

# COMPREHENSIVE IMPROVEMENTS IN EARLY CHILDHOOD POLICIES FOR WEST VIRGINIA

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## EXECUTIVE SUMMARY

This project demonstrates that West Virginia must significantly improve both the quality and quantity of the programs it provides for the State's children from birth through age three. The need for improvement includes perinatal services during and after pregnancy, parental and family education, child health services, early child care and education facilities and in-home visitation programs. By improving and expanding services available to support West Virginia's youngest children they will be better prepared to be effective participants in a more technological and global economy.

West Virginia's youngest children deserve the same opportunities as do their counterparts in other states. The consequences to children, their families and to the State of inadequate childhood experiences are significant. These costs can and must be reduced. How this can be done is the focus of this report. Led by Nobel Prize winning economist James Heckman there has become an increasing national concern with "human capital" investment (Heckman and Krueger 2003). In the past, economic growth has been propelled by investment in physical capital, machines and technology. Too little attention has been paid to developing the intellectual and creative capital of our population. This fallacy in thinking has characterized economic development policy in West Virginia as well as the rest of the nation.

What the best and most recent studies have clearly demonstrated is that investment in human capital must begin early, preferably during pregnancy. Heckman's work has established that investments in very young children have much higher returns than investments later in life. This was summed in a report completed last year for West Virginia.

*Recent research highlights the urgent need for education and support for expectant and new parents... early experience have long term effects according to...the Centers for Disease Control and Prevention...adverse childhood experiences are disturbingly common and have a critical impact on later adult health...problems in the home greatly multiply one's chances of later illness, injuries, work problems and premature death. These consequences generate tremendous costs for individuals, families and society (Partners in Community Outreach, 2007).*

The most recent studies in child development find that different stages of the life cycle are important in the development of intelligence and abilities (Shonkoff and Phillips 2000). Most of these develop prior to the child's entry into school. When the opportunity to provide for the formation of these capacities is not realized then remediation in later life must transpire. That remediation is more costly than preventive action and less effective. Put in economic terms, the returns to investment in early child development are significantly higher than waiting. Yet most policy for child development focuses on what should happen after the child enters school. By then the best opportunity is lost.

The goal of this project is to review the research-based evidence on the effectiveness of alternative approaches to promoting early child development and evaluate their effectiveness. This draft report for Imagine West Virginia's (IWV) Board of Governors reviews reports, articles, books and other sources which evaluate and document the "best practices" in providing for children from conception to three. Included are:

- *Perinatal* including family planning, prenatal examinations, mother’s nutrition, substance use and abuse and education
- *Birth to Three* including child health care, vaccinations, parental education, home visitation, child maltreatment
- *Child Care and Education* including staffing, facilities, quality indicators, availability and affordability.

The draft report is organized using the “Zero to Three” format of:

- *Good health* including perinatal and child health care
- *Strong Families* including parenting education, health care and prevention of maltreatment
- *Positive Learning Experiences* including child care and education programs and facilities with a focus on school readiness.

## **BASE LINE ANALYSIS**

Following this introduction the report presents a “base line analysis” of where the State stands compared to other states grouped under the Zero to Three categories. This evaluation reveals that in most cases West Virginia does not compare favorably with the surrounding states, the national average, or North Carolina which was chosen as a state with a strong reputation for providing early childhood programs. While it is tempting to assert that the results are entirely due to poverty, the research would not support that conclusion.

Appendix A in the report provides information on the prenatal to age three programs operating in West Virginia. It covers the scope of the program, funding source, geographic location and number of service recipients. A question can be asked about the number of programs and how well they are coordinated. Many have only limited agendas and geographical ranges. Rigorous evaluations are not available for many of them.

## **PERINATAL**

The next section concerns prenatal care. The evidence based research clearly demonstrates that providing quality prenatal care to all women particularly those “at risk” would be highly cost effective with returns well in excess of costs. These would range from \$2.50 to \$7.00 for each dollar invested depending on the program.

One specific program examined was family planning. Over 40 percent of the babies born with complications were “unwanted”. One of the most cost efficient ways to reduce costs associated with pre-term and low birth weight is to reduce unwanted childbearing. The returns to family planning programs under Medicare were \$4 to \$1. West Virginia has a strong record in the provision of family planning services ranking 10<sup>th</sup> in the nation. The research provides several conclusions as to how family programs can be made more effective including:

- Reaching new populations by relaxed eligibility criteria
- Streamlined enrollment procedures
- Use of community based educators
- Training providers
- Speedier reimbursement to providers

- Development of a unified package of reproductive health services to remove existing fragmentation and lack of communication.

Nutrition was an additional prenatal program upon which there is the most extensive research of all topics. That research shows that maternal health is directly related to positive birth outcomes. Under the federal/state Women's, Infants and Children (WIC) program, the returns were all positive ranging from \$1.92 to \$4.21 per dollar spent. West Virginia has an extensive WIC program as described in Appendix B. The WIC program is effective but is only reaching a percentage of those eligible, showing a need for greater outreach regarding availability.

Smoking, alcohol and substance abuse were major issues impeding early child development. One major study indicated that the cost benefit return on smoking cessation programs was \$3 to \$1. Unfortunately, West Virginia has the highest level in the nation of women who smoke while pregnant. Smoking while pregnant is a major cause of premature birth and low birth weight babies (LBW) babies. It is also the greatest cause of perinatal death. The evidence shows that public education programs are not particularly effective, and the best delivery system is in-home visitation.

Alcohol and substance abuse follow closely behind smoking as a cause of unfortunate birth outcomes. At least 4 percent of pregnant women use illicit drugs and 30 percent consume alcohol, often combined with smoking. In the words of the American College of Obstetrics and Gynecology this is the single largest preventable cause of developmental compromise of infants in the US. The National Governor's Association's Center for Best Practices has recommended that states implement initiatives which:

- *Improve access of prenatal medical and health care* by increasing Medicaid eligibility. West Virginia has one of the most difficult thresholds in the nation for obtaining entry into the program.
- *Provide for presumptive eligibility* where prenatal care is offered to all women without having to first prove Medicaid eligibility. Thirty two states have this procedure.
- *Adopt continuous eligibility* so that women do not have to repeatedly prove that they meet the Medicare qualifications.
- *Expand State Children's Health Insurance Program (SCHIP)* by requesting waivers so benefits can be extended to pregnant women prior to birth.
- *Obtain family planning waivers* so services can be extended to low income individuals who do not qualify for Medicare and do not have coverage under private insurance.
- *Improve birth defect surveillance, monitoring and early intervention* which would allow early access to children with birth defects to health services as is now the case in 28 states.
- *Expand comprehensive newborn screening* for all 36 disorders not just the required two. Most states only screen for eight.
- *Improve nutrition* by increasing the enrollment of eligible women in the WIC program.
- *Improve nutrition and folic acid consumption* by more effective publicity campaigns regarding availability.
- *Prevent Perinatal HIV/AIDS transmission* by having all pregnant women tested.
- *Prevent violence* by joining the four states which now require that all pregnant women be screened for domestic violence.
- *Improve access to smoking cessation* by providing for counseling and in-home visitation.

- *Expand available substance abuse treatment* by funding specific drug treatment programs for pregnant women, as is the case in 19 states.

## **ZERO TO THREE**

Comprehensive studies have been completed over the past four decades regarding the returns on investment in programs for children zero to three and their families. As is the case with prenatal programs, these studies show that the money spent on these programs more than pay for themselves (Center on the Developing Child at Harvard University 2007). Many of the programs discussed in this section overlap with those in the previous one as they cover unborn children and pregnant mothers, as well as children one to three years old.

Nutrition is a major concern at this age as children born to obese weight parents have an 80 percent chance of being obese themselves. The dietary habits of individuals are usually established early in life and difficult to alter in later years. Obesity has been linked to a variety of problems both in childhood and adulthood such as diabetes, heart disease, stroke, cancer and osteoarthritis. Further, children who are severely overweight do not perform as well in school and are often the brunt of discrimination and teasing. State programs which emphasize nutrition and monitor compliance with dietary standards through home visitation and education are the most effective.

From the work completed by the National Academy for State Health Policy, developmental disabilities occurred in up to 18 percent of all children (Kaye, May and Abrams 2006). It was over twice this level for children coming from lower income families. While almost all young children see a doctor, including those in West Virginia, most are not fully screened for developmental disabilities. “Preventive pediatric services” should include this full range of diagnostic tests.

There are four combined federal and state programs operating in West Virginia designed to encourage screening. Their effectiveness has not been evaluated. At least at the national level, there are problems of duplication and competition in the delivery of screening. Based on the Assuring Better Child Health and Development (ABCD) program in eight states, the following recommendations are made:

- *Eligibility and benefits* are a problem mainly because of the limited coverage of the programs. The best solution is to make sure that young children are evaluated using a formal validated screen. Also, states should make sure that screening for mental health problems is included.
- *Improving reimbursement* appears from the studies considered to be a major factor as to why health professionals do not adequately screen. Programs that do not adequately reimburse health care providers for doing screens should be modified so they do.
- *Improved performance* would be the result of clarified policies regarding what screening is required or desirable. Also specialists should communicate with primary care physicians regarding the results of actions taken on the basis of the screen.
- *Improving eligibility and claims process systems* would simplify confusing paperwork for care providers and recipients as well as speeding reimbursement.

In addition, the research has demonstrated the value of parental education, group well-child care, and care coordination. Two successful programs “Healthy Start” and “Bright Futures” are detailed in Appendix C and D respectively.

Oral health is a much neglected issue in the discussions of early child medical care. Yet the research links it with the prevention of dental caries which have been identified as the number one health problem for children entering school. All dental associations have advocated that young children should have a “dental home” to provide comprehensive and consistent care (American Academy of Pediatric Dentistry 2004). Poor child dental health has been positively correlated with a variety of adult diseases including health problems and premature death.

Child abuse and neglect is another area which has not received the attention merited by the high benefits to costs ratio these programs provide. Maltreatment of children leads to a myriad of other problems like poor physical health, poor emotional health, social difficulties, cognitive dysfunction, high-risk behaviors and behavioral problems both as children and adults. For very young children, neglect is the biggest single cause of maltreatment with abuse increasing as the child ages.

In West Virginia, a study found that the results of bad parenting cost the state \$38 million last year and will almost double by 2010 (Heasley 2007). Screening for child neglect and home visitation show the greatest returns for reducing the incidence of child maltreatment.

Home visitation programs are the most effective way of dealing with almost all of the problems discussed in this report. That conclusion has been reached in virtually every study considered in this report (Bilukha et al. 2005). High quality in-home visitation can reduce by 40 to 70 percent the incidence of most of these maladies. In an extensive evaluation of the evidence based research, the CDC (2005) listed the elements of a successful home visitation program:

- Training of parents on prenatal and infant care as well parenting skills.
- Developmental interaction with infants and toddlers
- Family planning assistance
- Development of problem-solving and life skills
- Education and work opportunities
- Linkage with community services
- Provision of quality day care
- Parent group meetings
- Advocacy for children
- Transportation assistance.

The barriers identified to providing home visitation programs included:

- Retention of participants
- Turnover in program staff
- Use of under-qualified staff.

The study completed for West Virginia in response to a Legislative Study recommended that a state wide visitation system be implemented utilizing those existing programs that qualify (Heasley 2007). The programs which qualify would:

- Have home visiting at least monthly, parent education, and information referral
- Use a research based model with evidence based curriculum
- Be credentialed by a national or multi-state organization
- Offer programs preferably beginning with pregnancy until the child's third birthday
- Work with other early childhood programs in the community
- Fulfill the training requirement of the credentialing organization for all staff
- Develop programs in un-served areas
- Support statewide training, technical assistance, certification, contract management and quality initiatives.

