the available treatment programs and resources. This educational objective, targeting all sectors of the community, was accomplished through a media campaign, provider training, mobile assessment workers, and screening.

FS PLUS mobilized community involvement in the planning, implementation and oversight of the program with the participation of the community advisory group in all three of these phases. Coordination of community resources involved collaboration of state agencies, prenatal care providers, and substance abuse treatment providers and integration of their efforts in this area by the community advisory group and the community-based project coordinator.

Community Advisory Group

A key component in the planning, advising and implementation of community mobilization has been the Perinatal Community Task Force/First Steps Advisory Committee, the local advisory group for the FS PLUS Project. This committee was formed in 1989 when the First Steps Program began. It emerged from the Central Washington Perinatal Task Force which started in 1982. Community-based health and social service providers comprise this group. Members represent community hospitals, primary care health clinics, the local health department, child welfare agencies, substance abuse treatment agencies, family planning agencies, obstetricians, and pediatricians. The Yakima Valley Farm Workers Clinic and the Indian Health Service, which serve the county's major communities of color, are both represented. The composition of this group facilitates local linkages between the medical, social service, and treatment systems.

In 1992, the committee designated an existing subcommittee as a work group for the FS PLUS project. This group, named the FS PLUS Executive/Project Steering Committee, includes representatives of both public and private agencies in each of five service disciplines: substance abuse treatment, perinatal medical services, maternity support services, maternity case management, and DSHS Community Service Offices. Local providers had requested the use of funds for both a mobile assessment worker and provider training and a role in the development of guidelines and protocols for hospital detoxification. Therefore, five other subcommittees were established to develop community policy for the FS PLUS project: provider training, media and outreach, client linkages, medical stabilization/detoxification in treatment, and parenting education.

The Perinatal Community Task Force/First Steps Advisory Committee faced competing demands for its time in advising multiple projects, and in July 1994, the FS PLUS Coordinator was given a non-leadership seat on the Committee's FS PLUS Executive/Project Steering Committee. This evolution in the local advisory group was part of the transition of the project's administration from the state to the local level.

Community-Based Project Coordinator

Recruitment for the position of Project Coordinator began in December 1991, when the opening was advertised in all major county newspapers, including one in Spanish. The coordinator was to have responsibility for policy development and project budget, and according to the grant proposal, the position was meant to be filled by a member of the local community. The individual who was chosen is a longtime resident of Yakima, had served as the Economic and Medical Field Services liaison to First Steps for Region 2 of DSHS, and was a member of the FS Coordinating Committee. The appointment was effective July 1, 1992.

During the phase-in period, the Coordinator began the process of building client linkages. Incorporating input from the subgroup of the advisory committee, she helped to establish communication among the various drug treatment and health provider agencies to assure that pregnant substance abusers received coordinated services. In the development of the project's outreach component, the Coordinator chaired focus groups to identify media needs, solicited bids, and designed and distributed materials for this campaign. As part of evaluation and reporting activities, the Coordinator met with individuals and groups at the state and federal levels.

The state-level Program Manager for FS PLUS retired in December 1993. At the time of the project's application process and through the initial implementation phase, this person had been the chair of the state's FS PLUS Work Group, made up of personnel from the Division of Alcohol and Substance Abuse, Medical Assistance Administration, Parent-Child Health Services, and the Office of Research and Data Analysis. The local Project Coordinator assumed responsibility for project-related activities at the state level and became chair of the state's FS PLUS Work Group. In July 1993 the Project Coordinator

began a six-month transition period into this new role, taking on additional project administrative duties.

Provider Training

The importance of provider training regarding the special needs of the population of low-income pregnant substance abusers was recognized by the Perinatal Community Task Force/FS Advisory Committee early in project development. Working with state and local entities that could provide or facilitate training, the Project Coordinator developed a yearly plan. It included a training needs assessment for all principal providers, a curriculum outline, potential trainers, strategies for community college or state university continuing education credits, timelines and schedules, and plans for video and audio taping. As an outgrowth, a resource library for community use was developed.

The goals of the provider training program were to increase providers' awareness of the problem of perinatal substance abuse, improve their skills in identifying substance use, and increase the referral of women to appropriate intervention services. It was estimated that during the three-year implementation phase of the project, provider training would be presented to 200 people each year. By October 1992, within three months of the Coordinator's appointment, the following tasks were accomplished: identification of short term needs for community training, completion of a provider training plan, selection of the Central Washington Perinatal Program to coordinate and present the training, disbursement of funds, and presentation of three training sessions. A subcommittee of the advisory board was established to develop policy about training and its funding. In the first quarter of 1993, a training coordination contract was negotiated with Yakima Valley Memorial Hospital, where the Central Washington Perinatal Program is located within the Center for Child Health Services. Table 2 shows the dates, titles, presenters and target audiences of the provider training sessions presented.

Media Campaign

The goals of the media campaign include improving community awareness of the problem of substance abuse during pregnancy, educating pregnant women about the risks of substance abuse for themselves and for their unborn child, and increasing the awareness in pregnant substance abusers, their families and the community at large of the available treatment programs and resources.

The FS PLUS project has built upon the existing state First Steps media campaign managed by Healthy Mothers, Healthy Babies. Information about First Steps became widespread in Washington State through a multi-faceted media campaign, including television, radio, posters and a toll-free number. Women in Yakima county who call the 1-800 number are referred back to Yakima agencies.

Local radio and television have provided coverage of the FS PLUS project including public service announcements and infomercials targeted to project participants.

Table 2. Provider Training Sessions

Date	Title and Presenter	Target Audience
9/18/92	Substance Abuse and Pregnancy - Dr. William Miller	Physicians, all providers
10/9/92	Breaking the Cycle - Claudia Black	Providers
10/15/92	Washington State Coalition on Women's Substance Abuse Issues Third Annual Conference: Women and Addiction in WA State - many presenters	All providers
10/27/92	First Steps PLUS Project - Kathy Apodaca	County providers
5/10/93	HIV and Drug Use: Impact on Children, Families, Providers, and the Community - Kathy Sherrieb	All providers
5/25/93 7/29/93 7/30/93	Is My Pregnant Client Using? - Maura Brown and Janie Sabedra Repeat - Sunnyside Repeat - Toppenish	Medical office staff, community providers
6/18/93	Women's Issues in Chemical Dependency: Focus on Pregnancy and Post Partum - Dr. William Miller	Physicians, office staff, all providers
8/93	Growing Up Again (6 week facilitator training) - Mary Paananen	Community and parenting educators
9/22/93	First Steps PLUS Medicaid Billing - Kathy Apodaca	Project vendors/billing staff
10/1/93	Washington State Coalition on Women's Substance Abuse Issues Conference: Current Issues in Chemical Dependency Treatment for Women - Dr. Mary Knipmeyer and others	All providers
11/5/93	ABC's of First Steps - First Steps State Staff	First Steps Providers
11/17/93	It Takes a Whole Village to Raise a Child - Drs. Sterling Claren/William Miller	All providers
1/94-5/94	First Steps PLUS Services - Kathy Apodaca, Maura Brown, Janie Sabedra	Direct service staff of individual provider agencies

4/22/94	Working Together for Health and Recovery - many presenters	First Steps providers
5/20/94	Children's Protective Services: Working Together to Improve Outcomes - Patti Nagle	Yakima county providers
6/29/94	ABC's of First Steps - First Steps State Staff	First Steps providers
9/20/94	First Steps in Yakima County - many presenters	Yakima county providers
9/21/94	Yakima County Data Findings - Drs. Laurie Cawthon/Dan Nordlund	First Steps committee, physicians
10/20/94	Keyed Up for Being Drug Free - Russ Osnes and Carol Gesme	Parenting educators, First Steps providers
10/20-21/94	Understanding Human Behavior: Trans-actional Analysis 101 - Russ Osnes and Carol Gesme	Parenting educators, First Steps providers
10/27-28/94	Washington Coalition on Women's Substance Abuse Issues Fourth Annual Conference: Women in Recovery - Barbara Gibson, Marcella Benson-Quaziena, Ken Stark and others	All providers
11/14-15/94	Long Term Effect of Fetal Drug Exposure - Drs. Ira Chasnoff/Laurie Cawthon/Dan Nordlund	Physicians, all
1/17/95	Effects of Fetal Drug Exposure: Fears, Reality and Future - Dr. Ira Chasnoff	Physicians, community
1/18/95	How to Engage and Facilitate Change - Dr. Ira Chasnoff	First Steps providers
5/4/95	How to Interview Substance Abusing Women - Maura Brown	Health Care Providers, Yakima Neighborhood Health
6/6/95	Issues in Perinatal Health Care - Dr. Roger Rowles	Physicians, nurses, providers
8/95	How to Interview - Maura Brown	Indian Health Service
11/8/95	Parenting Skills for Parents in Recovery: Clean and Sober Model - Lynn Lott	Parenting educators

First, prenatal messages for the general population were aired. A special series was then developed targeting populations of different ethnic origins, teens, drug/alcohol abusers, and smokers. To reach out to the women from different ethnic backgrounds represented in Yakima, the infomercials featured culturally relevant situations, and people from the Yakama Nation and the Yakima Valley Farm Workers Clinic. Physicians, tribal members, and farm workers have all donated their talents. In addition, Ira Chasnoff, M.D., one of the nation's leading researchers in the field of maternal drug use during pregnancy and the developmental effects on the child, presented community forums and taped infomercials for the local NBC television affiliate that produces the state's prenatal media spots in the Yakima area.

The FS PLUS project receives additional coverage through weekly articles in local newspapers on parenting often written by FS PLUS providers and quarterly feature stories about women in recovery. *Footprints*, the First Steps newsletter distributed statewide to providers and physician associations serving pregnant women, dedicated an entire issue to the FS PLUS project.

