

# Project Updates: Washington State Plan

## Washington State Public Health Training Plan Improving Child-Family Health Findings from the Nurse Family Partnership

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N101088

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### Introduction to the Nurse Family Partnership: Washington State Consortium.

In 1999 four counties in Washington State organized to form the Washington State Consortium to implement the Nurse Family Partnership, known at the time as the Olds' Program. The Consortium was formed in order to fulfill the criteria of initially serving 100 families to become an "Olds Site." The Consortium began with seven public health nurses (PHNs) and one supervisor from each of the following four county health districts: Jefferson, Snohomish, Seattle-King, and Chelan-Douglas. In 2001 one supervisor and one PHN from Mason county health district joined the project. Two more nurses were added to the Snohomish team, two others were added to the Jefferson team, and ten nurses and two supervisors expanded the Seattle-King County team. Since 1999 only two nurses have left the project. Currently, there are seven supervisors and 22 public health nurses in five WA counties. Yakima county has applied for grant funding to join the project. Thurston and Clallam counties have expressed interest but they have not applied.

The Consortium exists to assist the sites within the state to share experiences and on a regular basis to have both peer support and information from relevant experts (family violence, learning problems, mental health). The sites meet every eight weeks at the University of Washington. Another aspect of the consortium has been the collection of additional State of Washington data. This additional data was a result of prior work done by the Washington State Plan for Improving Family and Child Health Outcomes. In prior work commencing in 1994 a group of public health staff including nurses, nutritionists and social workers developed a conceptual framework for evaluating both perinatal risk and protective factors. The Protective Factor data from that prior project was a part of the data collected in the Nurse Family Partnership Washington State Consortium. The purpose was to have a further trial of the protective factor empirical data sources to see if they had criterion or predictive validity

#### Data Collection Plan.

Appendix A lists the measures and the time points for data collection. The list consists of measures required by both the National Center for Children, Families and Communities (NCCFC), Denver Prevention Center, and the Washington State Nurse Family Partnership Consortium/University of Washington School of Nursing. (Some measures were scheduled for both organizations.) NFP nurses were asked to collect the data while they visited the families from the beginning of the project in 1999. As illustrated in Appendix A, the number of cases diminished over time. Demographic data, though collected were not analyzed, because of questionable validity of data collected. Other data are not reported because of small sample sizes. Appendix B describes each measure collected.

Two sources of data are used in this report: NCFCC and NFP/UWSON. NCCFC data, accessed through the NCCFC website, is limited to descriptions of PHN practice and demographic description of the sample. These data were only intended to document program implementation and do not provide summary of measures required of the program. Although some measures were collected several times during the program, the membership of the sample changed, and any variation in summary data cannot be construed as a “within subject change.”

#### Enrollment Data. As of February 2003.

According to the nurses' records, 573 families were enrolled into the project since 1999. In 2003, there are 315 enrolled, including 119 women who are pregnant and 196 infants or toddlers. Thus far, 70 have completed the program, and 188 have dropped from the program. Attrition during pregnancy was 12.5%, including 6.5% refusals to participate in the project. Attrition during infancy was 22.9% (9.3% moved from the area and 8.5% refused to participate). Attrition during toddlerhood was 12.4%, including 8.2% moved from the area. Thus the attrition doubled during the first year which is important to evaluate. Eight and one half percent of the women refused to participate by the first year end. We cannot be certain but it is speculated that most of the refusals came when the child was older than 6 months; this may have been influenced by mothers going back to work.

#### Demographics and Health Characteristics.

According to statistics from NCCFC (1/23/03), the average age of women at recruitment was 17.97 (range=13-41 years), and 63% were less than 19 years of age. The average education was 10.32 years (range=6-16), 91% were not married, and 50% were not working. Of enrolled women, 56% were

white, average number of weeks pregnant at entry to the program was 19 weeks, where 68% were less than 22 weeks pregnant at program entry. At enrollment, 20% smoked, 2% used alcohol, and 3% used drugs. Based on UW analysis (7/02), the average number of prenatal visits was 11.4 ( SD 3.85, Range 4-32), and 85% began prenatal care at 12 weeks or less of pregnancy. In addition, the most frequent health problems reported among 348 pregnant women were: history of asthma or chronic pulmonary problems (19%), history of mental disorders (8.2%), history of chronic vaginal infections (6.4%), history of chronic urinary tract infections ( 6.1 %), and heart problems ( 4.1%).

Based on information analyzed by the UW ( 7/02), there were 278 births. Of these, 58.3% were male, the average infant birth weight was 3319 grams ( SD 521, Range 1786-4890), and 6.9% were below 2500 grams. In Washington State the low birth weight rate was 5.9% in 1999. Thus this population of young first time mothers were only one percent higher in delivery of low birth rate than the general population.