## **EARLY CHILD CARE AND EDUCATION**

The Center for Law and Social Policy (CLASP 2008) reports that overall state spending on child care assistance increased only slightly in 2006. Increased levels of spending were reported in 32 states. As of 2008, most states have policies in place that make fewer families eligible for child care assistance as compared to 2001. Reduced income eligibility limits, reduced subsidy rates to providers, and waiting lists are crippling the early child care and education system.

Organizations such as CLASP have developed recommendations for providing a quality early child care and education system:

- Educate consumers on the benefits of quality early care and education
- Implement a Quality Rating and Improvement System (QRIS) to emphasize continuous quality improvement with progressive levels of benchmarks
- Raise wages for child care teachers tied to education and training
- Provide educational opportunities to early child care teachers through grants and/or scholarships dependent upon continued employment in the field
- Guarantee child care for *all* families at or below 200 percent of the federal poverty level
- Explore loan forgiveness programs for early child care workers

Expanding the availability and quality of the early care and education system in West Virginia is essential to increasing the education levels of parents by allowing for the increased time and resources needed to access educational opportunities, helping parents maintain steady employment by reducing the prohibitive costs of child care, reducing poverty and the public costs incurred (such as welfare, lower productivity and earnings of poor adults, increased crime and poor health), increased brain development in infants thereby reducing public health and remedial education costs and improving overall child well-being creating a more productive future workforce.

## **INDICATORS**

Indicators were selected from a variety of sources (Kid’s Count Data Center, the National Center for Children in Poverty, and the Child Welfare League of America) that compare West Virginia’s performance to surrounding states and national averages. The indicators are encompassed in three broad categories including good health, strong families, and positive early learning experiences.

### **GOOD HEALTH**

**Table 1: Quality Indicator – Good Health**

<b>Indicator</b>	<b>WV</b>	<b>KY</b>	<b>OH</b>	<b>MD</b>	<b>PA</b>	<b>VA</b>	<b>NC</b>	<b>National</b>
Births to women who received late or no prenatal care	2.7%	5.3%	2.9%	4.3%	6.2%	3.8%	2.9%	3.5%
Births to mothers who smoked during pregnancy	26.5%	26.1%	17.4%	7.0%	17.9%	6.7%	12.1%	10.7%
Medicaid births as a percentage of total births	50%	38%	30%	34%	30%	31%	44%	41%
Low birth weight babies	9.6%	9.1%	8.7%	9.1%	8.4%	8.2%	9.2%	8.2%
Preterm births	14.4%	15.2%	13.0%	13.3%	11.9%	12.3%	13.7%	12.7%
Teen birth rate (per 1,000 females)	43	49	39	32	30	34	48	40.4
Infant mortality rate (per 1,000 live births)	8.1	6.6	8.3	7.3	7.3	7.5	8.8	6.9
Children ages zero to five without health insurance	4%	8%	8%	10%	8%	10%	11%	11%
Two-year olds who were immunized	84%	82%	82%	87%	84%	83%	87%	83%
Child death rate (per 100,000 children)	26	25	20	16	19	19	21	20

Source: 2008 Kids Count Data Book: State Profiles of Child Well-Being; NCCP: United States Early Childhood Profile.

The first segment, good health, includes such topics as perinatal care, child health care, and immunizations. West Virginia, with a rate of 2.7 percent of births to women with late or no prenatal care, ranks below the national average of 3.5 percent. However, West Virginia ranks far

above the national average of births to mothers who smoked during pregnancy. The national average is 10.7 percent while West Virginia ranks the highest in the nation with 26.5 percent. Kentucky follows close behind with 26.1 percent of births to mothers who smoked while pregnant. The national average of total births that are financed by Medicaid is 41 percent. West Virginia ranks above the national average with 50 percent of total births as Medicaid births in the State.

Other indicators of good health include low birth weight babies and preterm babies. For both indicators, West Virginia ranks above the national average. The national averages of low birth weight babies and preterm births is 8.2 percent and 12.7 percent respectively. A 9.6 percentage of births in West Virginia are low birth weight babies, and 14.4 percent of births in the State are preterm births. The percentage of low birth weight babies and preterm babies has continued to increase since 2003.

The national average of teen birth rates per 1,000 females is 40.4. West Virginia ranks above the national average with a teen birth rate of 43. Other states, including Kentucky and North Carolina, also ranked above the teen birth rate national average. West Virginia's infant mortality rate of 8.1 is above the national average of 6.9. Ohio, Maryland, Pennsylvania, Virginia, and North Carolina also rank above the national infant mortality rate. West Virginia's child death rate of 26 is also above the national average of 20.

The current national average of children, ages zero to five, without health insurance is 11 percent. West Virginia ranks below the national average with only 4 percent of children, ages zero to five, without health insurance. Ten percent of Maryland and Virginia's children are without health insurance, and 11 percent of North Carolina's children are without health insurance. Immunizations are also an important part of good health, and 84 percent of West Virginia's two-year olds were immunized in 2006. This is slightly above the national average of 83 percent. North Carolina and Maryland place above the national average with 87 percent of two-year olds who were immunized.

West Virginia's child death rate of 26 per 100,000 children is significantly above the national average of 20. Kentucky, with a child death rate of 25, joins WV. Ohio, Pennsylvania, Virginia, and North Carolina are essentially at the natural average with Maryland being significantly lower at a rate 16 child deaths.

In most cases, the data indicates that WV's indicators of "Good Health" do not compare favorably with the national averages, but the number of children without health insurance is an exception as WV has a much better performance. The immunization rate for WV, 84 percent, ranks slightly above the national average of 83 percent. While there are variations, in most cases WV does not compare well with other surrounding states except Kentucky. The data indicates the greatest problem is with pregnancy. While the figure for mothers receiving prenatal care is better than the national average, and those for surrounding states, all other indicators are generally worse. Many of the poor indicators relate to smoking during pregnancy which indicates the desirability of a significantly increased effort to deal with that issue.

## STRONG FAMILIES

**Table 2: Quality Indicator – Strong Families**

<b>Indicator</b>	<b>WV</b>	<b>KY</b>	<b>OH</b>	<b>MD</b>	<b>PA</b>	<b>VA</b>	<b>NC</b>	<b>National</b>
Births to mothers with less than a 12 <sup>th</sup> grade education	18.4%	21.3%	17.1%	14.2%	16.3%	15.2%	23.3%	20.9%
Children in single-parent families	29%	33%	33%	33%	31%	30%	34%	32%
Children living with cohabiting domestic partners	6%	8%	7%	7%	7%	5%	6%	7%
Children in the care of grandparents	6%	6%	4%	5%	4%	4%	5%	5%
Children in households where the household head is a high school dropout	13%	15%	11%	10%	11%	11%	16%	16%
Children living in families where no parent has full-time, year-round employment	39%	37%	34%	28%	31%	27%	34%	33%
Low income young children with a parent employed full-time	46%	45%	45%	47%	49%	55%	50%	51%
Child victims of abuse (per 1,000 of child population)	24.9	19.9	15.4	10.4	1.5	3.5	15.5	12.1

Source: 2008 Kids Count Data Book: State Profiles of Child Well-Being; NCCP: United States Early Childhood Profile; Child Welfare League of America: National Data Analysis System.

The national average of births to mothers with less than a 12<sup>th</sup> grade education is 20.9 percent, and West Virginia falls below the national average with a percentage of 18.4. North Carolina and Kentucky both rank above the national average with 23.3 percent and 21.3 percent respectively of births to mothers with less than a 12<sup>th</sup> grade education. The national average of children in single-parent families is 32 percent. In 2007, 29 percent of children in West Virginia lived in single-parent families. Six percent of children in West Virginia live with cohabiting domestic partners, and 6 percent of children in the State are in the care of the grandparents.

Thirteen percent of children in West Virginia live in a household where the household head is a high school dropout. This rate is below the national average of 16 percent. In West Virginia, 39 percent of children live in families where no parent has full-time, year-round employment. The rate is above the national average and the percentage rates of the surrounding states. Nationally, 51 percent of low income young children are with a parent that is employed full-time. The national average is above the rate, 46 percent, of West Virginia.

The national rate of child victims of abuse and neglect per 1,000 children is 12.1 (Child Welfare League of America: National Data Analysis System). The rate of child victims of abuse for West Virginia is 24.9 which is more than twice the national average. Pennsylvania and Virginia fall far below the national average with rates of 1.5 and 3.5 respectively while the other surrounding states are above the national average. Of greatest concern should be the child victims of abuse. The studies reviewed in this report detail means of reducing this incidence. While there may seem to be a relationship with employment data, surrounding states with comparable data on employment have significantly better outcomes on child abuse and neglect.

The causes of child maltreatment are not well understood, although abuse and, especially, neglect, are more common in poor and extremely poor families than in families with higher incomes. Child abuse or neglect is often associated with physical injuries, delayed physical growth, and even neurological damage. Child maltreatment is also associated with psychological and emotional problems such as aggression, depression, and post-traumatic stress disorder.

In addition, child abuse is linked to an increased risk of substance abuse, eating disorders, obesity, depression, suicide, and sexual promiscuity later in life. Women who were victims of physical assault as children are twice as likely to be victims of physical assault as adults.

## POSITIVE EARLY LEARNING EXPERIENCES

**Table 3: Quality Indicator – Positive Early Learning Experience**

<b>Indicator</b>	<b>WV</b>	<b>KY</b>	<b>OH</b>	<b>MD</b>	<b>PA</b>	<b>VA</b>	<b>NC</b>	<b>National</b>
Children enrolled in nursery school, preschool or kindergarten ages three to four	36%	41%	42%	50%	45%	46%	46%	46%
Children enrolled in nursery school, preschool or kindergarten ages three to five	49%	55%	54%	62%	57%	58%	59%	58%
Children under age six in family-based childcare	27%	27%	30%	29%	27%	30%	29%	27%
Young children who are read to every day	54%	52%	51%	51%	57%	51%	50%	48%
Children without a computer at home	31%	29%	29%	22%	25%	27%	34%	31%
Children in households where the householder has a bachelor's degree or higher	20%	22%	26%	39%	29%	35%	26%	27%

Source: 2008 Kids Count Data Book: State Profiles of Child Well-Being; NCCP: United States Early Childhood Profile

Nationally, 58 percent of children ages three to five are enrolled in nursery school, preschool, or kindergarten. In West Virginia, only 49 percent of children are enrolled. In Virginia 58 percent are enrolled, in North Carolina 59 percent, and in Maryland 62 percent are enrolled in nursery school, preschool, or kindergarten. In West Virginia, 27 percent of children under six are in family-based child care.

In West Virginia, 54 percent of young children are read to every day. This is above the national average of 48 percent. Nationally and in West Virginia, 31 percent of children are without a computer. Other states such as Maryland (22 percent), Pennsylvania (25 percent), and Virginia (27 percent) fall below the national average of children without computers. Nationwide, 27 percent of children are living in households where the householder has a bachelor's degree or higher. In West Virginia only 20 percent of children live in households where the householder has a bachelor's degree or higher. However, this percentage has increased since 2002 when only 17 percent of children lived in households where the householder has a bachelor's degree or higher.