Additional media products included project pamphlets in English and Spanish, a small poster/flyer listing the outreach number, outreach stickers and business cards with the FS PLUS program logo. The outreach business cards and oval stickers were distributed within the first three months in which the project was implemented. In the first quarter of 1994, the program logo and design were determined and incentive products were ordered. The Spanish language version of the project's pamphlet was printed in the spring of 1995. The production of the poster/flyer was delayed until the spring of 1995 pending resolution of outreach staff reduction and management of the outreach contract after July 1, 1995.

Client-focused approaches of the media campaign included distribution of incentive products. Community input was provided by several focus groups of women in recovery who identified products that potential clients would be likely to appreciate. When women made contact with the FS PLUS program, they received various materials including promotional baby books developed under the statewide prenatal care campaign of Healthy Mothers, Healthy Babies, and business cards, pens and other items with the phone number of the outreach workers. In addition, FS PLUS clients who enter residential substance abuse treatment programs receive an appointment book, pens and a tote bag. The tote bag is designed for personal use or as a diaper bag, and is filled with gift-wrapped items including pencils, key chain, Kleenex™, Lifesavers™, sewing kit, shampoo, toothbrush, toothpaste, razors, soap, purse mirror, emery boards, gum and comb. Outreach/mobile assessment workers, parenting educators, and the on-site nurse at Sundown M Ranch reported that these tote bags are an important factor in increasing the project participants' self-esteem. The outreach workers and the staff at Triumph Treatment Services and Riel House reported that the appointment books and the pens with the outreach phone number have been the most successful incentive items for client outreach and linkage.

Screening

Health professionals have emphasized the importance of identifying pregnant women who are using alcohol or other drugs as early as possible so that interventions may be applied (Hinderliter and Zelenak, 1993). The first step in this process is screening. The purpose of screening is to identify otherwise undiagnosed women who are at increased risk of abusing alcohol or other drugs, and thus should be followed more carefully to confirm or rule out a substance abuse problem. This can result in more efficient use of scarce resources by focusing follow-up on women most likely to benefit. It should be emphasized that screening methods only identify increased risk; diagnosis of chemical dependency will not be confirmed for some At Risk women.

A screening tool (FS PLUS Screen) was developed to identify potential substance abusers for further follow-up and program intervention (Appendix A). All prenatal health and social services providers in the county were asked to administer this new one-page, non-diagnostic screening form to all pregnant Medicaid women under their care. It includes a simple yes/no response to nine questions designed to identify both women who are known to have substance problems and those at risk who exhibit risk factors strongly associated with substance use and abuse. The FS PLUS Screen incorporates the 4Ps screen (described below), the CAGE screen and one question asking if the client is *known to be using* or *if the interviewer suspects the client is using* even when responses to screening questions did not suggest that.

The 4Ps, a screen designed by Hope Ewing, M.D., and George Medeiros, for use in prenatal clinics and for integration within large health care systems, asks four questions about the woman's alcohol and/or drug use problems in her *parents*, in her *partner*, in her *past* and during the current *pregnancy* (Maternal Substance Use Assessment Methods Reference Manual, 1993). The four questions comprising the CAGE screening instrument ask about *cutting* down (on drinking), *annoyance* (because of people's criticism for the person's drinking), feeling *guilty* about drinking, and needing an *eye-opener* (morning drink). Each "yes" answer to a CAGE question is scored as one point; a score of 2 or above is more likely to come from a substance abuser (Ewing and Rouse, l970; Ewing, 1984).

The CAGE questions, modified to include use of illicit drugs along with drinking, were adopted in the First Steps screening tool. The provider administering the screening tool was instructed: "Any YES answer to questions 3-8 indicates use or significant risk of use. You may decide risk exists regardless of screening responses." The provider was then asked to choose whether responses indicated *use, risk of use* or *no use*. The category of *risk of use* was added to those of *use* and *no use* during the first year, to relieve some providers' concerns about labeling or diagnosing the client. The original screening form is sent to the FS PLUS Coordinator, who then forwards the form to ORDA; one copy is sent to the FS PLUS assessment workers if applicable, and one copy is kept by the agency in the client's file. A fourth copy for the prenatal physician was added in the first year of implementation. Women found either to have or to be at risk of having a substance abuse

problem are considered to be First Steps PLUS participants and are offered mobile outreach and assessment services. Referral phone numbers and addresses are provided for FS PLUS outreach/assessment and for all maternity case management agencies on the back of the screening form.

The FS PLUS Screen is mainly administered by nurses in prenatal clinics or social workers in Community Service Offices. The primary locations where the screening tool is administered include Adolescent Pregnancy and Parenting Program (APPP), Department of Social and Health Services (DSHS) Sunnyside Community Services Office (CSO), DSHS Toppenish CSO, DSHS Wapato CSO, DSHS Yakima CSO, Indian Health Service (IHS), Providence Yakima Medical Center, Yakima Neighborhood Health Services (YNHS), Yakima Valley Farm Workers Clinic (YVFWC), Yakima Valley Memorial Hospital (YVMH), and other sites including private physician's offices.

After the screening program was under way, two new strategies were implemented to increase the number of women contacted for screening, assessment and, if appropriate, referral to treatment services. The first strategy is the *on-site clinic model* where the mobile outreach and assessment workers come to the clinics. Weekly site visits are scheduled at the prenatal clinics of both the Indian Health Service (IHS) and the Yakima Neighborhood Health Services. Women receiving Special Supplemental Food Program for Women, Infants, and Children (WIC) and health services at the IHS clinic are required to attend one education session which outreach staff conduct weekly. The mobile outreach and assessment workers' on-site presence has been reported to help overcome providers reluctance to refer women for full assessment and allows an easier and earlier identification of women suspected of substance abuse for further follow up. Other providers are attempting to develop similar arrangements at their clinic sites.

The second strategy involves an increased number of *in-service trainings* with prenatal care providers by project staff and the mobile outreach and assessment workers. The goal of these in-service trainings is to enhance the providers' skills in identifying and engaging pregnant substance abusers and to provide a better understanding of the role of the mobile outreach and assessment workers.

Findings

The number of screenings performed by local agencies and in CSOs is shown in Table 3 below. A total of 7362 screening forms were completed during the first two and one-half years of the project. The agencies and offices vary greatly in the number of screens completed, and overall more than two-thirds (66%) of screens were performed by provider agencies. The number of screens done during 1994 and 1995 has been relatively stable.

Table 3. Semiannual Counts of Screening Forms Completed by Provider Agencies and Community Service Offices in Yakima County

	Jul-Dec 1993	Jan-Jun 1994	Jul-Dec 1994	Jan-Jun 1995	Jul-Dec 1995
Providers:					
1	19	26	16	23	36
2	31	43	79	85	63
3	615	521	376	435	279
4	101	246	430	409	344
5	112	86	88	97	91
6	0	26	63	56	89
CSOs:					
1	135	251	153	193	122
2	41	59	23	0	0
3	34	38	104	0	2
4	50	251	93	340	381
Other	10	33	43	49	72
TOTAL	**1148**	**1580**	**1468**	**1687**	**1479**

Figure 3 (below) illustrates the introduction and use of the FS PLUS screening tool in Yakima County. The Medicaid deliveries line counts the total number of Medicaid deliveries per month, and the bars show the total number of women screened for substance abuse each month. As a result, the deliveries and the screenings generally do not represent the same women in each time period. The number of screens completed per month reached a relatively stable level by late 1993. We have no explanation for the peaks in the number of screens done in the spring and the troughs in July 1994 and September 1995 although it is possible that staffing changes occurred in some of the agencies doing screening.

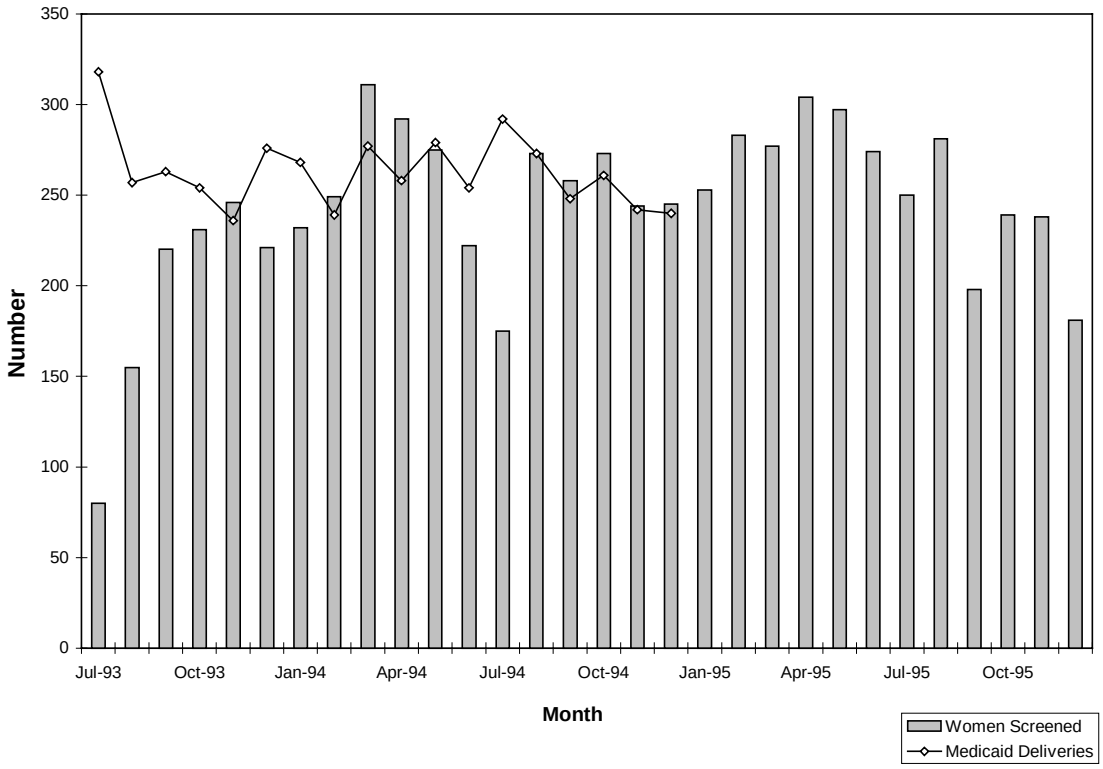

Figure 3. Number of Medicaid Women Giving Birth or Screened for Substance Abuse by Month for Yakima County Residents

Figure 4 presents a different perspective on screening among Medicaid women in Yakima. For births beginning in July 1993, the proportion of women screened represents the number of women giving birth in a particular month who were screened prior to delivery divided by the total number of Medicaid women who gave birth during that month. The proportion of Medicaid women screened shows a steady increase throughout the first project year and levels off during the first six months of the second project year at about 60%.