#### Adult Health Status- Mental Health Index.

The Mental Health Status provides a measure of psychological distress and well being. During the prenatal period (N=342), a majority felt calm and peaceful. Fifty-five percent reported that they were “almost never” or “never” very nervous the last 30 days; 51% felt calm or peaceful “most or all of the time”; and 70% reported that “most of the time” or “all the time” they were a happy person. See Table1 for the details. In other words, these women had emotional resilience despite feeling nervous or blue.

Table 1. Adult Health Status – Mental Health Index: Per cent

	All the Time	Most of the Time	Some of the Time	Almost Never	Never
Very Nervous Last 30 days	2.7	5.1	37.4	38.	16.8
Felt Calm & Peaceful Last 30 Days	8.1	43.3	37.4	8.1	3.0
Felt Downhearted and Blue Last 30 Days	1.2	11.7	41.	32.9	13.2
Felt So Down That Nothing Could Cheer Up	.6	3.	13.5	32.3	50.6
Were Happy Person Last 30 Days	12.3	57.8	24.9	4.8	.3

N=334

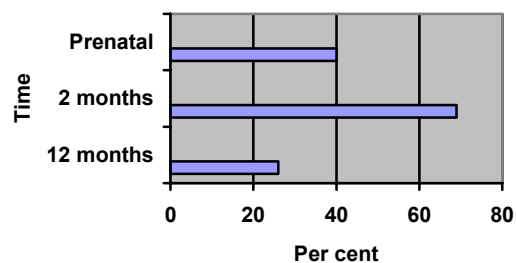
#### Pearlin Mastery Scale.

During pregnancy women were asked about feelings of mastery or control as measured by the Pearlin Mastery Scale. Mastery or control are purportedly related to coping with stress. Of 330 respondents to this questionnaire, over 70% reported that they felt they had control and the ability to solve problems in their lives. This is more than would be expected from this young and inexperienced population. On the other hand, 30% did not feel they had control and it is potentially important to identify this group for defining the intervention for these women.

### Center for Epidemiological Studies- Depression ( CES-D) Screen.

The CES-D Center for Epidemiological Studies – Depression or the CES-D is a screen for depression and is also used as a measure of depressive symptomatology in studies of the general population. Scores above 16 indicates a need for in-depth assessment for depression, and treatment as needed. The CES-D was collected during pregnancy and again when infants were 2 months and 12 months old. The prenatal CES-D was 15.19 (N=210, SD 9.98, range of 0-52) with 40% scored above the cutoff of 16 points. When infants were 2 months old, the average maternal CES-D was 20.29 ( N=135, SD= 6.30 range 7-41), and 69% were scored above the cut-off. At 12 months the average CES-D was 11.91 ( N= 42, SD=9.52, range=0-26), and 26% scored above the cut-off. As shown in Figure 1, depression as measured by the CES-D was elevated during pregnancy, increased during 2 months postpartum, and decreased when infants were 1 year of age. It is of interest that the rate of mothers scoring higher on symptoms of depression increases at two months which is consistent with the trend towards postpartum depression at 6-8 weeks post partum and also to point out that 2 months is the time frame for the end of First Steps Maternal Support Services. Only cases with risk would continue to receive case management services after two months post partum. Unfortunately the number of subjects for whom CES-D data was collected at the three time points varied and these can only be viewed as cross sectional data.

**Figure 1. CES-D: Per cent >16**



### Brief Patient Health Questionnaire ( PHQ).

The Brief Patient Health Questionnaire screens for major depression, other depression and panic disorders. It is useful for screening decisions and management decisions about these mental health disorders, especially in clinic settings. Of 125 respondents who answered the PHQ during pregnancy, 6% had symptoms of major depression, 19% had symptoms of ‘other’ depression, and none had symptoms of anxiety. When infants were 2 months old, of 86 respondents, 7% had symptoms of major depression, 4.7% had symptoms of ‘other depression’, and 3.5% had symptoms of anxiety. The PHQ was used with an obstetric-gynecologic sample (mean age 31, Range 18-99 years) of 2747 patients for whom the rate of major depression was 6%, other depressive order was 6% and anxiety, 3% (Spitzer, 2000) See Table 2 for details. Thus, NFP women were fairly comparable in rates of depression, other depression and panic disorders as a general OB-GYN population, except rates of ‘other depression’ in NFP women were three times as high prenatally but dropped lower than an OB-GYN population at 2 months postpartum. It is not clear from the NFP data but clearly two months postpartum seems to represent a problem period for the women with more depressive symptoms reported (CES-D) and also more major depression and anxiety from the Brief Patient Health Questionnaire. This seems problematic from the First Steps service delivery standpoint of reducing services at a time of apparent high stress for the mothers. This could be an area of further study.