While the current statistics on three and four year olds in nursery school, preschool or kindergarten are below the national average—that will change. WV has enacted legislation requiring each county school district to have voluntary pre-school available (either public or private) for all four year olds and three year olds with special needs. The goal is to have 80 percent enrollment of those eligible by 2012.

The major issue in the area of early child care concerns the quality of the programs offered. As the report shows, with salaries significantly below alternative occupations in WV, there is difficulty in attracting and keeping quality child care staff.

An additional problem concerns the availability of quality child care for infants and toddlers of working parents. The cost of this care is excessive compared to income forcing many out of the system. A common practice of centers has been to cross-subsidize the costs of ECE, with parents of preschool age children charged somewhat above cost in order to charge parents of infants and toddlers below the actual costs. This is due to the much lower adult/child ratios required for children above age three. If preschoolers are served in a separately financed system, the potential for cross-subsidy is likely to be lost, making high quality ECE even more unaffordable for parents of infants and toddlers. As the pre-k program has expanded, that subsidy has been reduced forcing many centers to close or stop offering infant care.

## **REVIEW OF EVIDENCE BASED RESEARCH: PRENATAL**

The effectiveness of prenatal care as a way of both improving outcomes for children and mothers and significantly reducing health care costs has a long history in the research. These inquiries show that the high rates of morbidity and mortality which arise from pre-term and low birth weight babies impose an immense burden on the health, education and social services provided by government (Petrou, Satch and Davidson 2001; O'Neill 2004). In contrast Huntington and Connell (1984) have suggested that cost savings are not the only criteria by which the value of perinatal care should be evaluated. They cite happier, healthier pregnancies, better relationships with providers, better parenting, more complete immunizations and reduced family stress as unmeasured but definite benefits.

Low birth weight (LBW) has been determined to be the principal cause of infant mortality and a leading cause of childhood illness. Women who receive prenatal care in the first trimester were four times more likely to have positive infant health outcomes as those who did not (Lowry and Beikirch 1998). This result was confirmed in a study of undocumented immigrants which found women without prenatal care were four times more likely to deliver a LBW baby and seven times more likely to deliver a premature infant (Lu 2000).

One study found that if all US women had adequate prenatal care, 98.5 percent of the additional cost incurred for each LBW baby would be eliminated (Messonnier 1999). In one extensive review of five cost/benefit studies on the effectiveness of prenatal care, it showed savings for each dollar spent of \$1.49, \$2.57, \$3.38, \$4.70 and \$7.00 depending on the extent of intervention (Division of Science 1998). An older study in Texas found a \$2 return on each dollar spent by reducing the number of admissions to a NICU (Munsen 1992). A return of \$2.57 for each dollar spent was reached in Gorsky and Colby's (1989) study.

The incidence of LBW is significantly higher for those who do not receive early prenatal care. Mothers who received no prenatal care are three times more likely to give birth to a low birth weight infant, and increases the risk of death of the infant by five times (Maternal and Child Health Bureau 2008). The death rate for Hispanic woman who did not receive prenatal care was 10.3 per 100,000 compared to 6.0 for those who did (CDC 1999). Ural, et al. (1998) studied inner-city patients with a history of pre-term delivery (PTD) and found a significantly lower incident of PTD among women who received care. Lower incidents of PTD as a result of care received are also correlated to lower total health care costs for both mother and child.

A series of studies were conducted during the 1980's and 1990's on the relationship between having insurance (Medicaid, state programs and private insurance) and the receipt of prenatal care. In a study covering three states, the conclusion was reached when undocumented women received care under a state program in two states, the utilization rate was 10 times greater for women in a state where no prenatal care was covered (Minkoff 2001). Lu (2000) determined that if California eliminates prenatal coverage it could expect an increase in costs of post natal care between \$3.33 and \$4.68 for each dollar of reduced spending. Two studies for Washington found that after passage of the Maternity Care Access Act in 1989, which provided prenatal care for low income women, the rate of indigent women not receiving prenatal care decreased by 54 percent with a reduction in LBW babies of 33 percent (Cawthon and Salazar 1999; Baldwin et al. 1998). The President's Council of Economic Advisors (1997) found the expansions in Medicaid have reduced the incidence of LBW babies, decreased infant mortality and increased the number of infants seeing a doctor. A study completed 20 years ago strongly suggested that pre-natal care for indigent women would result in a net reduction in perinatal morbidity and health care

expenditures for infant morbidity by one half and advocated universal perinatal care (Moore, Origel and Resnich 1986).

The results summarized from the studies above have been critiqued as overestimating the benefits of perinatal care. McCormick and Siegel (2001) found that more attention should be paid to women's health than is now the case as the main success of prenatal care has been the preservation of women's health. Fric (1999) found "selection bias" in the studies. Women with better educations are more health conscious, abstain from alcohol, smoking, and drugs, and are more likely to self select prenatal care thus skewing the results when compared to women who do not possess the aforementioned attributes. Fiscella (1995) and Huntington and Connell (1984) make the same argument.

On the other hand Liu (1998) found the benefits of prenatal care to be underestimated substantially. Using an econometric model he concluded that that the overall estimated effectiveness of prenatal care is over five times higher after controlling for the selection effects as women with poorer health are likely to receive more prenatal care.

A study completed over a decade ago sought to determine what pre-natal interventions were most effective (Alexander and Korenbrot 1995). The collective evidence they reviewed indicated the most efficacious prenatal care to be:

- Psychosocial (aimed at smoking, drinking and drug use)
- Nutritional (aimed at inadequate weight gain by mothers)
- Medical (aimed at general morbidity)

A much broader and unified conception of prenatal care than what exists currently was advocated. This finding was backed in Donovan's study (1994) which found that special and more extensive interventions resulted in a further 19 percent reduction in premature births over those who received less intensive care. These enhanced interventions included more frequent visits, classes in prevention education and instruction on what to expect in the hospital.

## **FAMILY PLANNING**

Since the mid-1990's states have been allowed to obtain waivers under Section 1115 of the Medicare program to women and men who are not eligible under other programs (Sills 2007). Twenty-six states now have these waivers. There is mounting evidence that over 50 percent of all pregnancies are either unplanned (those reported by the woman to be mistimed or unintended) unwanted (if the respondent reports that she did not want to become pregnant now or at any time in the foreseeable future) or both. Family planning programs have produced real savings for the states. The federal Center for Medicare and Medicaid Services found family planning programs reduced Medicare/Medicaid costs by \$3 for every dollar spent on the programs (Sills 2007).

According to the CMS, burdensome federal compliance requirements (budget neutral rule), as well as, the continuing controversy surrounding contraceptive use and sexual activity outside marriage are significant barriers to family planning programs in some states. The Deficit Reduction Act of 2005 instituted major policy changes which have adversely affected access to family planning services (Kaiser Family Foundation 2007). While no states yet have used their increased discretion to limit or curtail family planning services, the possibility is there particularly as it relates to the distribution of contraceptives.

Several studies have found that by providing contraceptive services to women, significant savings are experienced (Edwards, Bronstein and Adams 2003). The federal government requires that the states with family planning waivers demonstrate that the savings at least offset the program costs. This demonstration has been made in all states with each indicating the savings to be several times the cost (Kaiser Family Foundation 2007). The Guttmacher Institute recommends that the eligibility of family planning services be extended to women with incomes of 200 to 250 percent of the Federal Poverty Level (FPL) (Frost, Sonfield and Gold 2006). That study found that such an expansion would reduce both unintended births and abortions.

A review of twenty-nine studies completed at Johns Hopkins School of Public Health was critical of the results (Becker et al. 2007). That report found that the effectiveness of the programs varied widely depending on the characteristics of the facility, the provider, the client and the visit.

The Guttmacher Institute based on their review of state best practices has recommended that all states adopt these innovations which include (Sonfield, Alrich and Gold 2008):

- Reaching out to new populations by relaxed eligibility criteria
- Streamlining enrollment procedures particularly by use of technology
- Using community based educators
- Training family planning providers
- Speedy payments to providers
- Developing a unified package of reproductive health services under Medicaid to remove the existing fragmentation and resulting lack of communication to include the three core programs:
  - Treatment of pregnant women
  - Family planning
  - Breast and cervical cancer screening and treatment

West Virginia is one of the leading states in provision of family planning services. The Guttmacher Institute (2006) found the state ranking 6<sup>th</sup> in service availability, 14<sup>th</sup> in laws and policies, 7<sup>th</sup> in public funding and 10<sup>th</sup> overall.

## **NUTRITION**

One of the most thoroughly researched areas in maternal health and positive birth outcomes is prenatal nutrition. Barker (2003) in a study completed in England found that the most important period of human growth and development occurs before birth and during infancy when organ and nervous systems grow and are programmed. The essential foods and nutrients that a pregnant woman should receive include macronutrient calories, proteins, carbohydrates, essential fatty acids, minerals (calcium zinc, iron), vitamins (B series, C, D), and micronutrients (McGregor 2006). In her review of the research, Fowles (2004) found that healthy eating during pregnancy substantially promotes optimal weight gain and reduced complications for pregnant mothers.

The most extensive nutrition program comes from the US Department of Agriculture (USDA). In their 2006 report on the Women's, Infants and Children (WIC) program, they found half of the WIC participants were children accounting for 49 percent, while women and infants accounted for 25 percent and 26 percent, respectively (Office of Research, Nutrition and Analysis 2007). The most frequently reported risk for women was high weight-for height, with dietary risks the most prevalent risk for all classifications reported.

Part of the WIC program is to encourage women to breast feed their infants for at least 6 months. This goal is far from achievement with the national average percentage of women breastfeeding at 6 months of only 43.1. West Virginia data shows only 22.5 percent of women breastfeeding at 6 months (CDC 2008).

In the USDA report, several studies are cited which demonstrate the success of the program:

- WIC women see physicians earlier and receive more timely care
- WIC participation improves length of pregnancy and birth weight
- WIC participation reduces late fetal death
- WIC participation increases brain growth
- WIC children have better immunization records

In addition, the report claims that there is a significant reduction in costs. For a six state study, a dollar invested in WIC produced results ranging from \$1.92 to \$4.21 reduction in Medicaid costs.

## **SMOKING, ALCOHOL AND SUBSTANCE ABUSE**

The National Governors Association (2001) citing data from the March of Dimes, Center for Disease Control and Prevention (CDC) and the US Public Health Service found “quitting smoking is the most important action a pregnant woman can take to prevent serious illness and complications for herself and her child.” Their report cites the following statistics in support. Smoking is responsible for:

- 20-30 percent of all LBW babies
- 8-14 percent of preterm deliveries
- 5-10 percent of all perinatal deaths

The cost associated with birth complications to pregnant smokers are nearly \$2 billion annually and if all pregnant women who smoke were to stop, there would be a 10 percent decline in the infant death rate. Wojciak (1999) estimated a return of \$2-\$3 dollars for every dollar spent on smoking cessation programs.

In 2000, the US Public Health Service (USPHS) published a “best practice guideline for clinicians treating pregnant women”. Called the “5 A’s”, it is composed of these steps:

- *Ask* patients if they smoke
- *Advise* them to quit with clear, strong and personalized messages
- *Assess* their willingness to quit within 30 days
- *Assist* them to develop a specific quit plan and provide practical and problem solving counseling
- *Arrange* for more help at subsequent office visits.

When used, these five steps have proven highly effective with quit rates as high as 70 percent (Robert Wood Johnson Foundation 2007).