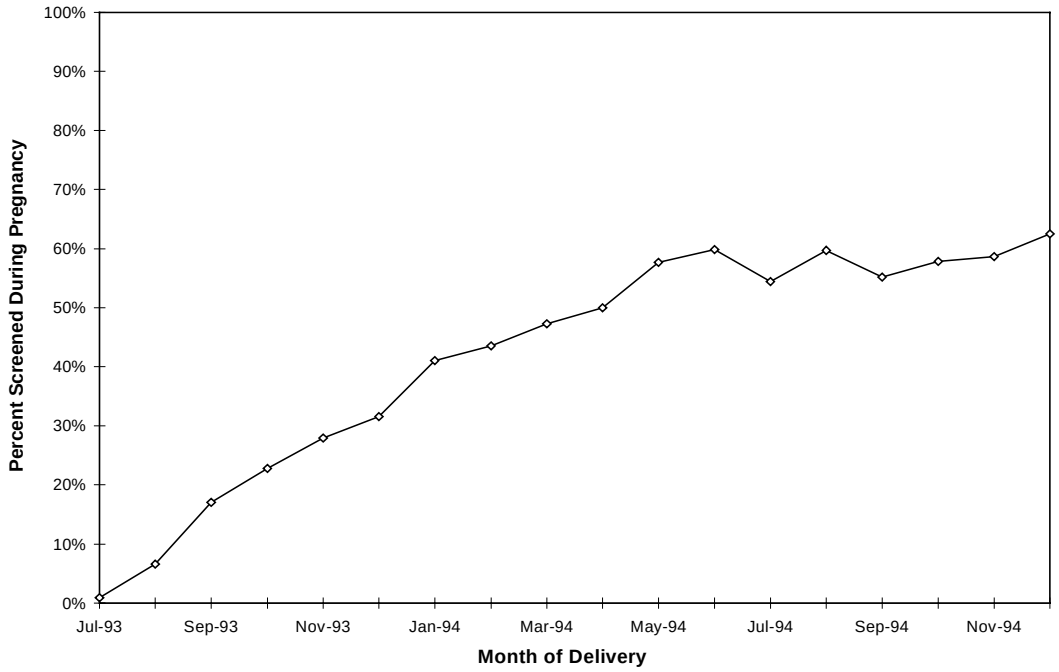

Figure 4. Use of Screening Tool in Yakima County: Proportion of Women Screened for Substance Abuse During Pregnancy by Month of Delivery

Mobile Assessment

Another community mobilization component of FS PLUS is the introduction of two mobile outreach and assessment workers, who are certified to determine placement in state-funded treatment under the Alcoholism and Drug Addiction Treatment and Support Act (ADATSA). The goal of this new service is to link substance abusing or chemically dependent pregnant or postpartum women with treatment services.

Although these workers were not funded by the original grant proposal, they were added at the request of the community providers. The local perinatal committee had seen a rise

in drug positive babies at Yakima Valley Memorial Hospital with mothers being discharged within twelve hours after delivery. Triumph Treatment Services had responded by placing a chemical dependency counselor on call to provide assessments for chemical dependency during the 12 to 24 hour period of hospitalization. Major barriers identified by the Yakima service community to getting pregnant substance abusing women into treatment included a series of time delays between identification of suspected drug abuse, assessment, Medicaid eligibility determination, and enrollment in a substance abuse treatment program, and problems with keeping appointments due to lack of transportation and child care.

To address these barriers, FS PLUS included two mobile outreach and assessment workers in the demonstration project. Funding and personnel changes have led to periods during the project, however, when only one mobile worker has been available. A dedicated toll-free phone line, dispatched to cellular phones, allowed access to the outreach workers 24 hours a day, seven days a week. Although this 24-hour service was not available June through September 1995 due to funding changes, 24-hour phone contact has proven to be an important factor in increasing participation by private physicians in this project. The workers travel wherever necessary to meet with women referred for an assessment. Generally, an assessment is provided within 24 to 48 hours of receiving the referral and is conducted either at the provider's office or in the woman's home. Any First Steps social service or medical agency, hospital, private physician or other perinatal provider in Yakima County can request substance abuse assessment, case consultation, or assisted intervention. If applicable, the mobile workers refer and facilitate the linkage of the woman to substance abuse treatment. Since other research has shown that the window of treatment-seeking behavior in substance users can be very narrow (Hinderliter and Zelenak, l993), this timely response and elimination of transportation barriers facilitate pregnant substance abusers' obtaining appropriate treatment programs.

An additional aspect of outreach was the hiring of an assessment worker with Hispanic language and cultural capability to reach the high proportion of Hispanic women giving birth in Yakima County (50.6 % of the total births in 1993).

One important role of the mobile assessment workers has been to provide consultation, education and intervention assistance. They have conducted multiple presentations and trainings in the community to prenatal care providers, case managers and community service office (CSO) social workers to improve their skills in identifying women with substance abuse problems. This has resulted in increased use of the mobile workers by emergency departments, hospital perinatal providers, and private physicians' offices and in the establishment of a critical bridge between prenatal care and substance abuse treatment.

Findings

Table 4 (below) displays the activities of the mobile assessment workers by quarter for the first two and one-half project years, July 1993 through December 1995. The definitions of the column headings are as follows:

> New client contacts: includes first time contacts with women who call for general information (with no intake interview) and those women whose first contact was an intake interview.
>
> Total client contacts: includes new client contacts and recontacts. Recontacts include women who had originally called for general information only, those who completed an intake interviews, and those who had an ADATSA assessment and were referred to treatment but who had barriers to immediate entry.
>
> Intake Interviews: acquires demographic information on the woman, including her name and address.

Intake interviews led to completed ADATSA assessments for 346/480 (72%) women, and 305/480 (63.5%) of women with intake interviews were referred to treatment. The 305 women who were referred to treatment represent 88% of the women who completed ADATSA assessments.

Table 4. Mobile Outreach and Assessment Activity in Yakima County July 1993 - December 1995

Quarter	New Client Contacts	Total Client Contacts	Intake Interviews	ADATSA Assessments Completed	Clients Referred to Treatment
Jul - Sep 1993	na	235	na	79	28
Oct - Dec 1993	na	216	na	26	12
Jan - Mar 1994	39	131	40	25	20
Apr - Jun 1994	46	106	54	36	36
Jul - Sep 1994	46	88	50	29	36
Oct - Dec 1994	35	92	51	31	34
Jan - Mar 1995	79	118	128	38	52
Apr - Jun 1995	89	130	89	30	33
Jul - Sep 1995	44	60	44	32	32
Oct - Dec 1995	28	44	24	20	22
TOTALS	**406**	**1220**	**480**	**346**	**305**

Completion of Continuum of Care

In addition to community mobilization, this project was designed to fill service gaps in the continuum of care for pregnant substance abusers. In many communities in the state, the full range of treatment modalities was not available, or programs were not designed to meet the special needs of pregnant substance abusers. FS PLUS Project interventions designed to augment the continuum of care for pregnant substance abusers included medical stabilization in a free-standing residential treatment facility, specialized long-term residential treatment, and guidelines for hospital based acute medical detoxification. FS PLUS also sought to expand the concept of continuum of care to address needs beyond chemical dependency treatment, in particular child care, parenting education, and maternity case management.

Prior to FS PLUS, Yakima County had no hospital-based detoxification or medical stabilization program. Women who required these services were referred to hospital-based inpatient treatment programs in other areas of the state. One of the objectives of the FS PLUS Project was to test the model of medical stabilization in a less costly, non-hospital-based (free-standing) residential treatment program. Non-hospital residential treatment in Institutions for Mental Disease (IMD) with greater than 16 beds is not reimbursed by HCFA, so waivers were needed to allow the use of Medicaid funds for these services. Final waiver approval was received in May l993. (IMD facilities are any that specialize in psychiatric care, including substance abuse treatment.)

Yakima has no residential treatment facilities where methadone maintenance is prescribed. Both FS PLUS residential facilities explored the possibility of admitting methadone users, but felt the volume was too low and it would disrupt their abstinence-based programs. The actual number of women affected was monitored and found to be small and highly variable.

Medical Stabilization in Short-Term Residential Treatment Facility

Sub-acute medical stabilization was added at a non-hospital-based primary treatment provider, Sundown M Ranch. Sundown M Ranch was the first freestanding, non-medical facility for the treatment of chemical dependency in Washington State. It was founded by group of Yakima businessmen in 1968 as a private, nonprofit corporation. Utilizing a multi-disciplinary team of certified counselors and medical professionals, Sundown M Ranch offers an intensive alcohol and drug dependency treatment program with four main components: individual counseling, group therapy, education, and family treatment. For substance-using pregnant women, Sundown M Ranch established new pregnancy support groups, parenting classes, and therapy sessions designed to increase self-reliance. This program is 26 days in duration.