Table 3. Patient Health Questionnaire.

	NFP Prenatal %	NFP 2 months %	Spitzer,2000 OB-GYN %
Major Depression	6	7	6
Other Depression	19	4.7	6
Anxiety	0	3.5	3

### Impact of Traumatic Life Events.

The Impact of Life Events Scale is a self-report measure that describes experiences and symptoms that are representative of responses to traumatic events. Studies have shown that individuals report two major response sets to serious life events: intrusion and avoidance. We found that the nurses were initially reluctant to collect data on possible traumatic events. We worked on modifying the data collection instrument and procedure. We also suggested that they collect this information sometime during pregnancy at their clinical discretion. Of 92 women who reported having past traumatic experiences, 53 were willing to describe their symptoms of trauma. The most frequent symptoms of trauma were keeping strong feelings about the event to themselves, and recurrent reminders and thoughts about the event. With a sizeable number of women reporting and talking about traumatic events we know that with unresolved traumas and losses women are less available emotionally to their child and to parent successfully.

### Parent Protective Factor Card Sort

Tables 4 and 5 lists items from the Parent Protective Factor Card Sort (Parent and Life Skills Potential for Growth) that were reported during pregnancy. The PPF Card Sort asks the respondent to sort cards into two piles to describe skills that are developed or those that have potential for growth in parent or life skills. Listed below are items which 30% or more of the respondents desired further development. Women wanted to learn more about raising their babies, and desired help with jobs, employment and education. The number of available items were greater in the parenting self-care category, and therefore, it is expected that they identified more self-care than parenting skills for their self improvement.

Table 4. Parent Protective Factor Card Sort: Potential for Growth in Parenting Skills

Parent Protective Factor Card Sort: Parenting Skills Potential for Growth Items	Per cent "Yes" N=133
Knowing what my baby is trying to tell me	53
Knowing what to do if my baby chokes	46
Guiding without spoiling	45
Understanding my baby's personality traits	42
Helping the baby learn new things	40
Knowing baby is getting enough proper food	38
Choosing safe child care	36
Finding a safe trusting babysitter	36
Avoiding power struggles with my child	34
Child proofing home	33
Knowing when and how much sleep baby needs	33
Getting to know and feel close to my baby	32
Quieting/soothing my crying baby	30

Table 5. Parent Protective Factor: Self-care skills

Parent Protective Factor Card Sort: Self-care skills- Potential for Growth Items	Per cent "Yes" N=133
Finding good paying job	83
Applying for scholarships	67
Finding classes-improve employment opportunities	61
Doing resumes-job interviews	55
Finding adequate housing	50
Dealing with stress in healthy ways	50
Letting go of things I can't control	48
Budgeting-paying bills	47
Planning ahead	44
Expressing feelings	44
Caring for physical health	42
Relaxing/having fun in life	40
Ways to meet other parents	37
Getting along with family	37
Ways to solve problems	34
Managing time-keeping appointments	34
Knowing and managing things that push my buttons	34
Having friends I can trust	34
Settling arguments without violence	33
Finding time for my personal needs	33
Caring for emotional health	33

#### Parent Protective Factor Self-Rating Self Confidence Rating Scale.

This questionnaire taps the parent's perception of their own confidence in two areas: parent abilities and confidence in aspects of daily life self-care, such as problem-solving and handling anger or stress; and, parent confidence and abilities in taking care of the baby. This measure was developed from a sample of 292 women in the Washington State, First Steps program (Barnard, 1999). In comparison to the NFP sample, the prior sample of women had multiple births and were older. In that sample, the average Self-Rating of Parent Self-Care Confidence was (31.1) (SD=4.4, Range 16-40), average Self-Rating of Parenting Confidence of 17.4 (SD=2.4, Range 8-20) and total Self-Rating of Parenting Confidence of 48.4 (SD=5.9, Range 25-60).

During pregnancy the NFP women were also asked about their confidence in various aspects of life as measured by the Parent Protective Factor Self-rating of Self-Care. Of 132 respondents, over 60% reported confidence in their ability to take care of themselves, problem-solve, find support, and manage daily responsibilities. Furthermore, over 80% of the women reported confidence in their ability to care for their babies and meet their demands. Fewer women reported confidence in their ability to handle anger and stress in life. The average Self Rating of Parent Self-Confidence was 31.01 (SD=4.66, Range 16-40). The average Self-Rating of Parenting Confidence was 17.6 (SD=2.18, Range 12-20). The total Self Rating of Parenting Confidence was 48.61 (SD=6.04, Range 32-60). There was no difference in the two samples 1999 (Washington First Steps and NFP) on this measure of Parenting Protective Factors Self-Rating.