The greatest barrier is getting the providers to use the five-step program. The American College of Obstetrics and Gynecology (ACOG) found that while most of their members surveyed asked about smoking and advised against it, the majority did little else (ACOG Committee Opinion No. 316 2005). The ACOG has now developed a kit (2002) which can be used. A study conducted

in North Carolina found only 31 percent of their survey respondents used the 5A's (Hartmann et al. 2007). The predominant reasons given for failure were:

- the lack of practice resources
- and failure to receive reimbursement for counseling.

In a very recent review of the impact of substance abuse during pregnancy, Lester and Twomey (2008) related that almost 4 percent of pregnant women used illicit drugs during pregnancy and over 30 percent consumed alcohol and/or smoked.

They provide data from a variety of sources which found:

- 800,000 to 1 million unborn children are exposed to illegal drugs each year
- 40 percent of all cases of abuse and neglect are related to illegal drug use
- Use of illicit drugs by one or more parents increases the risk of maltreatment by threefold
- 11 percent of all children live with at least one parent who is an alcoholic or addicted to drugs

The conclusion reached by Lester and Twomey is that these are conservative estimates since they were based on self reports and “. . . gestational exposure to licit drugs such as alcohol and cigarettes and illicit drugs (marijuana, cocaine, methamphetamine and opiates) is the single largest preventable cause of *in utero* developmental compromise of infants in the USA today” (67).

## **STATUS REPORT OF PERINATAL CARE**

The West Virginia DHHS produced a comprehensive report on their perinatal care provided under a variety of federal/state programs (Williams and Clark 2006). The report provided the following statistics:

- Family planning is a success story saving three dollars in costs for newborns (primarily unwanted pregnancies) for every one dollar spent. For this service the state ranked 6<sup>th</sup> in availability among the 50 states and DC.
- Early preventive prenatal care and education are offered by the West Virginia Perinatal Program and the “Right from the Start Project (RFTS). These programs work through 76 community agencies which contract to provide care coordination and enhanced education. This is delivered by 165 Designated Care Coordinators (licensed social workers and registered nurses). These services are provided in-home. Transportation services are provided for those who cannot get to care. Approximately 15,000 participants were served that year.

The report also listed “challenges to prenatal care” in West Virginia.

- *Access to care.* There is a need to establish a “continuum of care” for patients which requires consistent access to quality health providers and services. The report notes that first trimester care has improved from 60 percent to 86 percent in the past quarter century. But there are still gaps which need to be addressed.
- *Provider availability.* Gaps in the distribution of providers create geographic barriers to prenatal care. Most West Virginia counties are classified as “medically underserved” which means there is a shortage of obstetricians, nurse practitioners, nurse midwives and family practice physicians.

- *Financial constraints.* West Virginia has experienced numerous funding cuts in reimbursement rates for service provision. The RFTS provider network has not increased reimbursement rates for Medicaid patients since 2003. Since the costs of providing prenatal care have dramatically increased, many providers have opted to discontinue prenatal services.
- *Smoking during pregnancy.* With the highest rate of pregnant women smoking in the nation, most efforts at public education have not produced results. While nationwide the number of smoking pregnant women has dropped almost 40 percent, the decline in the last ten years in West Virginia is only 6 percent. In-home visitation has proven to be somewhat more successful.
- *Utilization of prenatal care.* From the data in the state's Pregnancy Risk Assessment Monitoring System (PRAMS) the following reasons were found as to why women did not seek prenatal care. (listed in order of importance)
  - Inability to get appointment
  - No money or insurance
  - Did not know they were pregnant
  - No transportation
  - No child care
  - Too much going on

To date there has been a large amount of data collected but a cost/benefit analysis of these programs has not been performed to establish their comparative effectiveness or return on dollars spent.

The National Governor's Association's "Center for Best Practices" has recommended that states implement initiatives that (O'Neill 2004):

- Improve access to medical and health care. This allows for early identification of mothers at risk of delivering a premature or LBW baby along with treatment to reduce those risks.
  - *Increasing Medicaid Eligibility.* Currently Medicare covers 40 percent of the nation's births. The federal requirement is that services are to be provided to women at or below 133 percent of the federal poverty level (FPL). Twelve states have gone beyond this by providing coverage for those at 185 percent or 200 percent of the FPL and one has proscribed 300 percent.
  - *Providing for Presumptive Eligibility.* Under this approach prenatal care is offered to all women without having to prove Medicaid eligibility. In 32 states, eligibility is assumed and care provided until there is a formal determination.
  - *Adopting Continuous Eligibility.* Women and children for the first year of the child's life are granted Medicaid services regardless of changes in income levels in 15 states.
  - *Expanding State Children's Health insurance Program (SCHIP).* Five states have requested and received waivers to the SCHIP program to extend its benefits to women who are pregnant rather than waiting until they give birth.
  - *Obtaining Family Planning Waivers.* Eighteen states have obtained federal approval to extend Medicaid eligibility for family planning services to individuals who would not otherwise qualify.
  - *Utilizing Home Visitation Programs.* Early investments in home visiting programs have been shown to reduced costs associated with foster care placements, hospitalizations, emergency room visits and unintended pregnancies.

- Twenty-one states now have the “Nurse Family Partnership” program of visitation which has produced a savings of \$4 for every dollar spent.
- *Improving Birth Defect Surveillance, Monitoring, Early Intervention and Prevention.* The Center for Disease Control now has agreements with 28 states to fund programs in these areas and to provide early access to health services for children with birth defects.
  - *Expanding Comprehensive Newborn Screening.* All states screen for at least two disorders (PKU and congenital hypothyroidism) and half screen for galactosemia, sickle cell disease and hearing loss. Most states screen for less than eight of the 36 disorders which could be detected with early screening.
  - Encourage good nutrition and healthy lifestyles. Eating health foods, taking folic acid, treating HIV and living without violence.
    - *Improve Nutrition.* While all states have the Women Infants and Children (WIC) program to provide nutritious foods and referrals to health care, many eligible infants are not being served due to lack of publicity about the programs availability. Most states need to more effectively publicize their programs.
    - *Folic Acid Consumption Campaigns.* Folic acid helps prevent birth defects if taken during pregnancy by preventing neural tube defects (spina bifida). These programs are 75 percent effective and each case prevented saves the government over a half million dollars in lifetime costs.
    - *Prevent Perinatal HIV/AIDS Transmission.* The CDC has recommended that all pregnant women be tested for HIV. Use of approved medications can reduce transmission of HIV from mothers to infants. Thirty-two states are now involved in a CDC surveillance project implementing this screening.
    - *Prevent violence.* Physical violence is inflicted on 2.5 to 6.6 percent of all pregnant women. It results in fetal death and LBW babies. Only four states have fully implemented the American College of Obstetricians and Gynecologists recommendation that all patients be screened for violence throughout pregnancy.
  - Reducing use of harmful substances. This includes smoking, drinking alcohol and using illicit drugs while pregnant.
    - *Encourage Abstinence from Smoking, Drinking and Drug Use.* All states conduct public and provider education campaigns to alert pregnant women that they should not smoke, drink alcohol or take illicit drugs while they are pregnant, however the programs have varying levels of success. These programs are most successful when part of a home visitation project.
    - *Improve Access to Smoking Cessation.* One analysis (O’Neill 2004) of 18 studies found that even a brief 5-15 minute counseling session combined with self help materials can reduce smoking by 30-70 percent. While the vast majority of doctors tell their patients not to smoke, only a small minority counsel them on effective methods. It is recommended that Medicaid reimbursement be available for smoking cessation programs in all states as is the case in 36 states.
    - *Expand Availability to Substance Abuse Treatment.* While there is a clear link between illicit drug use and poor birth outcomes, only 19 states have created or funded drug treatment programs specifically targeted to pregnant women.

## **REVIEWS OF EVIDENCE BASED RESEARCH: ZERO TO THREE YEARS**

The recently released report from Harvard's Center on the Developing Child is the most complete and science-based evaluation of the returns for investment in early childhood policies. It begins with this observation:

It is widely recognized that the path to our nation's future prosperity and security begins with the well-being of all our children. To this end, one of the most important tasks facing policymakers is to choose wisely among strategies that address the needs of our youngest children and their families. . . As scientists we believe that advances in science of early childhood and early brain development, combined with the finding of four decades of rigorous program evaluation can now provide a strong foundation upon which policymakers and civic leaders with diverse political values can design a common, effective and viable agenda (Center of the Developing Child at Harvard University 2007, 2).

The Harvard Center's report (2007) concludes a number of factors which enhance positive development (effectiveness factors) in the first five years of life.

- Access to basic medical care for pregnant women and children can help prevent threats to healthy development as well as provide early diagnosis and appropriate management when problems arise.
- For vulnerable families who are expecting a first child, early and intensive support by skilled home visitors can produce significant benefits for both the child and parents.
- For young children from low-income families, participation in very high-quality center-based early education programs has been demonstrated to enhance child cognitive and social development.
- For young children experiencing toxic stress from recurrent child abuse or neglect, severe maternal depression, parental substance abuse, or family violence, interventions that provide intensive services matched to the problems they are designed to address can present the disruption of brain architecture and promote better developmental outcomes.
- For families living under the poverty level, work-based income supplements for working parents have been demonstrated to boost the achievement of some young children.
- Environmental policies that reduce the level of neurotoxins in the environment will protect fetuses and young children from exposure to substances that are known to damage their developing brains.
- No single program approach or mode of service delivery has been shown to be a magic bullet.
- "Scaling up" successful model interventions into effective, multi-site programs is a formidable challenge that can be addressed, at least in part, by establishing quality standards and monitoring service delivery on a routine basis.
- Return on investment is more important than up-front costs.

Research strongly indicates that the period between birth and three years is the time of the most rapid cognitive, linguistic, social, emotional and motor development (Center on the Developing Child at Harvard University 2007; Regalado and Halfon 2002). The science behind these conclusions is not reviewed in this report because it is adequately substantiated by the work of

the National Scientific Council on the Developing Child, National Research Council and Institute of Medicine (Shonkoff and Phillips 2000; Cunha et al. 2005).

Many of the issues and programs discussed in this section carry over from the previous one. Health, nutrition, home visitation, substance abuse programs should continue after birth for several years, but the early years are most critical.

## **NUTRITION**

Considering the epidemic in the US of overweight children, nutrition programs along with those efforts to increase physical activity provide significant returns (Institute of Medicine of the National Academies 2004; CDC 2008; Office of the Surgeon General 2007). The Surgeon General (2007) found the obesity rate among children ages 2-5 had more than doubled in the past 25 years. Early age obesity almost insures that obesity will continue through the elementary and secondary school years. The Institute of Medicine (2004) has documented the link between a variety of physical health (Type 2 diabetes, hypertension, hepatic steatosis, sleep apnea, certain cancers, heart disease, osteoarthritis), emotional health (low self esteem, negative body image, depression) and social health problems (stigma, negative stereotyping, discrimination, teasing and bullying).

The report goes on to relate that obesity reduces overall adult life expectancy and increases the prevalence of chronic disease conditions among adults. This not only increases medical costs but leads to greater work absenteeism and decreased worker productivity. While many of the problems associated with obesity are not present in childhood, the foundation for these are laid in those years and increase the risk of their developing in adulthood (Daniels 2006).

As the research shows, fighting childhood obesity will require multi-level and multi-faceted interventions. But nutrition programs such as the Special Supplement Nutrition Program for Women, WIC and Food Stamps have been found effective in improving young childrens' diets (Gordon and Nelson 1995; Rose, Habicht and Devaney 1998). As was documented in the section on prenatal and perinatal care, the success of nutrition programs both pre-birth and post-birth has been conclusively established. WIC programs are especially effective for children in low income families (Bitler and Currie 2004; Ludwig and Miller 2005). Additional information about West Virginia's WIC Program is located in Appendix G.