To develop a protocol for non-hospital-based medical stabilization to integrate with Sundown M Ranch's treatment program, the Perinatal Community Task Force/First Steps Advisory Committee established a subcommittee, with representatives from Sundown M

Ranch, the Yakima medical community, and First Steps in May 1992. They developed guidelines for medical stabilization and treatment to meet existing Washington Administrative Codes and the general intent of Washington's hospital-based medical stabilization programs. Yakima's guidelines for medical stabilization and treatment were finalized by Dr. Fred Montgomery, Medical Director of Sundown M Ranch, Scott Munson, Assistant Director of Sundown M Ranch, and Dr. Wayne Figgs, obstetrician at Yakima Valley Memorial Hospital, in September 1992. These guidelines were then forwarded to DASA for approval at the state level.

Pre-treatment triage determines the placement of women into hospital detoxification or medical stabilization at Sundown M. The outreach assessment worker, the physician, and the treatment agency are involved in the placement decision. Clients recommended for residential treatment receive an obstetric review by a local doctor, and, if needed, a one to five day hospital-based detoxification, prior to entering Sundown M Ranch. Initially, women entered Sundown M's medical stabilization if they had required and completed hospital detoxification or if they had a history of pregnancy complications or a medical condition requiring this level of care. Currently, all FS PLUS clients in Sundown M's residential treatment program begin their stay in medical stabilization.

The protocol for medical stabilization includes medical supervision with two or more nursing visits per week, one physician visit per week, and pregnancy/postpartum counseling. Sundown M Ranch added a medical stabilization nurse/coordinator to administer the program on-site and work with the community providers. Linkages between Sundown M Ranch and MSS providers assure an individualized care plan for each client, link the woman to a maternity case manager, and facilitate use of community services after discharge. Sundown M arranges transportation for prenatal care visits with the women's regular obstetrician or clinic. The medical stabilization program lasts a minimum of 7 days. A medical review after 7 days determines if the woman continues with medical stabilization or moves to regular intensive residential treatment. Typically, women spend 14 days in medical stabilization and 14 days in intensive treatment.

Early in the program the proportion of FS PLUS patients who failed to complete treatment was much higher than Sundown M Ranch's general patient population, 36% compared with 11-12%. The first group of FS PLUS admissions was unusual, for it included a number of women who came from jail by court order. To address the initial high proportion of patients who failed to complete treatment, a communication and referral network between staff at Sundown M and FS MSS providers was established, and MSS providers committed to visit clients without a care plan within 72 hours of entering treatment to complete a care plan. The care plan was provided to Sundown M and a visit was scheduled within a week of entry into treatment. The availability of the care plan which included a nursing care plan and risk assessment allowed for continuity of care by the nurse at Sundown M and knowledge of referral contacts as needed. If a woman did not complete treatment, the MSS provider attempted to locate and re-engage the woman into treatment. The early establishment of a supportive relationship between the client

and the MSS provider was reported to be important in this process. Rates of treatment completion subsequently increased, even though court-ordered admissions still occur.

Although pregnant women of less than six months gestation had been treated at Sundown M Ranch prior to FS PLUS, they received no specific pregnancy-related medical services. Five beds were dedicated to medical stabilization and four to inpatient treatment for pregnant women. A daily payment rate for medical services was negotiated with Medicaid, based on the final components of this new level of treatment. The reimbursement rate for medical stabilization at Sundown M Ranch is $140 per day, while regular intensive residential treatment is reimbursed at $100 per day. Room and board and program administration charges ($28.80/day) are not eligible for Medicaid matching funds. This portion of the daily rate is covered by state funds.

Specialized Long-Term Residential Treatment

Riel House has provided long-term residential chemical dependency treatment services in Yakima for pregnant and postpartum women and their children since May 1990. Triumph Treatment Services, the parent agency of Riel House, has been providing chemical dependency treatment services for 29 years in Yakima. Riel House can provide residential services for 14 women and 21 children up to the age of 6. Women stay at Riel House with their children for an average of five and one-half months. The program at Riel House addresses specific issues including chemical addiction; pregnancy and postpartum issues including family planning, nutrition, pre- and postnatal medical care and support services; ancillary services including transportation to medical appointments, WIC, food stamps; maternal and life skills issues; and counseling and mental health issues.

The FS PLUS demonstration has enhanced the program at Riel House with the addition of an anger management component, enhanced parenting training, and therapeutic child care. The anger management intervention includes both instruction on sources of anger and methods to channel anger productively as well as group therapy. The parenting curriculum developed through FS PLUS was incorporated into Riel House's parenting education program, which expanded to formal parenting education classes. Therapeutic child care was added for the children of women in residential treatment at Riel House.

Findings

The following table (Table 5) shows the number of pregnant women admitted each quarter to short-term residential treatment at Sundown M Ranch and to long-term residential treatment at Riel House. The counts include some re-admissions for women who left treatment prior to completion and subsequently re-entered treatment. A total of 122 women entered Sundown M and 74 women entered Riel House during the first two and one-half project years, July 1993 through December 1995.

Table 5. Admissions to Residential Treatment by Quarter

	1993			1994				1995				
	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	**TOTALS**
Sundown M	0	11	10	10	15	13	10	16	9	17	11	**122**
Riel House	3	2	10	7	3	12	7	9	7	5	9	**74**

The next table (Table 6) displays the status at discharge for women leaving residential treatment during each six-month time period. The total number of women admitted during each time period is listed. The categories for status at discharge include women who (1) completed program, (2) left on their own against provider's advice (left against advice), (3) were asked to leave because of infractions of rules (disciplinary), (4) had medical complications requiring transfer or discharge (medical), and (5) other.

The medical category is a remarkably infrequent reason for discharge, with one women discharged for medical reasons from Sundown M and two women discharged for medical reasons from Riel House during the two and one-half years.

Table 6. Discharge Status by Admission Date

Sundown M Ranch

Reason for Discharge:	Jul - Dec 1993	Jan - Jun 1994	Jul - Dec 1994	Jan - Jun 1995	Jul - Dec 1995
Completed program	12	17	14	18	21
Left against advice	9	7	9	2	7
Disciplinary	0	1	0	3	0
Medical	0	0	0	1	0
Other	0	0	0	1	0
TOTAL	**21**	**25**	**23**	**25**	**28**

Riel House

Reason for Discharge:	Jul - Dec 1993	Jan - Jun 1994	Jul - Dec 1994	Jan - Jun 1995	Jul - Dec 1995
Completed program	10	8	6	7	2
Left against advice	5	2	5	8	10
Disciplinary	0	0	1	0	0
Medical	0	0	2	0	0
Other	0	1	5	1	2
TOTAL	**15**	**10**	**19**	**16**	**14**

For Sundown M (with a 26-day treatment program), the completion rate (proportion of pregnant women who entered and completed the program) increased from less than 60% (12/21, or 57.1% for women admitted July-December 1993) to 75% (21/28 for women admitted July-December 1995).

For the same six-month time periods, completion rates for Riel House appear to be much lower and actually to decrease over the project (although women admitted during July-December 1995 may still be in treatment and their discharge status undetermined at this time). However, the usual length of stay planned for at Riel House is six months. Since the planned length of stay at Riel House is so much greater than at Sundown M Ranch, completion rates cannot be directly compared.

Hospital Detoxification Guidelines

With the implementation of a free-standing medical stabilization treatment option, a detoxification protocol was needed to assure that women were not inappropriately referred to the free-standing program in a toxic state. The FS PLUS project coordinator was responsible for establishing a protocol for hospital-based detoxification, complete with codes for Medicaid reimbursement. Physicians were concerned that the document not be seen as establishing a "standard of care," for which they would be professionally liable. In late 1993, Dr. Wayne Figgs, obstetrician at Yakima Valley Memorial Hospital (YVMH), drafted physician guidelines. In 1994 the project coordinator met repeatedly with lead nurses, physicians and YVMH administrators to revise and refine these guidelines.

In early 1995 draft guidelines were distributed to key staff at YVMH for comments before presentation to DASA and MAA for approval and Medicaid billing coding. At this time state agencies have given verbal approval, but have not yet established the billing authorization. The guidelines review policy and procedures for hospital staff treating pregnant substance abusing women, with suggested current medical treatments for withdrawal from each type of abused drug.

In 1995 both hospitals in the greater Yakima area hired obstetrical medical directors, and for the first time the county now supports its own perinatologist. This was at least partly in response to increased awareness of the prevalence of high risk pregnancies, including those involving substance abuse.

Child Care

A major component of the continuum of care is the support of the family unit while the parents are enrolled in substance abuse treatment programs. To enhance existing state-funded child services, the FS PLUS plan added therapeutic child care and crisis nursery child care during residential treatment.

Therapeutic components, designed to provide developmentally-focused child care, were added to the child care provided at Riel House. These components are screenings for health care needs, developmental screenings with follow-up, parenting components specific to the individual parent and child, parent education regarding children's nutritional needs, staff training, and equipment such as a car seat. Additionally, a full-time child care coordinator was added to the Riel House staff.

HCFA waivers allow DSHS to authorize Medicaid payments for therapeutic child care provided to children of FS PLUS participants receiving residential treatment at Riel House. Billing procedures for therapeutic child care were completed in late 1993, and by the first quarter of 1994 child care billing to Medicaid began. Due to the intensive nature of the drug treatment program at Sundown M Ranch, children do not reside with their mothers there.

The crisis nursery child care option for FS PLUS participants provides temporary shelter (up to 30 days) in licensed foster care settings to children whose mothers need emergency medical care, are giving birth, or are enrolled in the residential treatment program at Sundown M Ranch. Federally-funded crisis nursery services existed in Yakima before FS PLUS through EPIC Child Day Care. Difficulties were encountered in attempting to establish the EPIC crisis nursery care as a Medicaid service, however. Thus DASA established a contract for two crisis nursery beds with EPIC Child Day Care in 1992. Crisis nursery care for FS PLUS participants is funded by DASA through its contract with EPIC. Three month monitoring of crisis nursery use by the FS PLUS Project Coordinator indicated an average of seven FS PLUS participants per month. The need was greatest after completion of residential substance abuse treatment.