### Community Life Skills Scale.

When infants were 2 months of age, women were asked about their access to community resources as measured by the Community Life Skills Scale. The average CLSS was 24.69 or 25 out of a possible 32 ( N=142, SD=3.89, Range=11-32). The highest positive items were reliable transportation, ability to pay bills, and knows the name of at least one neighbor. The lowest positive answers were: visit to the library, club or group attendance, 3 or fewer visits to a food store, and regular exercise. In the prior First Steps study (Barnard,1999) the sample of 257 cases had an average CLSS of 26.3 (SD= 3.6, Range 15-33 ) when infants were two months of age. Table 6 lists CLSS items for the NFP sample in descending order of percentage.

Table 6. Community Life Skills

Community Life Skills Scale Items	Percent “Yes”
Reliable transportation	80
Able to pay bills	75
Knows the name of at least one neighbor	72
Had attended a party or meal somewhere besides home in the past six weeks	68
Has hobbies or recreational interests	68
Copy of the bus schedule	66
Plans the spending money	63
Guest in own home in past two weeks	63
Had conversations with people not known to them	60
Client has bank account	49
Initiates contact with at least one family member in past two weeks	49
Gets regular exercise at least three times a week	45
Makes three or fewer visits to food stores per week	30
Belongs to a club or group	25
Has visited the library in past month	21

### Combined Self-Rating of Parent Self-Care Confidence and the Community Life Skills score (now known as Parent Resources.)

The Self-Rating of Parent Self-Care Confidence and the Community Life Skills scores were combined into a composite score of Parent Resources. Barnard determined that scores one standard deviation below the mean indicated a low category ( <50.3) , i.e. women had low protective factors and low involvement in the community. In the First Steps study (Barnard, 1999), the average composite Parent Resource score was 56.8 (SD 6.6. Range 41-72). In the Barnard 1999 sample, 16% of the sample were in the low category. The average Parent Resources composite score in the NFP sample was 55.77 (SD 6.5, Range 40-70), and 17.7% of the women were in the low category of Parent resources.

Comparisons of the First Steps sample and the NFP sample show similarity in scores for the moderate (50.3-62.3) and high (>62.3) Parent Resources categories. The percentage of the NFP women scoring in the moderate range was 66% versus 60% for the 1999 First Step sample. The percentage of scores in the high category was 17% NFP versus 20% in the 1999 First Steps sample. In summary, the NFP first time young mother sample had slightly more in the low and moderate category and slightly fewer in the high category.

Further analysis of the NFP data revealed that 56% of women in the low range of Parent Resources had CES-D scores of >16 and 43% of the low Parent Resource women scored as depressed or anxious on the Patient Health Questionnaire where as fewer (11-27%) women in the moderate or high group scored high in mental health issues. This data on how the low, moderate and high scoring Parent Resource categories score on mental health measures (CES-D and Patient Health Questionnaire) extends the criterion validity for the Parent Resource categories which had already been shown in the First Steps 1999 sample. This study showed that low Parent Resources was related to higher Parent Stress, lack of child empathy and poor six month child outcomes. Identifying parents with low Parent Resources is one means of targeting First Steps services to the group most likely to benefit from the most intensive services of Maternity Support and Case Management Services.

### Parenting Stress Inventory.

The Parenting Stress Inventory measures the parent's experience of stress in three areas: Parent Distress, Parent-Child Dysfunction, and Difficult Child. Parents complete the scale and numerical scores are added and converted into percentile. Percentile scores above 85% are worrisome. High Parent Distress indicates that the parent is having problems with the parenting role, including stress in other life roles, presence of depression, conflict with the other parent, or lack of social support. High Parent-Child Dysfunction indicates rapid intervention since the parent perceives the child has not fulfilling expectations. A High Difficult Child score at less than 18 months indicates that the child has regulatory problems from temperament or illness. High PSI indicates stress from all three areas of stress where scores above 90%tile indicate need for professional services.

For the NFP sample, the PSI was collected at 6 months on 115 respondents, and 12 months on 71 respondents. At 6 months the average percentiles were: Parent Stress = 52, Parent-Child Dysfunction =41, Difficult Child = 41, and Total PSI =49. At 12 months the average percentiles were: Parent Stress = 55, Parent-Child Dysfunction= 46, Difficult Child =40, and Total PSI=49. In the First Steps study (Barnard, 1999), average percentile for a sample of 236 when infants were six months of age were: Parent Stress=53.2; Parent-Child Dysfunction= 36.2; Difficult Child=33.4, and Total PSI score=41.6. Thus, the NFP sample is comparable to the First Steps sample where both samples on the average did not exhibit high stress. See Table 7 for a comparison of the samples.