## **HEALTH CARE**

The National Academy for State Health Policy has reviewed the literature on early child health (Kaye, May and Abrams 2006). They found that 15-18 percent of all children in the US had a developmental disability with the rate for Medicaid children being almost 40 percent. Most of these disabilities can be diagnosed prior to kindergarten entry, yet only 20-30 percent are diagnosed before they start school. At the same time 95 percent of all children see a doctor prior to school entry.

The research identifies lack of assessment for developmental disabilities and coordination of the many programs designed to promote infant and toddler health as the major issues. Acute care does appear to be available, but preventive care does not always happen (Halfon et al. 2005). The Halfon study lists the components of "preventive pediatric services" focused on child development.

- Ongoing assessment to identify developmental risks and problems (developmental screening)
- Education for parents on child development and ways of promoting learning and growth (anticipatory guidance)
- Intervention for developmental concerns either at the pediatric practice, specialist or community program
- Coordination of intervention and treatment services.

Each of these is contained in an eight state initiative call ABCD (Assuring Better Child Health and Development). ABCD recognizes that there are four federal and state programs designed to deliver health care to infants and toddlers that must be coordinated to achieve the highest level of performance capable of each program (Kaye, May and Abrams 2006). These include Medicaid, the Maternal and Child Health (MCH Title V), Part C of the Individuals with Disabilities Education Act (IDEA): Early Intervention Program for Infants and Toddlers with Disabilities, and the Substance Abuse and Mental Health Administration (SAMHSA).

- The first program, Medicaid, provides health coverage to half of all poor and low income children. A requirement is for children to receive Early and Periodic Screening, Diagnosis and Treatment (EPSDT). Under the program, to receive the maximum federal match, the state must provide any covered service to correct or reduce a developmental deficiency (Centers for Medicaid and Medicare Services 2006).
- The second program, the MCH Title V early intervention programs and mental health services received federal funding under the MCH block grant. States have considerable flexibility as to what services to provide, but all must include comprehensive care for infants, children and adolescents (Health Resources and Services Administration 2006).
- The Early Intervention Program for Infants and Toddlers with Disabilities, the third program, provides funding to families with children under age three with a developmental delay, or a mental or physical condition that is likely to result in a delay. Because individual states are free to establish their own standards, there is considerable variation among the states as to which children qualify (Shackelford 2005).
- The final program, the federal SAMHSA, provides some assistance to states. However, these are primarily state programs designed specifically to reach children with serious emotional disturbances and their families.

Since these four programs are overlapping and in different federal and state agencies with different and sometimes conflicting standards, the ABCD program has its goal to:

- Create models of service delivery and financing that promote quality services primarily for Medicaid eligible children
- Develop policies and programs that assure healthy plans and pediatric providers have the knowledge and skills needed to enhance young children's healthy development.

Despite the different policies and programs implemented by the ABCD program in each of the eight states, it is viewed as "successful." Kaye, May and Abrams in a study (which did not include West Virginia) provide some lessons learned from the ABCD programs:

- *Eligibility and Benefits.* Eligibility was not a problem in the ABCD states but covered benefits were. The most frequent improvement was to encourage the use of formal, valid

screening tools as part of an EPSDT screen. Clarifying that children with specific mental health problems were eligible for the Early Intervention (Part C) program.

- *Improving Reimbursement.* The most frequently cited improvement was the clarification that providers can bill for conducting a developmental screen for reimbursement under Medicaid and other programs.
- *Improved Performance.* States in the ABCD program adopted or clarified policies aimed at improving the delivery of development services. These included mandating that HMO and private insurers cover these, requiring feedback from follow-up providers to primary care clinicians and setting standards for the measuring performance in the delivery of child development services.
- *Clearer communication of state policies.* Legislation and regulations were changed to clarify contracts. Provider manuals were also updated, and websites and other documents were developed that defined state policies.
- *Changed eligibility and claims processing systems.* This was done with the goal of reducing paperwork, eliminating confusion and speeding enrollment and reducing time to reimbursement.

The investigators concluded, “the ABCD experience has yielded a plethora of policy models that can serve as examples for other states interested in improving preventive care for young children” (3).

## **PEDIATRIC PROVIDERS**

A review of the research on the effectiveness of health care programs for very young children over the past 20 years consistently focused on one problem; the failure by pediatric providers to adequately screen for developmental disabilities (Regalado and Halfon 2002). Noting that most pediatricians do not perform a complete assessment for developmental disabilities during a clinic visit, Regalado and Halfon (2002) have found no definitive reason as to why that is the case. Regalado and Half suspect that this is the case because of:

- the lack of time in an office visit, the focus on acute medical issues,
- the lack of specific training in assessment and
- the failure to receive adequate reimbursement for screening and counseling.

They have provided a comprehensive list of recommendations based on their extensive review of the research.

- *Use of structured assessments for developmental problems.* The research indicates that most current assessments for developmental disabilities are “informal” and incomplete if they are done at all. There are many appropriate instruments available which can serve this purpose. The key to success is for the focus to be on the concerns of the parent regarding their child’s development.
- *Assessment for psychosocial issues.* Psychosocial issues have been connected with poor parenting practices (depression, substance abuse, domestic violence and parental history of abuse). The use of a structured questionnaire was found to identify more problems than clinical judgment.
- *Assessment of child behavior.* In this area, the only assessment instruments concern temperament and these have little validation. There is a need for more research based

assessment instruments. The studies did indicate that targeted assessments of 4 month old children did have beneficial results.

- *Parental Education.* While there has been little quality research completed on parental education, the small amount that has been completed indicates that “anticipatory guidance” by physicians is effective. Anticipatory guidance is where issues are expected and handled prior to problems becoming evident. Anticipatory guidance is not included or is only touched upon briefly in medical training including that for pediatricians. The discussion in medical school that does take place concerns developmental stages and common behavior problems which the literature shows is not particularly effective and may be misguided.
- *Group well-child care.* An option for the delivery of assessment and parental education is group well-child care. This can be delivered by an individual, who is not a pediatrician, trained to do assessments. The setting appears to foster discussion as it is less intimidating than a doctor’s office and more time can be devoted to the issues.
- *Care coordination.* Perhaps the major problem identified in the research is the problem of care coordination. The authors comment, “This aspect of care represents a constant logistical problem for practices and a source of frustration for parents who must confront an overwhelming and fragmented service network for early intervention, special education and social services” (viii). Federal government sponsored pilot projects such as “Healthy Start” hold some promise but have yet to be fully evaluated (Health Resources and Services Administration and Maternal and Child Health Bureau 2006). Under Healthy Start there were five specific service components related to improved coordination (outreach, case management, health education, depression screening and interconceptual care) and four related to delivery systems (outreach, health education, case management coordination with Title V and Local Health System Action Plans). A more complete discussion of Health Start is in Appendix C.

The American Academy of Pediatrics “Bright Futures Project,” sponsored by the Maternal and Child Health Bureau of the US Department of Health and Human Services, has prepared an exhaustive set of Guidelines depicting what interventions to diagnose developmental disabilities should take place at the recommended pediatric visits over the first three years (Hagan, Shaw and Duncan 2008). Bright Futures is detailed in Appendix D.

## **IMMUNIZATIONS**

After a cost-benefit analysis was performed in Connecticut, it was found that every dollar invested in vaccination saved the state \$6.21 (Hatziaandreu et al. 1994). The CDC selected vaccination of children as one of the top 10 public health achievements of the 20<sup>th</sup> Century (Wake Forest University School of Medicine 2008). In Colorado the health care costs of vaccination preventable disease was over \$25 million in 2007 (O’Leary et al. 2008). Nationwide figures are not available.

While vaccinations for most diseases are required in all states prior to school entrance, the greatest risk is still in young infants and children under two years of age (O’Leary et al. 2008). The vaccine preventable diseases occur most frequently for children under 2 years of age. While current school immunizations laws improve vaccination rates for school age children, the recommendation is that the requirements for vaccinations be extended to include infants and toddlers.

Recent studies have established that both mothers and young children should receive influenza immunizations (Advisory Committee on Immunization Practices 2008). Vaccination of mothers reduced influenza among young children by 63 percent (Johns Hopkins University Bloomberg School of Public Health 2008). It is now recommended that all children over age 6 months receive “flu shots” as well as their mothers. This practice should become part of either clinical visits or in-home visitation if completed by nurses.

## **ORAL HEALTH**

Oral health is important for toddlers and young children even if their “baby teeth” have not fully developed. It was estimated that 40 percent of all children have dental caries (tooth decay) prior to kindergarten (National Institute of Dental and Craniofacial Research 2000). In addition to pain, tooth decay leads to infections as well as problems with eating, speaking and learning (Hagan, Shaw and Duncan 2008). Dental caries were identified as the number one health problem for students entering kindergarten (Gift, Reisine and Larach 1998).

Tooth decay is preventable, but there are other issues involved in oral health care, such as teething, and thumb or finger sucking as a pacifier habit. Dietary habits, particularly sugar consumption, are the primary cause of dental problems. They can be addressed early before serious damage is done.

The professional associations which are part of the dental community of practice (American Dental Association, Academy of General Dentistry and the American Academy of Pediatric Dentistry) have advocated that all children should have a “dental home” by age one (American Academy of Pediatric Dentistry 2004). The dental home provides comprehensive oral health care and regular checkups. There is evidence that children who begin dental visits between ages one and two cost Medicare 60 percent less in total health care costs than those who wait longer (Savage et al. 2004).

## **CHILD ABUSE AND NEGLECT**

An extensive body of evidenced based research provides promising “best practices” to improve child safety and reduce abuse and neglect (Wang and Holton 2007).

The problems created in this area were categorized by Prevent Child Abuse America (2007):

- Poor physical health
- Poor emotional health
- Social difficulties
- Cognitive dysfunction
- High-risk health behaviors
- Behavioral problems

Many of these problems become evident in children even before their first birthday. The effects of abuse and neglect have long lasting effects creating costs which extend throughout the lifetime of the victim. After a comprehensive literature review, Wang and Holton (2007) developed estimates for two types of costs: direct costs dealing with the immediate needs of children and indirect costs associated with the long term implications. Their conclusion was that child abuse and neglect cost the U.S. \$103.8 billion in 2007. As noted in their report this is a conservative estimate as it only includes the costs to the victim and did not include any costs associated with the perpetrators or the victim’s family.

Heasley (2007), for the Partners in Community Outreach, looked at the cost factors in West Virginia associated with child abuse and neglect using a “cost of failure approach”. For child maltreatment and bad parenting, state appropriations for child protective services, incarceration and construction of detention and correctional facilities were reviewed. There has been a steady increase in these expenses since 2003, reaching \$38 million in 2007 and projected to rise to \$68 million by 2010. Only a small fraction of these costs are directly associated with very young children, but early abuse results in these behaviors in later years (Thomas et al. 2007).

For children under age five neglect is the most prevalent form of maltreatment accounting for almost two thirds of the cases (Thomas et al. 2007). That neglect usually takes the form of malnutrition, failure to obtain medical care or lack of parenting including presence and emotional support. A somewhat dated study (Windom 1992) found that being neglected as a young child increased the likelihood of being arrested as a juvenile by over 50 percent, as an adult by almost 40 percent.