Parenting Education

FS PLUS added an eight-session parenting education component specialized for FS PLUS clients to the prenatal care package of MSS. These parenting classes are provided in a group or an individual setting to project participants up to one year after the birth of the baby. In Yakima County this service is offered by six major providers including hospitals, community health centers and Indian Health Service. A billing code, agency-specific in Yakima County, with the mother as primary, and the infant as secondary, was established. Other providers and both treatment centers also offer these parenting classes independent of MSS.

A specialized curriculum addressing the particular needs of pregnant substance abusers was developed and completed by an education subcommittee in February l993. The first parenting education class was presented in October 1993. Although the classes vary somewhat from agency to agency, some elements are common to all classes. The program is a combination of material from *Growing Up Again: Parenting Ourselves, Parenting Our Children* (Clarke and Dawson, l989) and *You and Your Baby* (Washington State DOH, l989). Content requirements for FS PLUS parenting education curriculum are listed below. By using the same educational model for the parenting classes,

providers and substance abuse treatment programs have achieved a consistency reported to be important in creating positive change for participants.

Table 7. Content Requirement for FS PLUS Parenting Education Curriculum

Physiological: Infant cues, touch, effects of drug exposure, access to medical care, disease prevention, sanitation, diapering, nutrition, shopping, food preparation.
Safety/Security: Taking a temperature, childhood illness, AIDS, SIDS, CPR, childproofing, resources, support groups, discipline vs. punishment, budgeting, housecleaning, life skills.
Love/Affection : Infant cues, playing, crying, nurturing, bonding, attachment, relationships, dysfunctional families, modeling, anger management.
Self Esteem: Changing inner void, stopping chaos, breaking with the past, recognizing dysfunctional behavior, self discipline, progress.
Self Actualization: Balanced behavior, substance free, long term goals, independent functioning.

Findings

During the first two years of the project (July 1993 - June 1995), 230 women received the new parenting classes implemented as part this project.

Maternity Case Management Add-On Fee

The FS PLUS Project allows First Steps maternity case managers to provide enhanced services to pregnant and parenting substance abusers and to receive an additional reimbursement to allow for more intensive maternity case management of chemically *using* or *at risk* of using pregnant women. This monthly $25 case management add-on fee will allow providers to make more frequent contacts with these high risk women and to spend additional time screening for substance abuse and coordinating with the outreach mobile assessment workers. Case managers may add this extra $25 to the monthly $100 case management fee. The maximum allowed for each project participant is $300 to cover the prenatal period to the child's first birthday.

A recent study in Florida State examined the relationship between service components of a comprehensive treatment program and substance free time in pregnant and parenting substance abusers. Aftercare management, which included case management provided to pregnant and parenting women after completing a residential drug treatment program, was found to be a statistically significant service predictor of substance-free time (Lanehart et al., 1994).

Findings

During the first two years of the project (July 1993 - June 1995), case managers received MCM add-on fees for 351 women.

TABLE 8
DEMOGRAPHIC PROFILE OF WOMEN GIVING BIRTH JULY 1993 - DECEMBER 1994

	All Yakima County Medicaid and Non-Medicaid (N=6371)		All Medicaid Not-Screened Yakima County (N=2791)		All Medicaid Screened Yakima County (N=1944)		Screened At Risk Yakima County (N=191)		Screened Not At Risk Yakima County (N=1753)	
Race										
White	2572	40.4%	697	25.0%	552	28.4%	106	55.5%	446	25.4%
Hispanic	3318	52.1%	1814	65.0%	1273	65.5%	46	24.1%	1227	70.0%
Black	56	0.9%	21	0.8%	27	1.4%	5	2.6%	22	1.3%
Native American	356	5.6%	230	8.2%	79	4.1%	33	17.3%	46	2.6%
Asian	56	0.9%	21	0.8%	10	0.5%	1	0.5%	9	0.5%
Other or Unknown	13	0.2%	8	0.3%	3	0.2%	0	0.0%	3	0.2%
Age										
<15	29	0.5%	20	0.7%	8	0.4%	1	0.5%	7	0.4%
15-17	436	6.8%	219	7.8%	204	10.5%	27	14.1%	177	10.1%
18-19	679	10.7%	332	11.9%	306	15.7%	44	23.0%	262	14.9%
20-24	2019	31.7%	1004	36.0%	716	36.8%	70	36.6%	646	36.9%
25-29	1674	26.3%	670	24.0%	422	21.7%	27	14.1%	395	22.5%
30-39	1440	22.6%	511	18.3%	267	13.7%	20	10.5%	247	14.1%
>39	88	1.4%	30	1.1%	21	1.1%	2	1.0%	19	1.1%
Unknown	6	0.1%	5	0.2%	0	0.0%	0	0.0%	0	0.0%
Marital Status										
Married	3982	62.5%	1487	53.3%	1002	51.5%	55	28.8%	947	54.0%
Single	2374	37.3%	1299	46.5%	934	48.0%	136	71.2%	798	45.5%
Unknown	15	0.2%	5	0.2%	8	0.4%	0	0.0%	8	0.5%
Education										
< 9	1597	25.1%	924	33.1%	633	32.6%	26	13.6%	607	34.6%
9 - 11	1318	20.7%	728	26.1%	507	26.1%	73	38.2%	434	24.8%
12	1526	24.0%	605	21.7%	395	20.3%	48	25.1%	347	19.8%
> 12	1247	19.6%	241	8.6%	153	7.9%	19	9.9%	134	7.6%
Unknown	683	10.7%	293	10.5%	256	13.2%	25	13.1%	231	13.2%
Number of Prior Children										
None	2240	35.2%	902	32.3%	758	39.0%	87	45.5%	671	38.3%
One	1837	28.8%	709	25.4%	512	26.3%	36	18.8%	476	27.2%
Two or More	2285	35.9%	1176	42.1%	671	34.5%	68	35.6%	603	34.4%
Unknown	9	0.1%	4	0.1%	3	0.2%	0	0.0%	3	0.2%
Undocumented Women	1336	21.0%	785	28.1%	551	28.3%	12	6.3%	539	30.7%

OUTCOME EVALUATION

Screening

First Steps PLUS providers agreed to adopt a common screening form for use in Yakima County. The principle purposes of the screening form were to raise the level of awareness of providers concerning the problem of substance abuse among pregnant women and to identify women who were at risk of abusing alcohol or other drugs early in pregnancy so that they could be referred for assessment and treatment, if needed.

Maternity Case Management (MCM) agencies and DSHS Community Service Offices (CSO) are the primary users of the FS PLUS screening form. During the first year of the project 10.5% of women screened (243 of 2,310) were identified as either using or at risk of using drugs or alcohol, as compared to 15.5% of women screened in the second year (395 of 2,554). Screening forms completed at MCM agencies are more likely to identify women as using or at risk of using substances than those filled out at the CSO.

To describe the women who were screened requires linking screening forms to records in the FSDB. Thus, the following results are restricted to those women who delivered in the first 18 months of the project, July 1993 through December 1994. A number of interesting relationships emerge among the screening data and the demographic characteristics, risk factors and birth outcomes presented in Tables 8-11. For each of five groups of women, the accompanying tables show the numbers of women in each group with the indicated characteristic and the distribution (percent) ot those characteristics within that group.

Women who were screened differed on only a few characteristics compared to those who were not screened. Tables 8 and 9 show that for most variables, the proportion of Medicaid women screened was very similar to the proportion of women who were not screened. This suggests that women were not being selectively screened. However, among those women who were screened, a number of differences exist between those who screened At Risk and those who did not.

- White women and Native American women were over represented in the At Risk group while Hispanic women were underrepresented. Hispanics comprised 65.2% of the Medicaid deliveries and 65.5% of the screens, but only 24.1% of the At Risk screens, while whites were 26.4% of the deliveries, 28.4% of the screens, and 55.5% of the At Risk screens. Native Americans were 6.5% of the deliveries, only 4.1% of those screened, but 17.3% of those At Risk.

- While U.S. born Hispanics make up only 23.3% of the Medicaid deliveries and 21.2% of Hispanics screened, they account for 63.0% of Hispanics who screened At Risk (29 of 46).

TABLE 9

• RISK FACTOR AND BEHAVIOR VARIABLES FOR WOMEN GIVING BIRTH JULY 1993 - DECEMBER 1994

	All Yakima County Medicaid and Non-Medicaid (N=6371)		All Medicaid Not-Screened Yakima County (N=2791)		All Medicaid Screened Yakima County (N=1944)		Screened At Risk Yakima County (N=191)		Screened Not At Risk Yakima County (N=1753)	
Substance Abuse*										
Drug Abuse Only	45	0.7%	25	0.9%	20	1.0%	15	7.9%	5	0.3%
Alcohol Abuse Only	40	0.6%	28	1.0%	12	0.6%	10	5.2%	2	0.1%
Both Drug and Alcohol	73	1.1%	36	1.3%	37	1.9%	30	15.7%	7	0.4%
None	6213	97.5%	2702	96.8%	1875	96.5%	136	71.2%	1739	99.2%
Smoking Status										
Yes	808	12.7%	407	14.6%	255	13.1%	86	45.0%	169	9.6%
No	5502	86.4%	2357	84.5%	1667	85.8%	101	52.9%	1566	89.3%
Unknown	61	1.0%	27	1.0%	22	1.1%	4	2.1%	18	1.0%
Initiation of Prenatal Care										
First Trimester	4645	72.9%	1818	65.1%	1323	68.1%	139	72.8%	1184	67.5%
Second Trimester	1218	19.1%	669	24.0%	456	23.5%	35	18.3%	421	24.0%
Third Trimester	280	4.4%	167	6.0%	104	5.3%	10	5.2%	94	5.4%
None	86	1.3%	60	2.1%	13	0.7%	2	1.0%	11	0.6%
Unknown	142	2.2%	77	2.8%	48	2.5%	5	2.6%	43	2.5%
Medicaid Eligibility										
Grant Recipient	1436	22.5%	884	31.7%	552	28.4%	124	64.9%	428	24.4%
Pre-FS Medicaid Only	1868	29.3%	1071	38.4%	797	41.0%	43	22.5%	754	43.0%
FS Expansion	1407	22.1%	820	29.4%	587	30.2%	23	12.0%	564	32.2%
Unknown	24	0.4%	16	0.6%	8	0.4%	1	0.5%	7	0.4%
Non-Medicaid	1636	25.7%								

* Identified by ICD-9, CPT-4, and hospital DRG codes indicating alcohol or substance abuse on Medicaid billing records as described in Appendix B.