Table 7 Parent Stress Scores for Nurse Family Partnership and First Steps (1999) samples

Summary Score	Nurse Family Partnership 6 months N=115	Nurse Family Partnership 12 months N=71	Barnard First Steps (1999) 6 months N=236
Parent Stress Percentile (mean)	52	55	53.2
Parent Stress : Percent of sample with >85%tile score:	17.4	17.5	22.3
Parent-Child Dysfunction Percentile (mean)	41	46	36.2
Parent-Child Dysfunction: Percent of sample with >85%tile score:	7	11.3	8
Difficult Child Percentile (mean)	41	40	33.4
Difficult Child: Percent of sample with >85%tile score	7	2.8	3.8
Total PSI Percentile ( mean)	49	49	41.6

Total PSI: Percent of sample with >85%tile score:	7	9.9	11
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Thus, a smaller percentage of the NFP sample reported parent stress at 6 and 12 months than the First Steps sample, perhaps indicating the effect of the NFP program in reducing stress.

Parent-Child Interaction: NCAST Feeding and NCAST Teaching Observations.

The PCI Feeding and Teaching observations provide a systematic method to describe the communication and interaction between parent and child during feeding and teaching events. Observation focus on the nonverbal and verbal behavior of both parent and child, and the quality of responsiveness to each other. The Parent-Child Interaction Feeding Scale and the Parent-Child Interaction Teaching Scale were collected at 6 weeks postpartum, and when infants were 18 months old, respectively. For the NFP sample of 104, the average total caregiver score on the PCI Feeding was 42. (SD 5.06), total infant score was 18.68 (SD=3.64), and total score was 61.18 (SD=7.85). The number of cases below the 10 percentile cutoff was 9 out of 103. Using the NCAST sample of low education adults, the mean total caregiver score is 38.40 (SD= 7.59), mean infant score is 19.82 (SD 3.88), and mean total PCI Feeding score is 58.22 (SD=10.12). Thus, the NFP mothers scored better than the NCAST sample, but NFP infants did slightly less well in comparison to NCAST counterparts.

Table 8. PCI Feeding: Comparison of NFP and NCAST Samples

PCI Feeding	NFP PCI Feeding 6 months N=104 Mean ( SD)	NCAST PCI Feeding N=125 Low Education Adults
Total Caregiver Score	42 (5.06)	38.4 (7.59)
Total Infant Score	18.68 (3.64)	19.82 (3.88)
Total PCI Score	61.18 (7.85)	58.22 (10.12)

For a NFP sample of 17 at 12 months , the average total caregiver score on the PCI Teaching was 42.88 (SD=3.60), the total infant score was 18.47 (SD=2.42), and total score was 61.35 (SD=4.27). Using the NCAST sample of low education adults, the mean total caregiver score at an average of 18 months is 37.74 (SD=7.43), mean infant score is 14.53 (SD=4.85), and mean total PCI Teaching score is 52.26 (SD=10.55). None of the NFP parent-infant dyads scored below the 10 percentile cutoff. Clearly this small sample of 17 dyads from the NFP sample looked terrific. Note the average infant age of teaching observation was 18 months, while the range was 12 to 21months. One caveat to keep in mind when interpreting these findings is that a positive bias may have been introduced by the public health nurses' presence or scoring of the observations. The NCAST comparative scores were collected by nurses from individuals who were not their clients.

Table 9. PCI Teaching: Comparison of NFP and NCAST Samples

PCI Teaching	NFP PCI Teaching 18 months N=17 Mean ( SD)	NCAST PCI Teaching 18 months N=160 Low Education Adults
Total Caregiver Score	42.88 ( 3.60)	37.74 (7.43)
Total Infant Score	18.47 (2.42)	14.53 (4.85)
Total PCI Score	61.35 (4.27)	52.26 (10.55)

### Child Care Screen.

Use of various child care arrangements were assessed at 2 ( N=165), 6 (N=109), 12 (N=49) and 18 ( N=49) months of infant age. The rates of using any childcare were: 2 months =66%; 6 months = 78%; 12 months = 87.8% and 18 months= 71.4%. The percent of infants in childcare more than 10 hours per week increased from 27.9% at 2 months to 57.4% at 18 months. Grandparents consistently provided the most childcare, followed by the father or stepfather and a child care center.