## HOME VISITATION

While the research is unclear, unconvincing and contradictory as to what leads to abuse and/or neglect (Thomas et al. 2007), there is one strategy for reduction which is supported by all studies: home visitation (Bilukha 2005; VanLandgehem 2002; Partners in Community Outreach 2005; Partners in Community Outreach 2007; Hagan, Shaw and Duncan 2008; Zero to Three 2008). These reviews of the scientifically based research find that effective home visitation is not only a preferred strategy for child maltreatment (reducing the incidence of abuse and neglect by 40 percent) but is highly effective for perinatal care, health care and nutrition programs. Zero to Three (2008) after reviewing the research found:

*High quality home visiting programs are an effective service delivery method to support healthy development in these early years, ensuring that children succeed in school and beyond. . . infants and toddlers who participated in high quality home visiting programs were shown to have increase cognitive development, greater likelihood to enroll in preschool programs, increased school readiness at kindergarten entry, higher IQs and languages scores at age six, higher grade point averages and math and reading achievement test scores at age nine, and higher graduation rates from high school (3).*

The most extensive research based evaluation was completed by the CDC’s Task Force on Community Prevention Services which determined “Early childhood home visitation has been used to address a wide range of public health goals for both visited children and their parents, including not only violence reduction, but also other health outcomes such as educational achievement, problem-solving skills and greater access to resources” (Bilukha 2005, 11).

The Task Force viewed it as essential that these visits must begin at least within the child’s first two years of life but preferably prior to birth. A successful home visitation program consists of a “two generational approach” of addressing problems and introducing interventions of mutual benefit to parents and children consisting of:

- Training of parent(s) on prenatal and infant care
- Training on parenting skills
- Developmental interaction with infants and toddlers
- Family planning assistance

- Development of problem-solving and life skills
- Education and work opportunities
- Linkage with community services

Home visitation is most effective when it is “multi-component” including:

- Provision of quality day care (discussed later in this report)
- Parent group meeting for support and instruction
- Advocacy for children
- Transportation assistance

The Task Force also identified the barriers to the effectiveness of home visitation found in the literature as being:

- Difficulties in retention of participants resulting from moving and lack of incentives to remain in the visitation program
- Turnover of program staff due to low salaries, travel, burnout and physical danger
- Use of under-qualified staff which is a point underscored by the NCSL which found that programs delivered by professionals (nurses and social workers) were much more effective than those delivered by paraprofessionals or volunteers (William-Mbengue 2004).

The National Governor’s Association’s Center for Best Practices found early home visitations were effective in reducing the costs to state governments due to better foster care placements, reduced use of hospitalization and emergency room visits and unintended pregnancies (Cornell 2002). Their report stressed the importance of integrating home visiting with other early childhood programs and the need to improve the quality of the programs. Both of these suggestions were supported by Zero to Three (2008).

A report completed for Partners in Community Outreach, found an average cost of \$2,000 per family served the In-Home Education program in West Virginia. The program had increased protective factors known to prevent child maltreatment, built parenting knowledge and skills, reduced the incidence of LBW babies and increased the number of children who are fully immunized (Heasley 2007). The estimated cost for the problems identified to the State was estimated at \$250 million. It was hypothesized that the home visitation programs could reduce these costs by several times the expenses of extending the program to all at-risk West Virginia families.

There has been considerable attention focused on home visitation in West Virginia (Heasley 2007). In 2005, the West Virginia Legislature passed a resolution to study the need to expand In-Home Family Education. Partners in Community Outreach, a coalition of home visitation programs in the State (Healthy Families, American Maternal Infant Health Outreach workers and Parents As Teachers), was formed to promote the establishment of a statewide system of In-Home Family Education to provide high quality and voluntary home visiting services. According to the group’s latest report (2008), there are 22 counties with programs serving approximately 1,000 families.

A study this spring used a survey of participants in the Mingo County Maternal and Infant Home Outreach Worker Program (Mingo County 2008). Based on the returns from seventy-seven

families, the following conclusions were reached. The program was viewed as most effective in providing concrete support, increasing parental resilience and encouraging the social and emotional development of young children. Less positive results were evidence in increasing parenting knowledge and establishing social connections for mothers receiving the services. There was also a tendency for the recipients to become dependent on the home visitor.

Partners in Community Outreach has provided an outline of recommendations for a statewide home visitation system (Hesley 2007). The recommended program would work through existing programs which qualify. Those qualifications would in part include:

- Have home visiting (at least monthly), parent education and information and referral as primary components
- Use a research based model with evidence-based curriculum
- Be credentialed by a national or multi-state organization
- Offer programs preferably starting prenatally and continuing until the child's third birthday
- Work as partners with other early childhood programs in their community
- Fulfill the training requirements of the credentialing organization for all staff
- Develop programs in unserved areas based on need, capacity and community input
- Support statewide training, technical assistance, certification, contract management and quality initiatives

## **REVIEW OF EVIDENCE BASED RESEARCH: EARLY CHILD CARE AND EDUCATION**

The evidence is unmistakable; investments in young children, during their earliest years of life, produce great economic returns for individuals and society. Numerous studies have shown that the earlier a child is exposed to early intervention programs, the more likely they are to have positive outcomes in measures of scholastic success (Currie, 2001). Abilities and skills are formed over time and the early periods in a child's life cycle are crucial for development (Heckman et al. 2005). Not only at-risk children benefit from involvement in early education. Targeting at-risk groups is costly and imperfect, poverty is not a stagnant measure and "need" is not defined by poverty alone. Long term benefits occur across income lines with benefits decreasing gradually in relation to increased income levels (Barnett 2003).

Rolnick and Grunewald produced a study demonstrating the high public return on investing in early child development (ECD) programs. Using the Perry Preschool Program as the basis for their analysis, they estimated a real internal rate of return around 12 percent. According to the authors, ECD investment far exceeds the return on other publicly funded economic development initiatives. Their report raises the issue of how a state or region can build and maintain a viable and growing state economy. Further, their report focuses on state subsidies for economic development, such as tax breaks and grants, and how these subsidies have failed to create sustained economic growth. Even though there has been continued state funding of ECD, the authors suggest that even more education funding should be directed toward ECD.

A preliminary benefit-cost analysis was completed for West Virginia ECD. This analysis provides strong support for the contention that investing in ECD provides a very substantial "payoff" for West Virginia. Following the work of Heckman and others on the economics of

human capital, a simple model was constructed. The model looked at potential increases in worker education and productivity that are possible results from ECD.

This analysis produced a discounted cost estimate of \$1.8 billion as the amount needed to achieve the desired result with the resulting benefits discounted over the 40 years to be \$9.5 billion. The result is a benefit cost ratio of 5.2:1. This can be interpreted to mean that every dollar invested in ECD in West Virginia is estimated to produce an approximately \$5.20 in benefits (Kent et al. 2005).

The biggest and most rapidly achieved payoff to society is in the reduced level of juvenile crime and delinquency. Support of ECD should be seen as a profitable investment for a state, not as a cost (Committee for Economic Development 2002). A national law enforcement study found that students who were not enrolled in quality ECD programs were 70 percent more likely to commit violent crimes by age 18 (Fight Crime: Invest in Kids 2006).

By increasing the availability and quality of care and education received by children in their earliest years the benefits extend throughout their lives. Over a lifetime, a high school graduate earns \$600,000 more than a dropout. A college graduate earns \$1.4 million more than a high school graduate (United States Census Bureau and Bureau of Labor Statistics 2006). But society benefits as well through reduced crime rates, higher adult earning capacity, higher tax revenues, lower welfare expenditures, fewer dropouts from school, reduced delinquency rates and better health (Grunewald and Rolnick 2003). This is a time when children develop the capacity to learn. The higher the quality of the early childhood experience the greater the benefits will be.

Each dollar invested, whether by government or individuals, must have a significant impact. Investing in quality early care programs, beginning with the very young and those who care for them, is the preeminent means by which to direct funds for the highest returns not only for the children but society as a whole (Rolnick & Grunewald 2003). Grade retention and special education placement are viewed by educators as predictors of dropping out of school. In addition, they create additional costs to society which have to be weighed against the costs of providing the early intervention (Currie 2001).

The early care and education industry has been described as a “market failure”. Currie (2001) puts forth three factors which justify government intervention in the early child care and education system.

1. **Liquidity constraints** - Limited financial resources prevent many parents from making optimal investments in the human capital of their children.
2. **Information failures** - Parents often find evaluating the quality of child care centers overwhelming and inadvertently enroll their children in such low quality care that it may be harmful to their children (United States Department of Health and Human Services 1998).
3. **Externalities** – Those factors that result from the way in which something is produced that are not taken into account when the market price of that good or service is established. For example, the additional burden placed on society for higher crime rates, grade retention, and special education which all have substantially higher costs than quality early child care. These provide the strongest theoretical justification for direct

government involvement in the provision of early child care and education services (Currie 2001).

At the heart of early childhood programs is the quality of those who provide them (National Institute for Early Education Research 2008). There is broad agreement among experts in the field of child development that the quality of classroom interactions between teacher and child contributes substantially to the child’s learning and development (National Research Council 2001). Recent policy debate has focused on teacher qualifications, specifically, whether or not preschool teachers should have a bachelor’s degree. Proponents cite research that demonstrates child development outcomes are higher when teachers have bachelor’s degrees (Barnett 2004). Barnett’ findings are summarized below:

*The most effective preschool teachers have a minimum of a four-year degree as well as specialized training in early childhood... Preschool programs employing teachers with four-year college degrees have been shown to be highly effective and good economic investments...Low educational qualifications and a lack of specific preparation in preschool limit the educational effectiveness of many preschool teachers. Better compensation is required to hire and retain more effective teachers (1).*

**STANDARDS**

State and local governments set minimum standards that child care settings must meet to obtain a license. These minimum standards vary greatly across states. Table 4 shows the minimum licensing requirements for child care centers in West Virginia.

**Table 4: West Virginia Minimum Requirements for Child Care Licensing**

<b>Age of Children</b>	<b>Adult-to-Child Ratios</b>	<b>Maximum Group Sizes</b>	<b>Training and Education of Staff</b>
<b>6 weeks to 12 months</b>	4 children to 1 staff person	8	High school diploma, professional training or ongoing development are encouraged
<b>13 months to 24 months</b>	4 children to 1 staff person	12	
<b>25 months 35 months</b>	8 children to 1 staff person	16	
<b>36 months to 47 months</b>	10 children to 1 staff person	20	

Source: West Virginia Department of Health and Human Resources Legislative Rules, Title 78, Series 1: Child Care Centers Licensing

In addition to the minimum standards set by government for child care quality, professional organizations that specialize in early childhood education and health care set higher standards as shown in Table 5.