- Women under 20 years of age were over represented in the At Risk group while women more than 25 years old were underrepresented. Women 25 years of age and older accounted for 40.7% of Medicaid deliveries, 36.5% of women screened, but only 25.6% of At Risk screens; women under 20 years of age were only 23.0% of deliveries, 26.6% of those screened, but 37.6% of the At Risk screens.

- Single women comprised 47.2% of Medicaid deliveries, and 48.0% of those screened; however, single women comprised 71.2% of those screened At Risk.

- The proportion of women who screened At Risk decreased with increasing income. Grant Recipients were more likely to screen At Risk than Pre-First Steps Medicaid Only women, who in turn were more likely to screen At Risk than Expansion Group women (64.9%, 22.5%, and 12.0%, respectively). The three Medicaid eligibility groups and the non-Medicaid women are represented about equally among women delivering in Yakima County.

- Women with less than 9 years education, comprising one-third of the Medicaid deliveries and one-third of those screened, were only 13.6% of those who screened At Risk, while women with some high school (26.1% of deliveries and screens) were 38.2% of those At Risk, and those with some college education were 9.9% of the At Risk women.

- Women who had one child previously were 28.8% of the deliveries, but only 18.8% of those screened At Risk, while women with no prior children were 35.2% of the deliveries but 45.5% of those who screened At Risk. Women with two or more prior children were 39.0 % of deliveries and 35.6% of the women screened At Risk.

- Although the percentage of smokers among Medicaid women who delivered (14.0%) and those who were screened (13.1%) was low, smokers comprised 45.0% of those who screened At Risk.

The goal of screening in this project was early identification women at risk for substance abuse, and therefore at increased risk of adverse birth outcomes. The idea was that women identified as At Risk for substance abuse deserved follow-up, and more intensive efforts could be focused on this subgroup. Table 9 presents the proportion of women who received an ICD-9 diagnosis indicating substance abuse tabulated by whether or not they screened At Risk. The screening process worked well for the women who delivered in the first 18 months of the project. Most women who received an ICD-9 diagnosis of substance abuse screened as At Risk, while most women who did not receive any substance abuse diagnoses were perceived as not At Risk of substance abuse.

- Three and one-half percent of the Medicaid women who were screened received a substance abuse diagnosis during the prenatal or immediate postpartum periods.

TABLE 10
BIRTH OUTCOMES FOR INFANTS BORN JULY 1993 - DECEMBER 1994

		All Yakima County Medicaid and Non-Medicaid		All Medicaid Not-Screened Yakima County		All Medicaid Screened Yakima County		Screened At Risk Yakima County		Screened Not At Risk Yakima County	
Gestational Age											
Total Births		(N=6371)		(N=2791)		(N=1944)		(N=191)		(N=1753)	
Very Premature	(<28 weeks)	50	0.8%	23	0.8%	16	0.8%	6	3.1%	10	0.6%
Premature	(28-37 weeks)	844	13.2%	374	13.4%	283	14.6%	28	14.7%	255	14.5%
Full Term	(> 37 weeks)	5477	86.0%	2394	85.8%	1645	84.6%	157	82.2%	1488	84.9%
Birthweight											
Singleton Live Births		(N=6270)		(N=2749)		(N=1917)		(N=187)		(N=1730)	
Very Low BW	(<1500 g)	48	0.8%	28	1.0%	16	0.8%	5	2.7%	11	0.6%
Medium Low BW	(1500-2500 g)	246	3.9%	112	4.1%	84	4.4%	17	9.1%	67	3.9%
Normal BW	(>2500 g)	5960	95.1%	2600	94.6%	1812	94.5%	165	88.2%	1647	95.2%
Unknown		16	0.3%	9	0.3%	5	0.3%	0	0.0%	5	0.3%

- The screening process identified 9.8 percent (191 of 1944) of Medicaid women screened as At Risk. This included 79.7 percent of the women who received an ICD-9 diagnosis for substance abuse. Of those who did not receive a diagnosis of substance abuse, only 7.3 percent (136 of 1875) were flagged as At Risk.

- Screening does identify many women as At Risk who were not diagnosed as substance abusers; 71.2 percent of the women in the At Risk did not receive a substance abuse diagnosis. This is entirely appropriate. As stated earlier, the goal is to reduce the proportion of women who are followed unnecessarily, while not missing too many substance abusers. If scarce outreach resources were focused only on the At Risk group, nearly 80 percent of the substance abusers would have been reached, while reducing the proportion of women without a diagnosis who would be followed to approximately 7 percent (136 of 1875).

Birth Outcomes

Table 10 tabulates birth outcomes by whether or not women screened At Risk. Women identified as At Risk on the screening form are much more likely to have an adverse birth outcome than those not so identified.

- Among women who screened At Risk, 3.1% delivered very prematurely, 14.7% delivered prematurely, and 82.2% went to term. Among those who screened not At Risk, only 0.6% delivered very prematurely, 14.5% delivered prematurely, and 84.9% carried to term. The difference in rates of very premature delivery is significant.
- Women who screened At Risk were significantly more likely to deliver a very low birthweight baby (2.7%) than women who did not (0.6%), and also more likely to deliver a medium low birthweight baby (9.0% versus 4.0%). The normal birthweight babies were 88.2% of the At Risk screens and 95.2% of those not At Risk.

At Risk women were 5.5 times more likely to deliver very prematurely, and 2.6 times more likely to have a low birthweight baby than women who are not identified as At Risk.

Another approach to looking at the relationship between screening and outcomes is to compare outcomes for different levels of risk as presented in Table 11. Providers were asked to indicate on the screening form if they believed the client was currently abusing alcohol or other drugs; if so, the client was placed in the USE group. If the woman was not currently using but the provider believed the woman was at risk of using, the client was placed in the RISK OF USE group. The provider made the decision about risk based on answers to the screening questions, as well as any other information available about the client. If the provider did not believe the woman was either using or at risk of using, but she answered two or more CAGE questions in the affirmative, then she was classified in the CAGE>=2 group.

TABLE 11
BIRTH OUTCOMES OF INFANTS BORN JULY 1993 - DECEMBER 1994
TO MOTHERS SCREENED
BY LEVEL OF RISK OF MOTHER

		FIRST STEPS PLUS SCREEN							
		USE		RISK OF USE		CAGE>=2		NO RISK	
Gestational Age	Total Births (N=1944)	(N=25)		(N=143)		(N=23)		(N=1753)	
Very Premature	(<28 weeks)	1	4.0%	5	3.5%	0	0.0%	10	0.6%
Premature	(28-37 weeks)	6	24.0%	20	14.0%	2	8.7%	255	14.5%
Full Term	(>37 weeks)	18	72.0%	118	82.5%	21	91.3%	1488	84.9%
Birthweight	Singleton Live Births (N=1917)	(N=25)		(N=139)		(N=23)		(N=1730)	
Very Low BW	(<1500 g)	0	0.0%	5	3.6%	0	0.0%	11	0.6%
Medium Low BW	(1500-2500 g)	4	16.0%	13	9.4%	0	0.0%	67	3.9%
Normal BW	(>2500 g)	21	84.0%	121	87.1%	23	100.0%	1647	95.2%
Unknown		0	0.0%	0	0.0%	0	0.0%	5	0.3%

(Of the 1944 births, 1917 were singleton live births.)

The risk groups were presumed to form a hierarchy of risk, from highest to lowest, respectively: USE, RISK OF USE, CAGE>=2, and NO RISK. The rates for the adverse outcomes of premature delivery and low birthweight reflected this hierarchy.

- The rate of premature delivery was highest for the USE group (28.0%), followed by the RISK OF USE group (17.5%), and the NO RISK group (15.1%).

- The low birthweight rate was highest for the USE group (16.0%); the RISK OF USE group was next highest (13.0%), followed by the NO RISK group (4.5%).

It is interesting that the CAGE>=2 group had the lowest rates of adverse outcomes. While the screening instructions stated that answering "yes" to two or more CAGE questions indicated that a woman could be at risk of substance abuse, the prenatal service providers apparently knew these women well enough to know that they were truly at low risk and did not indicate "At Risk" on the screening questionnaire although 2 or more CAGE questions were "positive."

The screening process has proved useful in raising the level of awareness of substance abuse among pregnant women in Yakima County. There is some small bias in who is selected for screening; young, single women with no prior children are slightly more likely to be screened than other women and Native American women are underrepresented. Differences between women who screened At Risk and those who did not may reflect actual demographics of substance abusers. Finally, being identified as At Risk is strongly associated with very premature delivery and increased low birthweight.

Residential Treatment

During the first year of the project, there were 46 admissions to Sundown M Ranch and 29 (63.0%) completed treatment. In the second year of the project, the number of admissions increased slightly to 48, and the completion rate increased to 66.7%. In the first six months of the third year of the project, there were an additional 28 admissions, and the completion rate increased again to 75.0%.