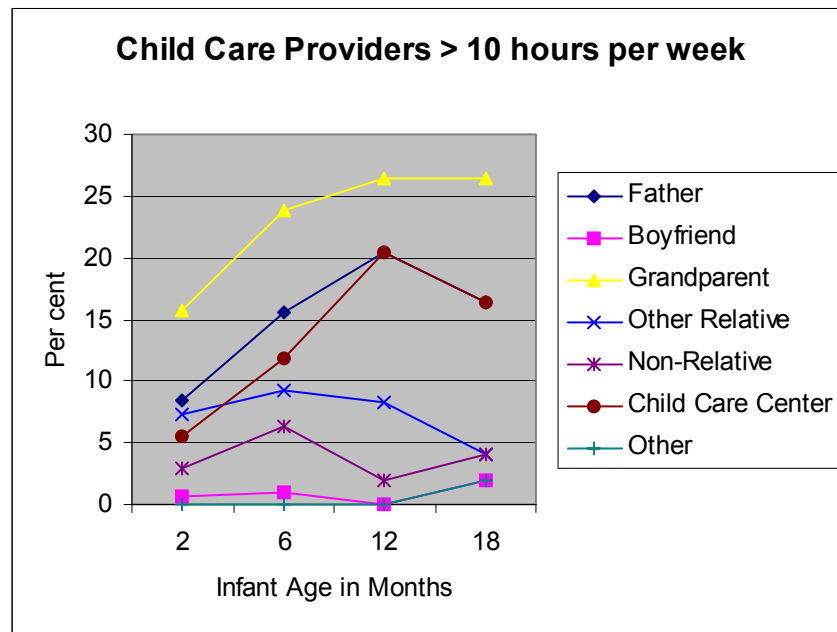


Figure 1. Child Care

### Bavolek Adult-Adolescent Parenting Inventory.

The Bavolek Adult-Adolescent Parenting Inventory assesses attitudes known to contribute to child abuse and neglect. The AAPI is composed of four subscales: Inappropriate expectations, Lack of Empathy, Physical Punishment and Role Reversal. Abusive parents tend to inaccurately perceive the skills and abilities of their children. Parents who lack empathy tend to be insensitive and are less likely to provide an environment conducive to fostering the growth and development of children. Physical punishment is generally the preferred means of discipline used by abusive parents. A fourth common parenting behavior among abusive parents is the expectation that children are sensitive and responsible for the happiness of their parents. Scores from each category are converted into standardized scores that range from 1-10. Low Sten scores ( 1-4) indicate a high risk for abusive practices. High Sten scores (7-10) indicate parenting attitudes that reflect nurturing, non-abusive parenting philosophy.

The AAPI was collected on 31 parents at 18 months. The Sten scores for all subcategories fall in the low range, indicating high risk attitudes that underlie abusive parenting practices. Low Sten scores occur in adolescent populations, the target of the NFP project.

Table 10. Bavolek AAPI at 18 months

Subscale Sten Score	Mean ( SD )
Inappropriate Expectations	1.10 (.54)
Lack of Empathy	1.19 (.65)
Physical Punishment	1.39 (1.05)
Role Reversal	1.61 (1.36)

### Infant Health.

Of 89 infants at 6 months of age, 12.4% were diagnosed with asthma, the most frequent type of illness reported. However, 25% of the infants had some other kind of unspecified illness condition. At the time of data entry on immunizations for 85 infants, 90% or better received the full complement of DTP/DtaP, but compliance was between 87-89% for Hepatitis B, HIB and Polio. Target goals established by Healthy People 2010 include 90% completion rates for all recommended vaccinations.

### Summary:

- From 1999 to 2003, NFP in Washington has grown to serve more first time teen mothers by 22 nurses in five counties. The NFP team of nurses has remained stable over this period with only the loss of only two nurses
- The NFP sample characteristics, on average, meet NCCFC criteria, however, the WA sample has a wide range in maternal age, and were not limited to teen mothers. Of the NFP sample, 85% began prenatal care during the first trimester, and 68% were less than 22 weeks of pregnancy at program enrollment.
- The NFP sample were first time mothers and ,as would be expected, had more mothers reporting low scores on Parenting Resources and more reporting moderate or high Parenting Resources. The Parenting Resource made up of Parent Self Care Rating and Community Life Skills Scale obtained through interview, continued to demonstrate validity in identifying a group of women with low, moderate and high Parenting Resources. Women with low Parenting Resources had more mental health issues, parenting stress, less empathy and more child health issues at 6 months. Parenting Resources appears to be able to identify women of differing resources which should be instructive in deciding service delivery intensity.
- During pregnancy half of the sample rated themselves as less competent in managing stress and anger. However a large percentage felt they in general had adequate control of their life and they felt confident in their ability to care for their infants. Therefore a program that offered information and skills to manage stress and emotions would be appropriate for pregnant women in the First Steps Population.
- The women perceived potential for growth in the areas of job, employment and education.
- Women struggled with depression during pregnancy and particularly when infants were 2 months old, but rates of depression declined when infants were 12 months old.
- Of infants born 6.9% were below 2500 grams while the Washington State the low birth weight rate was 5.9% in 1999.
- A smaller percentage of the NFP sample reported less parent stress at 6 and 12 months than the First Steps sample, perhaps indicating the effect of NFP program on reducing stress.