**Table 5: Professional Standards for Child Care\***

<b>Age of Children</b>	<b>Adult-to-Child Ratios</b>	<b>Maximum Group Sizes</b>	<b>Training and Education of Staff</b>
<b>6 months to 18 months</b>	3 children to 1 staff person	6	Formal post-high school training, including certification or college degree in child development, early childhood education, or a related field
<b>18 months to 2 years</b>	4 children to 1 staff person	8	
<b>2 years to 3 years</b>	7 children to 1 staff person	14	

\*Recommended by the American Academy of Pediatrics and the American Public Health Association

For example, the National Association for the Education of Young Children (NAEYC) was one of the first organizations to set standards and to offer accreditation to child care centers that meet its standards. The National Association for the Education of Young Children (NAEYC) established its voluntary, national early childhood education program accreditation system in 1985. The system, now the “NAEYC Academy for Early Childhood Program Accreditation”, accredits center-based and school-based programs serving children birth through kindergarten. To become NAEYC-Accredited, a program must meet each of NAEYC’s 10 Program Standards in the following categories:

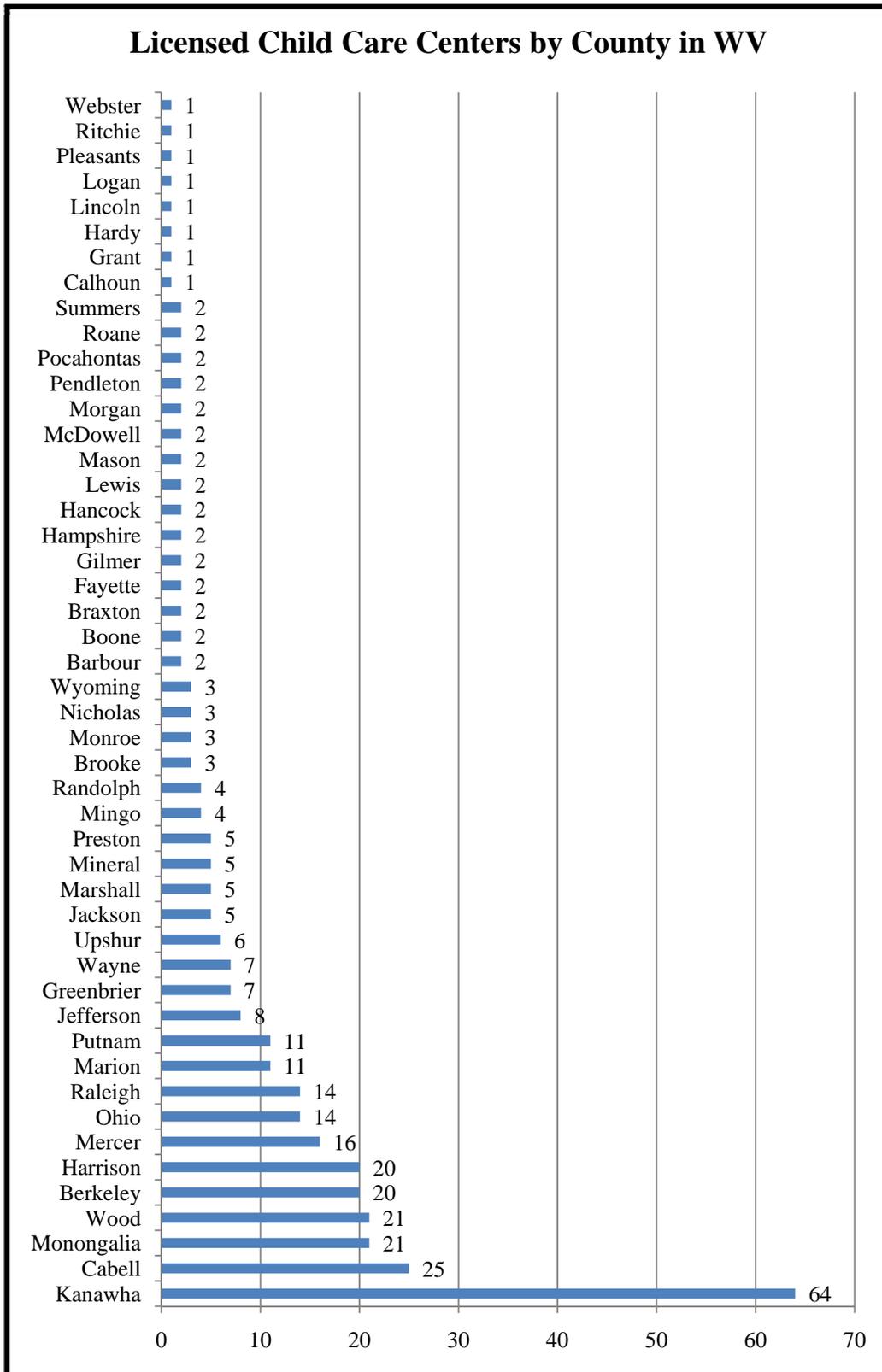
1. **Relationships** The program promotes positive relationships among all children and adults to encourage each child’s sense of individual worth and belonging as part of a community and to foster each child’s ability to contribute as a responsible community member.
2. **Curriculum** The program implements a curriculum that is consistent with its goals for children and promotes learning and development in each of the following areas: social, emotional, physical, language, and cognitive.
3. **Teaching** The program uses developmentally, culturally, and linguistically appropriate and effective teaching approaches that enhance each child’s learning and development in the context of the program’s curriculum goals.
4. **Assessment of Child Progress** The program is informed by ongoing systematic, formal, and informal assessment approaches to provide information on children’s learning and development. These assessments occur within the context of reciprocal communications with families and with sensitivity to the cultural contexts in which children develop. Assessment results are used to benefit children by informing sound decisions about children, teaching, and program improvement.
5. **Health** The program promotes the nutrition and health of children and protects children and staff from illness and injury.
6. **Teachers** The program employs and supports a teaching staff that has the educational qualifications, knowledge, and professional commitment necessary to promote children’s learning and development and to support families’ diverse needs and interests.

7. **Families** The program establishes and maintains collaborative relationships with each child's family to foster children's development in all settings. These relationships are sensitive to family composition, language, and culture.
8. **Community Relationships** The program establishes relationships with and uses the resources of the children's communities to support the achievement of program goals.
9. **Physical Environment** The program has a safe and healthful environment that provides appropriate and well-maintained indoor and outdoor physical environments. The environment includes facilities, equipment, and materials to facilitate child and staff learning and development.
10. **Leadership and Management** The program effectively implements policies, procedures, and systems that support stable staff and strong personnel, fiscal, and program management so all children, families, and staff have high-quality experiences.

## **AVAILABILITY AND AFFORDABILITY**

According to the database maintained by the West Virginia Bureau for Children and Families (2008) through the West Virginia Department of Health and Human Resources there are currently 343 licensed child care centers in 48 counties throughout the State. These do not include Head Start programs. Location of these centers by county is shown in Figure 1. It is important to note that six counties in West Virginia have no licensed child care centers at this time.

**Figure 1 Number of Licensed Child Care Centers in West Virginia**



## **THE CHILD CARE WORKFORCE IN WEST VIRGINIA**

The dataset used in this analysis was collected from the Early Childhood Workforce Survey (ECWS). The survey was administered by the Center for Business and Economic Research (CBER) with the assistance of the West Virginia Department of Health and Human Resources (DHHR) during the spring of 2008 and consists of observations from 100 individual child care centers across the State of West Virginia. With 100 centers responding out of approximately 330 licensed centers statewide, the response rate was slightly more than 30 percent. This estimate should be considered conservative as many centers on the contact list had ceased operations recently. Seven counties within the State did not have a licensed child care center. The sample included only licensed child care centers not Head Start programs or children in “Family and/or Neighbor” care.

### **WAGE AND EDUCATION INFORMATION**

The establishment of three distinct teaching levels and four age groups resulted in 12 variants of occupation categories for comparison. Salary information for these workers, the number of positions in full-time and part-time employment, education level (high school, Associates, Bachelors or Masters Degrees) and licensing status Child Development Associate (C.D.A) or Apprenticeship for Child Development Specialist (ACDS) was also collected. The Child Development Associate (CDA) credential is awarded to those individuals who have completed 120 hours of training through the Council for Professional Recognition, and who have successfully passed the verification visit to work with Infants/Toddlers or Preschoolers. CDAs must be able to work with parents and children, and be competent in all areas of child development. The CDA has been accepted in all 50 of the United States, and the U.S. Territories. ACDS is a training program for employees in child care. The program involves completion of 3,200 to 4,000 hours of on-the-job training and 300 hours of course work and related assignments to receive certification. Common schedule includes 4 semesters of instruction with a 3 hour class per week.

The mean salary for West Virginia’s public kindergarten teachers is \$43,077; Head Start teachers in the State average \$25,000. More than half of West Virginia’s child care teachers earn less than \$15,394, (the mean annual salary for child care workers in West Virginia). For the salary they receive child care workers operate on a 12 month schedule instead of the 10 month schedule of public school teachers. One result is high levels of staff turnover in child care and loss of better educated staff to Head Start and public school programs (Helburn, Morris, Modigliani 2002). Fewer than 20 percent of child care workers in the ECWS sample have access to medical insurance or retirement benefits through their employer.

### **COUNTS AND COMPOSITION**

For the 100 centers surveyed, the number of workers were reported by job title as shown below.

- 458 Assistant Teachers
- 488 Teachers
- 218 Lead Teacher

Full-time workers range from 52.8 percent of assistant teachers to 79.4 percent of lead teachers. While more lead teachers have a tendency to be employed full-time, they also have the lowest level of annual employee turnover at 10 percent. Turnover is defined as the ratio of the labor

turnover to the average number of employees in a given period. Assistant teachers exhibited the highest annual turnover rate of 48.4 percent with 222 out of 458 positions experiencing at least one opening in the last year.

## **COST OF EMPLOYEE TURNOVER**

High employee turnover is believed to be a contributing factor to the problems in the child care industry. How this affects the quality of care and the overall cost to child care centers is less apparent. When employees leave a center or school (especially experienced employees), they take valuable knowledge, training and skills with them. Experienced, and better educated, staff serve as role models and mentors for new employees and help them develop their own skill set more quickly (United States Department of Labor 2007). Replacing these assets costs employers in both time and money.

Another negative impact of high employee turnover is the distraction of center owners and/or directors from their daily duties to focus on recruiting, interviewing and training new staff. The estimated cost of these activities can exceed 50 percent of the salary for the open position. An indirect cost of high employee turnover is its effect on existing staff and children. When a child care worker leaves a center, other staff must cover the classroom as well as their own responsibilities. This is especially difficult for the children that may have developed a strong bond with the teacher as they may now receive less individual attention.

The administrative portion of the child care workforce included Assistant Directors and Directors. Although 100 surveys were received, some centers were large enough to require more than one director giving 104 observations. These positions are primarily full-time (78.6 and 93.3 percent respectively). However, the Assistant Director positions still show relatively high turnover rates. The turnover rate for Assistant Directors in the ECWS was 14.2 percent for the last year while the average turnover rate for all positions in the state was 9.7 percent (United States Census Quarterly Workforce Indicators 2007). Employee turnover in the position of Director was 8.6 percent showing a much more stable turnover rate.

## **EDUCATIONAL ATTAINMENT**

The education level of the teaching staff in a child care center is crucial to the level of quality care that is given. The ECWS retrieved education, licensing and certification levels for the employees in the responding centers. The overwhelming majority of teachers in this category report the highest level of education as a high school diploma.

The data collected in the ECWS supports similar conclusions to that of a recent study (Herzenberg, Price and Bradley 2005) which used over twenty years of national historical survey data to describe the decline of educational attainment in the child care workforce.

- **Fewer center-based teachers and administrators have a college degree.** The portion of U.S. center-based teachers and administrators with at least a four-year College degree averaged 43 percent from 1983-85, but declined to only 30 percent from 2002-04.
- **An increasing number have a high school education or less.** The share of center based teachers and administrators with a high school education or less rose from fewer than 25 percent of the workforce in 1983 to more than 30 percent in recent years.
- **Home-based early childhood workers have even lower education levels.** Since 2000, only about one in nine home-based early childhood educators has a college degree. Less

than half of home-based early childhood educators have any education beyond high school.