The number of admissions to Riel House during the first year of the project was 25, and 18 (72.0%) completed treatment. In the second year of the project, there were 35 admissions to Riel House with 13 (37.1%) completing treatment; three women (8.1%) are still in treatment. In the first six months or the third year of the project, there were an additional 14 admissions; 10 of these women did not stay for the originally scheduled treatment time, two completed treatment (28.6%), and two are still in treatment.

During the first 18 months of the project, 75 women were admitted to residential treatment, either intensive inpatient or long-term residential, or both. Of the women who delivered in the first six months of the project 44.4% were first admitted to residential treatment in the postpartum period. Postpartum admission decreased to 37.5% for

women delivering in the second six months of the project. For women delivering in the first half of the second year, the rate of postpartum admission decreased to 24.2%. This suggests either that women are being identified as needing treatment earlier (i.e., before delivery), or that providers are becoming more successful at encouraging women to enter treatment earlier.

DISCUSSION

Major accomplishments of the FS PLUS program during its first two and one-half years of operation have been described in this report:

- improved coordination and linkages between maternity care providers and chemical dependency treatment providers, especially via outreach and the mobile assessment workers and maternity case managers;
- implementation of medical stabilization protocol in a free-standing residential treatment facility; and
- county-wide implementation of a screening tool to assess risk of substance abuse.

From the perspective of community mobilization, efforts moved forward in a number of areas including development of the roles of the community advisory group and the project coordinator, provider training, and the media campaign. With respect to completion of continuum of care, the range of treatment options was increased for pregnant substance abusing women by obtaining waivers which allowed Medicaid coverage for short-term residential treatment at Sundown M Ranch. The Director of Triumph Treatment Services has stated that the program at Sundown M Ranch has benefited the long-term residential treatment program at Riel House because they can now spend less time doing primary treatment. In addition, the content of the treatment programs has been augmented through development of a parenting education curriculum, guidelines for hospital-based detoxification, therapeutic child care and crisis nursery services.

The parenting education component deserves mention. One member of the community advisory committee stated that the focus on parenting has "irrevocably changed" the community. Providers generally agree that improving parenting skills is critical to stopping the cycle of substance abuse, which leads to neglect of children and the modeling of ineffective coping behavior, which results in children not learning how to cope with their own life problems effectively.

The medical stabilization program implemented at Sundown M Ranch, a free-standing short-term residential treatment facility, is perceived by prenatal care providers as serving a very important role in the continuum of care provided to substance abusing pregnant women in Yakima County. Among women admitted to residential treatment, the proportion whose first residential admission was in the postpartum period has decreased over time, the rate of treatment completion has increased, and very few discharges from Sundown M Ranch have occurred for medical reasons. The alternative to free-standing residential treatment facilities in Washington State are the hospital-based Chemical Using Pregnant Women (CUP) Intensive Inpatient treatment programs. The average length of stay in CUP programs was reported as 19.5 days in the Medical Assistance Administration FY93-95 report with an average daily payment of $256 per patient. The average length of stay for First Steps Plus project women at Sundown M Ranch was 18.9

days with an average daily charge of approximately $120 per client. While this comparison does not control for potential differences between programs due to selection biases, these findings suggest that many pregnant women who need intensive inpatient treatment can be successfully treated outside of the hospital setting at a substantially lower cost.

Broader evaluation issues, including potential changes in birth outcomes, will be addressed in the national evaluation by Mathematica Policy Research, Inc., and, to some extent, Washington's final evaluation report scheduled for completion in 1997. To date, however, the FS PLUS project has achieved remarkable accomplishments in changing Yakima's community process for identifying and treating pregnant substance abusers. A common form for screening for substance abuse was adopted and used county-wide. At present, more than 60% of all pregnant Medicaid recipients are screened during the prenatal period. The women who are most likely to screen At Risk for substance abuse are white or Native American, less than 20 years old, unmarried, with some high school education, and no prior children. Low income women (Grant recipients) and smokers are also more likely to screen At Risk.

This report has emphasized the positive achievements of the project and has not attempted to provide detailed descriptions of the barriers and obstacles which the community faced. The many disciplines involved in the care of pregnant substance abusers each brought their own perspectives, and sometimes biases, to the discussion table; despite the demonstration project funds provided by HCFA, financial resources were occasionally constraining; and the personal resources of many individuals involved in the project were often challenged by the need to develop consensus in groups with differing viewpoints and by the profound needs of the clients. The community members who shaped and implemented the FS PLUS project contributed substantial efforts while at the same time meeting their daily workloads. Not only did these individuals succeed in developing well-founded plans to accomplish project goals, but many objective achievements were accomplished in all dimensions of the project components.

This project has demonstrated key methods for improving coordination and linkages between maternity care and chemical dependency treatment providers, increasing the range of treatment options for pregnant substance abusers, and augmenting the content of treatment for chemical dependency among pregnant women. First Steps PLUS has increased access to both medical care and chemical dependency treatment for substance abusing pregnant women and has changed the standard of care for these high risk women in Yakima County.

REFERENCES

Chasnoff, IJ, Landress, HJ, Barrett, ME. (1990) The Prevalence of Illicit Drug and Alcohol Use During Pregnancy and Discrepancies in Mandatory Reporting in Pinellas County, Florida. *New England Journal of Medicine 322*: 1202-1206.

Clarke, JI, Dawson, C. (1989) *Growing Up Again Parenting Ourselves, Parenting Our Children* New York. Harper Collins Publishers.

Corse, SJ, McHugh, MK, Gordon, SM. (1995) Enhancing Provider Effectiveness in Treating Pregnant Women with Addictions. *Journal of Substance Abuse Treatment 12(1)*: 3-12.

Ewing, JA. (1984) Detecting alcoholism: The CAGE questionnaire. *Journal of the American Medical Association 252(14)*: 1905-1907.

Ewing, JA, Rouse, BA. (1970) Identifying the hidden alcoholic. Read at the 29th International Congress on Alcoholism and Drug Dependence. Sydney, Australia, Feb 2-6.

Feldman JG, Minkoff HL, McCalla S and Salwen, M. (1992) A Cohort Study of the Impact of Perinatal Drug Use on Prematurity in an Inner-City Population. *American Journal of Public Health 82*: 726-728.

Finnegan, LP. (1994) Perinatal morbidity and mortality in substance using families: Effects and intervention strategies. *Bulletin on Narcotics* XLVI(1): 19-43.

Gentilello, LM, Donovan, DM, Dunn, CW, Rivara, FP. (1995) Alcohol Interventions in Trauma Centers. *Journal of the American Medical Association 274(13)*: 1043-1048.

Gehshan, S. (1993) A Step Toward Recovery. *Improving Access to Substance Abuse Treatment For Pregnant and Parenting Women*. Washington, DC: Southern Regional Project on Infant Mortality.

Gerstein, DR, Harwood, HJ. (Eds.) (1990) *Treating Drug Problems*. Washington, D.C.: National Academy Press.

Harmon, Melinda. (1989) *You and Your Baby*. Olympia, Washington: Department of Health.

Healthy People 2000: National Health Promotion and Disease Prevention Objectives. (1991) Washington, DC: Public Health Service, DSHS Publication Number (PHS) 91-50212.

Hinderliter, SA, Zelenak, JP. (1993) A Simple Method to Identify Alcohol and Other Drug Use in Pregnant Adults in a Prenatal Care Setting. *Journal of Perinatology XIII(2)*: 93-102.

Jones, CL, Lopez, RE. (1990) Drug Abuse and Pregnancy. In Merkatz IR and Thompson JE (Eds.), *New Perspectives on Prenatal Care*, New York: Elsevier, pp. 273-318.

Lanehart, RE, Clark, HB, Kratochvil, D, Rollings, JP, and Fidora, AF. (1994) Case Management of Pregnant and Parenting Female Crack and Polydrug Abusers. *Journal of Substance Abuse* 6: 41-448.

Maternal Substance Use Assessment Methods Reference Manual. (1993) Washington, DC: US Department of Health and Human Services; DSHS Publication Number (SMA)93-2059.

Moss, KL. (1991) Punishing Pregnant Addicts. In P Roth (Ed.), *Alcohol and Drugs Are Women's Issues: Vol 1. A Review of the Issues*. Metuchen, NJ: Scarecrow, pp. 107-113.

National Council on Alcoholism and Drug Dependence, Inc. (June 1990) *NCADD Fact Sheet: Alcoholism, Other Drug Addictions and Related Problems Among Women*. New York

Paneth, NS. (1995) The Problem of Low Birth Weight. *The Future of Children 5(1)*: 19-34.

Plough, A, Olafson, F. (1994) Implementing the Boston Healthy Start Initiative: A Case Study of Community Empowerment and Public Health. *Health Education Quarterly 21(2)*: 221-234.

Puska, P, Nissinen, A, Tuomilehto, J, Salonen, J, Koskela, K, McAlister, A, Kotte, T, Maccoby, N, Farquhar, J. (1985) The Community-Based Strategy to Prevent Coronary Heart Disease: Conclusions from the Ten Years of the North Karelia Project. *Annual Reviews of Public Health 6*: 147-193.

Robbins, LN, Mills, JL. (1994) Effects of In Utero Exposure to Street Drugs. *American Journal of Public Health 83 (Supplement)*: 8-32.

Rothman, J, Tropman, JE. (1987) Models of Community Organization and Macro Practice Perspectives: Their Mixing and Phasing. In Cox, FM, Erlich, JL, Rothman, J, Tropman, JE (Eds.), *Strategies of Community Organization* (pp. 3-26). Itasca, IL: FE Peacock Publishers, Inc.

Schrager, L, Joyce, J, Cawthon, L. (1995) *Substance Abuse, Treatment, and Birth Outcomes for Pregnant and Postpartum Women in Washington State*. Olympia, Washington: Department of Social and Health Services (Report #4.26).

Seah, S, Basch, C. (1990) A Review of Five Major Community-Based Cardiovascular Disease Prevention Programs. Part II: Intervention Strategies, Evaluation Methods, and Results. *American Journal of Health Promotion 4(4)*: 278-287.