- ❑ Mothers had good scores during feeding interaction, perhaps reflecting the effect of NFP on maternal responsiveness. This terrific dyadic interaction scores are on a very limited sample of mothers and children during teaching at 18 months. The narrow standard deviation for the teaching scores suggests treatment effect. On the other hand, a positive bias may have been introduced by the public health nurses who both collected and scored the observations.
- ❑ As children get older, they are more often cared by their grandmothers, stepfathers/fathers or others.
- ❑ Asthma and other nonspecified illness sets in early in this population of children. Limited resources, such as poverty, may make taking care of sick children stressful.
- ❑ Over 90% of children receive DPT/DtaP at 6 months, but compliance is 87-89% for Hepatitis B, HIB and Polio as documented by data retrieved June 2002.

APPENDIX A  
DATA COLLECTION PLAN and SAMPLE SIZE

MEASURES	TIME AND SAMPLE SIZE								
	Pregnancy	6 weeks	2 months	6 months	9 months	12 months	15 months	18 months	24 months
Adult Adolescent Parenting Inventory **	X							31	
Adult Health Status: Mental Health Index*	342							X	
Center for Epidemiologic Studies - (Depression CESD)	210		135			42			
Child Care Screen			165	109		49		49	
Community Life Skills			168						
Demographic Survey **	547	X		103		76		51	X
Home Safety **						X			X
Impact of Events Scale (as appropriate)	93				16			X	
Infant Birth Data **		278							
Infant Health Care**				89		X			X
Mac Arthur Short Form Vocabulary								X	
Maternal Health Habits **	342								
Nursing Child Assessment Feeding Scale		92							
Nursing Child Assessment Teaching Scale								X	
Parenting Stress Index Short Form **	X			115		71		X	
Pearlin Mastery **	330						14	14	
Parent Protective Factor Risk	133								
Parent Protective Card Sort	133					X			
Parent Protective Self Care Interview	133								
Patient Health Questionnaire (PHQ) - mental health	125		86			26			

\* Collected only for NCCFC

\*\* Collected for both UW and NCCFC

All others collected for only UW

## DESCRIPTION OF MEASURES

### **Adult Adolescent Parenting Inventory (Bavolek and Keene, 1999).**

The Adult Adolescent Parenting Inventory contains 31 Items that assesses childrearing and parenting attitudes of individuals at 'high risk' for child abuse. The AAPI is composed of four subscales (1) Inappropriate Expectations (2) Lack of Empathy (3) Parental Value of Corporal Punishment, and (4) Parent-Child Role Reversal.

Respondents rate the items on a scale ranging from strongly disagree to strongly agree. A total raw score is derived from adding numerical ratings of each item. Raw scores are standardized (Sten Scores) using normative tables based on age, gender and race. Sten scores range from 1-10, with average scores ranging from 5-6, while score between 1-4 indicate deficiency in appropriate parenting behavior.

### **Adult Health Status (Davies, Sherbourne, Peterson & Ware, 1998)**

The Short Form Mental Health Index Is a five-Item scale (MHI-5) that is consistent with the conceptualization of general mental health offered by Veit and Ware (1983). The goals of the MHI-5 are that it: (1) represent the content of the five major dimensions of mental health confirmed in factor analytic studies (anxiety, depression, loss of behavioral/emotional control, general positive affect, and emotional ties; (2) demonstrate empirical validity in relation to the 38-Item Mental Health Index; and (3) be as short as possible. Higher scores indicate an absence of psychological distress and experience of psychological well-being during the previous month.

### **Center for Epidemiologic Studies Depression Screen (CES-D) (Weissman, Myers and Ross, 1986)**

The CES-D is a 20 item scale completed by the client indicating behaviors or feelings that occurred during the previous week ie., not at all, sometime, occasionally or all of the time. The CES-D is a screen for depression that was developed by the Center for Epidemiologic Studies of the National Institute of Mental Health and tested as a measure of depressive symptomatology for use in studies of the general population. "The Community Mental Health Assessment Survey which field tested the CES-D contributed psychometric information on the scale and also produced useful epidemiologic information on the relationship of the scale to other variables. Scores above 16 above the general population mean indicates need for additional depression assessment and appropriate intervention. Other investigators have also reported reliability and validity data.

**Child Care Screen.** The Child Care Screen is a short interview of 8-10 items that describes the child care arrangements for a child. Questions ascertain the regularity of child care arrangements, the duration of the arrangement, the provider of child care, the number of arrangements, and the consistency of child care arrangements.