Streissguth, AP. (1994) A Long-Term Perspective of FAS. *Alcohol Health and Research World 18*: 74-81.

United States General Accounting Office. (1990) *Drug-Exposed Infants: A Generation at Risk*. Gaithersburg, Maryland: US General Accounting Office (HOURD-90-138).

APPENDICES

Appendix A
First Steps PLUS Screen

Client's full name (first, mi.i., last) _____ Agency Name _____

Client's date of birth (mm-dd-yy) _____ Today's date _____

Medicaid PIC _____

I. **If client is <u>known to be using</u> alcohol or other drugs,** check whether alcohol and/or drugs and indicate how this is known, then mail this form according to the instruction on back; otherwise continue with Section II.

Alcohol	Other drugs	Both	
☐	☐	☐	Self identification
☐	☐	☐	Positive medical finding
☐	☐	☐	Court related history
☐	☐	☐	Other (please specify)_____

II. **If client is <u>not known to be using</u> alcohol or other drugs,** please ask the following questions (4P's): *Check the box if client answers YES.*

☐ 1) Has either one of your Parents had a problem with alcohol or drugs?

☐ 2) Does your Partner have a problem with alcohol or drugs?

☐ 3) Have you had a problem with alcohol or drugs in the Past?

☐ 4) Have you used any drugs or alcohol during this Pregnancy?

If client answers YES to either question 3 or question 4, then follow up with CAGE questions (5 through 8). *Check the box if client answers YES.*

☐ 5) Have you ever felt (*do you feel*) the need to Cut down the amount you drink or use drugs?

☐ 6) Have you ever been (*do you get*) Annoyed or Angry because someone criticized your drinking or drug use?

☐ 7) Have you ever felt (*do you feel*) Guilty about your drinking or drug use?

☐ 8) Have you ever had a (*do you ever*) drink or use drugs first thing in the morning to steady your nerves or get you going (*an Eye-opener*)?

III. **Any YES answer to questions 3-8 indicates use or significant risk of use. You may decide risk exists, regardless of screening responses. These clients are FIRST STEPS PLUS PARTICIPANTS. Do responses indicate:**

USE _____ RISK OF USE _____ NO USE (#3-8 negative, _____ & no other indicators)

If use or risk of use, what?

alcohol _____ other drugs _____ both _____ don't know _____

If Use or risk of use determined, what is your plan for the client?

Case Management _____ First Steps PLUS _____ Other
Referral Outreach Explain)_____

The First Steps Plus Project will increase services for substance abusing pregnant women in Yakima County. One service is increased outreach through screening for substance use. Use this screen with <u>all</u> pregnant women you see, not those you already suspect may have a need. This means that more women will be asked about substance use, that more women will disclose substance use, and that there will be more than one opportunity to disclose substance use (for women not yet ready to admit a problem).

The First Steps PLUS Screen allows service providers to obtain uniform information about substance use by pregnant women. These questions will help identify women who deserve more intense follow-up concerning their alcohol or drug use. **The questions are not designed to diagnose substance abuse.** They are designed to assist you, the provider, to inquire about alcohol and drug use; they will also help First Steps PLUS staff learn more about the effect of outreach activities. **Please incorporate this screening tool into your system in whatever manner works best for you.** The client's response to these questions may naturally lead you to ask further questions about substance abuse.

GUIDELINES:

1. If you know before administering the screen the client is using alcohol or other drugs, please document what she uses and how you know in section I (i.e., alcohol, drugs or both); **skip sections II and III.**

2. Otherwise, ask questions 1 through 4 (the 4 P's) where it fits best for your system.

3. If clients answers yes to question 3, you may choose to change questions 5-8 (the CAGE questions) from past to present tense, to explore current use.

4. If client answers YES to question 4, then ask questions 5-8 (the CAGE) questions.

If the client answers YES to any of questions 3 through 8 or is determined to be at significant risk of using, **she is a participant in First Steps PLUS** and deserves further follow-up to determine if there is a current problems with alcohol or other drugs. There are many referral community resources to your clients and outreach consultation for your agency.

The First Steps PLUS program offers enhanced services to pregnant women who are abusing alcohol or other drugs. If you know or suspect your client is using drugs or alcohol, contact the First Steps PLUS outreach worker or a maternity case management agency to help your client get these services.

Referral agencies:	**Address**	**Phone Number**
First Steps PLUS OUTREACH (ADATSA assessment, outreach, consultation, training)	102 S. Naches, Yak, WA 98902	454-6960/61 945-0548/24 hr.
CASE MANAGEMENT:		
Adolescent Preg. & Parenting Prog.	208 N. 3rd Ave., Yak, WA 98902	453-6681
St. Elizabeth's Home Care	110 S. 9th Ave., Yak, WA 98902	575-5093
Yakima Neighborhood Health Services	12 S 8th St, Yak, WA 98907	575-8725
Yakima Valley Memorial Hosp. Child Hlth Svcs	2811 Tieton Drive, Yak, WA 98902	575-8160
Yakima Valley Farmworkers Clinic	518 West 1st Ave, Topp, WA 98948	509-865-5600
Triumph Treatment Services	102 S. Naches, Yak, WA 98901	248-1800
Merit Resource Services	702 Franklin Ave, S'side, WA 98944	509-837-7700

Mail original to: Kathy Apodaca
First Steps PLUS Coordinator
P.O. Box M2500
Yakima, WA 98909-2500

Copy to: Referral agency if appropriate

Copy to: Your client's file

First Steps PLUS

August 1993

Appendix B: Identification of Substance Abuse in First Steps Database

The First Steps Database contains information on medical diagnoses assigned by health care providers on Medicaid claims submitted for payment. These diagnosis codes (ICD-9) on Medicaid claims were used to identify Medicaid clients who abused substances.

Maternal Diagnoses Indicating Substance Abuse in the Mother

Diagnosis codes beginning with:

291 Alcoholic psychoses
292 Drug psychoses/withdrawal syndrome
303 Alcohol dependence
304 Drug dependence
305 Nondependent drug/alcohol abuse
(except 305.1 for Tobacco Abuse)

The following specific codes:

571.1 Acute alcoholic hepatitis
648.3 Drug dependence complicating pregnancy

Infant Diagnoses Indicating Probable Substance Abuse by the Mother During Pregnancy

760.71 Maternal alcohol affecting newborn (fetal alcohol syndrome)
760.72 Maternal narcotic affecting newborn
760.73 Maternal hallucinogen affecting newborn
760.75 Maternal cocaine affecting the newborn
779.5 Newborn drug withdrawal syndrome

The First Steps Database also contains information on outpatient and inpatient claims submitted for payment for Medicaid clients. Information on hospital-based substance abuse treatment was obtained using Diagnostic Related Group codes (DRGs) and hospital procedure codes. Outpatient treatment was identified using special outpatient procedure codes developed by Medicaid for substance abuse treatment. Women with any of these treatment codes were classified as substance abusers.

DRGs Indicating Substance Abuse Treatment*

433 Alcohol/Drug Abuse/Dependence, Left against medical advice
434 Alcohol/Drug Abuse/Dependence, Detox or other Sympt Treat w cc
435 Alcohol/Drug Abuse/Dependence, Detox or other Sympt Treat w/o cc
436 Alcohol/Drug Dependence, with Rehabilitation Therapy
437 Alcohol/Drug Dependence, Detox and Rehabilitation Therapy

743 Opioid Abuse or Dependence, Left Against Medical Advice
744 Opioid Abuse or Dependence, With Complications
745 Opioid Abuse or Dependence, Without Complications
746 Cocaine or Other Drug Abuse or Dependence, Left Against Medical Advice
747 Cocaine or Other Drug Abuse or Dependence, With Complications
748 Cocaine or Other Drug Abuse or Dependence, Without Complications
749 Alcohol Abuse or Dependence, Left Against Medical Advice
750 Alcohol Abuse or Dependence, With Complications
751 Alcohol Abuse or Dependence, Without Complications

* Note: If DRG was 433-437 or 743-751 but a hospital procedure code indicated a detox hospitalization, then the hospital stay was not considered to indicate substance abuse treatment.

Inpatient Hospital Procedure Codes Indicating Substance Abuse Treatment

96.61 Alcohol Rehabilitation
96.63 Alcohol Rehabilitation and Detoxification
96.64 Drug Rehabilitation
96.66 Drug Rehabilitation and Detoxification
96.67 Combined Alcohol/Drug Rehabilitation
96.69 Combined Alcohol/Drug Rehabilitation and Detoxification

Outpatient Procedure Codes Indicating Substance Abuse Treatment

0012M	Drug Abuse: Individual Therapy - Full Visit
0013M	Drug Abuse: Individual Therapy - Brief Visit
0014M	Drug Abuse: Group Therapy
0015M	Drug Abuse: Activity Therapy
0022M	Alcohol Abuse: Individual Therapy - Full Visit
0023M	Alcohol Abuse: Individual Therapy - Brief Visit
0024M	Alcohol Abuse Outpatient: Group Therapy
0143M or 0153M	DASA Code: Individual Therapy - Full Visit
0144M or 0154M	DASA Code: Individual Therapy - Brief Visit
0145M or 0155M	DASA Code: Group Therapy
0148M or 0158M	DASA Code: Acupuncture
0149M or 0159M	DASA Code: Group Therapy per 1/4 Hour
0175M	DASA Code: Adolescent Residential Treatment
0176M	DASA Code: Residential Treatment Room and Board
0180M	FSPLUS: Long Term Residential
0181M	FSPLUS: Intensive Inpatient
0182M	FSPLUS: Medical Stabilization
0186M	FSPLUS: Room and Board
9005M	Fed Qual Hlth Ctr - Chemical Dependency

Office of Research and Data Analysis
7.71a