### **Community Life Skills Scale (CLSS) (Barnard, 1991)**

The CLSS is a 33 item yes/no scale which assesses clients use community resources and

their ability to negotiate for self and family in the community. The mother is interviewed about six major areas of her daily life and health care ie., Transportation, Budgeting, Support Services, Support-Involvement, Interests-Hobbies, and Regularity-Organization-Routines.

**Impact of Life Events Scale ( Horowitz, Wilner & Alvarez, 1979)**

The Impact of Life Events Scale is a self-report measure that describes experiences and symptoms that are representative of responses to traumatic events. Studies have shown that individuals report two major response sets to serious life events: intrusion and avoidance. Intrusion is characterized by unbidden thoughts and images, troubled dreams, troubled dreams, strong pangs or waves of feelings and repetitive behavior. Avoidance responses include ideational constriction, denial of the meanings and consequences of the event, blunted sensation, behavioral inhibition or counterphobic activity, and awareness of emotional numbness ( Horowitz, Wilner, Alvarez, 1979). The IES asks the respondent to identify ‘the most upsetting or distressing experience.’ The respondent is asked to identify experiences associated with that event by using a list of 15 responses often associated with traumatic events.

**MacArthur Short Form Vocabulary Checklist; Level II ( Form B) ( Fenson, Dale, Reznick, et al, 1993).** MacArthur Short Form Vocabulary Checklist engages the parents as an informant about the words that their children produce. The checklist is composed of 100 words likely to occur in the expressive vocabularies of infants in the second year. Studies have shown relation between checklist scores and other indices of language development. The checklist may be completed alone by the parent or with an interviewer. A raw score is derived from the number of words that children express according to parent report, and converted into percentile scores.

**Parent-Child Interaction: Nursing Child Assessment Feeding Scale (NCAFS)**  
(Sumner, G & Spietz, A, 1994).

The Feeding Scale is a 76 item scale that is a valid and reliable instrument used to assess parent-child communication and interaction during a feeding situation. Feeding scores from interactions with children at 12 months of age show a significant correlation with subsequent measures of children's cognitive abilities. Scores below the 10th percentile cutoff indicate additional assessment and intervention services.

**Parent-Child Interaction: Nursing Child Assessment Teaching Scale (NCATS)**  
(Sumner, G & Spietz, A, 1994).

The Teaching Scale is 73 item scale that is a valid and reliable means of observing and rating caregiver-child interaction during a teaching situation. The scale is widely used in research and clinical practice with families and young children. Teaching Scores show significant correlations with subsequent measures of children cognitive abilities. Scores below the 10th percentile cutoff indicate additional assessment and intervention services.

**Parenting Stress Index -Short Form (PSI/SF) (Abidin, 1995).**

The PSI is a screening and diagnostic assessment technique that is designed to measure the stress in the parent-child system. It can be used with parents of children from 1 month - 12 years. The PSI is an easy to complete form where the parent indicates "agreement -disagreement" in response to 36 statements about the child's behaviors and their own feelings/expectations about parenting. It takes about 10 minutes to complete. The PSI provides a total stress score as well as subscale information about parental distress, parent-child dysfunction and difficult child. Scores are converted into percentile scores. Percentile scores over 85 percentile are considered worrisome and the parent-child dyad requires specific treatment.

**Patient Health Questionnaire (PHQ)** (Spitzer, 2000) contains questions for the diagnosis of mood disorders and panic disorder and is useful screening and management decisions about these mental health conditions. In validity testing, positive PHQ screening has good agreement with mental health disorders made by mental health professions. Those with positive PHQ screenings have more functional impairment, disability days, and health care use than those without PHQ diagnoses.

**The Pearlin Mastery Scale.** (Pearlin, 1981). This scale is composed of seven statements in which the respondent is asked about feelings of control and mastery in life. Control and mastery are related to how individuals respond to stress.

**Parent Protective Factor Card Sort.** (Barnard, 1999). The PPF Card Sort determines a parent's areas of strength and potential for growth. The parent sorts through 55 cards which have a statement or words depicting the essence of 12 protective factors. In addition, the parent is asked to select five priority cards, then to rate herself on a five-point scale about her abilities and confidence in each of the 12 protective factors.

**Parent Protective Factor Risk Information Form** (Barnard, 1999). This form consists of item that describe risk; race, marital status, high parity, grant recipient, prenatal visits, maternal smoking, maternal substance use, infant gender, birthweight, and apgar.

**Parent Protective Factor Self Rating Self –Confidence Questionnaire.** (Barnard, 1999). This questionnaire consists about parent perception of confidence in 2 areas: (1) parent abilities and confidence about well-being, problem-solving, support network, and handling anger, stress, every day life, self-sufficiency, and communicating with others; and (2) parent confidence and abilities in taking care of the baby, understanding child development, disciplining children, and keeping the child safe.

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