- **Low wages and lack of benefits explain education trends in center-based ECE.** In 2004, ECE teachers and administrators earned merely \$10 per hour, compared to \$19.23 per hour for female college graduates. During the period of the Herzenberg study, 95 percent of center-based early childhood educators were women. This makes the wages of female college graduates a valid argument for this comparison.

A quality early childhood education system is a necessity for West Virginia's children. A quality system requires educated and highly qualified teachers. The overwhelming majority of West Virginia's ECE workforce have only a high school education and are not compensated enough to further their own education. West Virginia needs its centers to be staffed by college graduates, trained in early childhood education, to achieve the full benefits that ECE can provide. Currently these graduates have greater opportunities in other fields and greater economic aspirations.

More and more, center directors are forced to hire less-qualified teachers. The challenge of maintaining a qualified early childhood workforce will only worsen without intervention. Today, nationwide, 49,000 center-based teachers and administrators are age 45 or over and expected to retire in the next 15-20 years (Herzenberg, Price and Bradley 2005). ECE, as an industry, is faced with replacing these highly qualified and experienced staff as well as attracting new ones to keep pace with industry expansion.

Recommendations for a quality early child care and education system:

- Educate consumers on the benefits of quality early care and education
- Implement a Quality Rating and Improvement System (QRIS) to emphasize continuous quality improvement with progressive levels of benchmarks
- Raise wages for child care teachers tied to education and training
- Provide educational opportunities to early child care teachers through grants and/or scholarships dependent upon continued employment in the field
- Guarantee child care for *all* families at or below 200 percent of the federal poverty level
- Explore loan forgiveness programs for early child care workers
- Raise State subsidy payments to child care providers based on market rate

## **RECOMMENDATIONS FOR COMPREHENSIVE IMPROVEMENTS IN EARLY CHILDHOOD POLICIES FOR WEST VIRGINIA**

Policy recommendations of the CBER team which prepared the report *Comprehensive Improvements in Early Childhood Policies for West Virginia*. Our report was confined to reviewing the evidence based research on policies related to producing positive outcomes beginning with prenatal care to programs targeted from birth to age three. While the research is clear that most of the policies reviewed have results which more than justify their costs, CBER did not develop benefit/cost ratios for these programs in West Virginia. The policy recommendations which follow cannot be prioritized on the basis of cost effectiveness as to determine which would produce the greatest return for each dollar spent. But knowing what the research says, the recommendations advanced are all worthy policy options. In making policy recommendations for West Virginia there are considerations which must be kept in the forefront:

- *West Virginia is a “high need, low fiscal capacity” state.* Because much of the State is sparsely settled and population widely dispersed, transportation and communication costs are higher here than other places with a more benign terrain and population disbursement. Compound this with the mountainous topography and the cost of delivering services is higher than elsewhere.

The State has an aged population. Only one other state has an average age higher than West Virginia. Individuals over the age 65 are the fastest growing component of the state’s population. The need for governmental services, particularly health care, increases as the State’s population ages. Retirees do not provide the same tax base as do those in the work force to pay for those costs.

West Virginia’s economic base has not expanded as fast as the nation’s. Manufacturing has left and highly technical jobs with above average salaries have not replaced it. Neither the business nor individual tax base has grown fast enough to cover the demands. Although recent changes have made the tax environment for businesses less of a barrier to business location than in the past, West Virginia’s economic growth rate lags the nation’s.

Despite spending on a per-student basis more than the national average, educational attainment in the State is low. West Virginia has one of the lowest rates of college attendance and the fewest number of those holding college degrees or technology certificates. Research has proven that the single biggest factor in attracting and retaining business is a skilled labor force.

The result is that we have a greater than expected demand for government services given our population and a less than expected economic and tax base to cover those demands. Virtually all services in West Virginia as a result are underfunded, with salaries for state employees universally below both national and regional averages. Finding significant funding for new or expanded initiatives is difficult at best, no matter what their value.

- *Political myopia* makes change difficult. For prenatal and birth to three programs, the costs are immediate and the payoffs in the future. Programs with short-run results are more popular than programs with greater benefits which will be reaped by politicians in

the future. From that standpoint, the programs discussed and evaluated in the CBER report face a political obstacle in competing for visibility and funds.

Fortunately, there are signs that with solid research based information and a visible group of supporters this barrier is falling. The downfall began when over a decade ago computers were placed in schools beginning with the first grade. West Virginia has obtained worldwide as well as national attention for being one of the first states to enact universal, voluntary pre-k. There are visionaries inside as well as outside government who do take a long-range view. Getting the “facts” to them and providing the outreach to make unborn and younger children a priority is imperative.

- *Entrenched interests* stand in the way of change. New ideas are most enthusiastically embraced by those whose careers are neither affected nor threatened. The most confounding question to those outside the political process is “why doesn’t the obvious happen?” Changing the way services for the youngest children are delivered will run into natural resistance. Successful change will require identification of those impacted and making them part of the process.

A highly popular Governor with substantial majorities in both Legislative houses provides a unique opportunity for a young child agenda to move forward. The First Lady has been a champion for children and her involvement along with Legislative leaders is vital if entrenched interests are to be overcome. The Governor has pledged a “hold the line” budget for the coming year. This means that whatever funding goes toward meeting these recommendations will come from reorganization of existing program priorities.

## Recommendations

- Short term (next two years)
  - *Conduct an extensive “public relations” campaign.* Political support is based on popular demand. Most individuals do not recognize the benefits of early childhood programs. An effective campaign will consist of employing the support of organizations across the state who will be willing to become more than passive advocates.
  - *Enlist the support of provider groups* to advocate for the State’s youngest. There is already a Perinatal Coalition which involves providers including doctors, nurses and social workers. If state provider organizations can be convinced to take a stand and present a united front, this will provide credibility for the effort.
  - *Examination of medical school curriculum and continuing education requirements* to make sure that coverage is given to the particular needs of young children. As the research in this report shows, adequate screening particularly for developmental defects is not widely practiced. A review of what is included in the pediatric and family practice curriculums of the State’s three medical schools is a near term objective. Making sure that continuing education credits are available for screening protocols would improve the readiness of those already practicing first line medicine.
  - *Examining the reimbursement policies* under Medicare, private insurance and other payers could provide the needed incentive for practitioners to provide screening and other services. The research indicates that this is a problem. Not

only are the amounts considered too low to be an incentive, but the paperwork and delayed payments also are problems.

- *Evaluating the current plethora of services* provided by state agencies and private groups with the focus of effective delivery. There are many groups providing services in this area. Most have limited objectives and/or geographical range. At the state level there are many programs with the purpose of providing prenatal to age three services. These lack an independent evidence based analysis as to their effectiveness and how well they are coordinated within the West Virginia Department of Health and Human Services.
  - *Finding champions for early child programs* should begin immediately. Vision shared has both the visibility and the clout to find and recruit those who can be effective in ensuring that the benefits of these programs are translated into realities. These champions must include members of the legislative and executive branch as well as the general public.
- Long Term
    - *Secure funding for a comprehensive program of in-home visitation.* The evidence based research shows that this is one of the most cost effective ways to provide the services needed by pregnant mothers, young children and their families. These programs must be delivered by trained nurses and social workers. These care givers must have the capacity to screen mothers and children, provide immunizations, give counseling, supply information and guide referrals.

The research clearly indicates that the necessary trusting relationship is developed over a long time period. Retaining staff so that a continuity of care can be provided must be a long range objective. This will require sufficient salaries, benefits and other support to reduce turnover and place more trained workers in the field, so that the heavy case burdens now experienced can be reduced.

- *Securing funding for and promoting a system of early child care and development* must also become a reality. As the research demonstrates providing quality, affordable early care and developmental activities is a “missing link” in West Virginia’s movement toward school readiness. While the State has expanded pre-kindergarten programs to all four-year-old children and three-year-olds with special needs, there still exists a critical shortage of early child development centers. This deficiency is greatest in those areas of the state where the greatest need exists.

Child care for infants and toddlers must not only be available, it must also be affordable. Quality care is now out of financial reach for all but those with upper middle and upper incomes. National standards of quality should become the requirement for state certification. Increasing the availability and quality of child care facilities will not be inexpensive. A clearly articulated plan for its achievement should be developed. Part of that plan should be subsidies for all young children in low income families, which should be defined as those at or below 200 percent of the federal poverty level.

Implementation of a Quality Rating and Improvement System should be required. That system should be underwritten by reimbursement levels based on quality.

The initial plan should be to work with existing centers and to move these and new facilities to achieve higher standards with an ultimate goal of national accreditation.

- *Reimbursement schedules must reflect cost of service provision.* The response to rising Medicare and private insurance costs usually takes the form of reduced payments to providers. One of the first laws of economics is that people respond to incentives. Reducing the incentive (rate of reimbursement) produces the predicted result.

Reimbursement must be examined for all providers including doctors, nurses, social workers and others who deliver services either in a clinic setting or at the recipients' residence. A first step in the process is to determine the "true" costs of these services, including preventive pediatric practices, developmental screening and anticipatory guidance for parents. When the determination is made, the administrative and legislative process must be moved to implement.

- *Reducing the incidence of smoking among pregnant women* is a high priority as current programs have not had the desired effects. West Virginia's rate of tobacco use among expectant mother remains double the national average and the highest in the nation. General public education campaigns have been shown to have little effect. Considering the "cultural" factor in tobacco use among Appalachians, changing this pattern will be a true challenge.

What the research relates is that one-on-one contact with the expectant mother brings the best results. A reduction in tobacco use (not necessarily cessation) of 70 percent has been achieved by some programs. Regrettably, the results are not long lasting once the child is born, particularly if other family members continue with tobacco use. The personal contacts stress the damage being done to the unborn child. The program is most effective when completed in the home with regular and frequent contact and monitoring. Group support has also shown to have positive effects. West Virginia's programs in this area are probably not cost effective and need reconsideration.

- *Promoting educational opportunities* for those in the early care and education workforce and those seeking to enter it should be implemented. While the research shows that in-home services are best delivered by nurses and social workers and child care by those with teaching certificates, for the immediate future in West Virginia that is not a policy option.

Career ladders should be established with appropriate remuneration as a participant ascends. Coupled with this must be scholarships and grants which are available for all programs having a definite and verifiable relationship to the skills needed. If student loans are involved then these could be forgiven or reduced depending on the recipient remaining in a perinatal to age three occupation. While the ultimate objective should be a college education and beyond for all those in this field, the first steps should be less ambitious.

In making these recommendations CBER has had the luxury of not having to consider short run costs. While confident that in the long run this agenda would return many times over the original cost, obtaining the start up funding for any of these initiatives faces the fiscal constraints mentioned before.

Much of the effort will be wasted if a monitoring and continuing research effort is not in place. This will allow results to be determined as programs are implemented and the most cost effective methods emphasized. Monitoring and research will serve as a means to keep the public informed on how West Virginia compares and the progress which is being made. Without this continuing attention the effort is likely to lose momentum.

**APPENDIX A: BIRTH TO THREE ASSISTANCE PROGRAMS IN WEST VIRGINIA**

<b>Title</b>	<b>Responsible Organization</b>	<b>Source of funding</b>	<b>Scope of Program</b>	<b>Locations</b>	<b>Clients served</b>
Birth to three (See appendix B for more information)	Department of Health and Human Resources, through the Bureau for Public Health and the Office of Maternal, Child and Family Health	Federal and State Funding <sup>1</sup>	Services and supports for children under age three who have a delay in their development, or may be at risk of having a delay.	Statewide system; office locations in Charleston, Franklin, Clarksburg	Currently serves 2000 more children annually than it did 5 years ago and in 2007, served 5,600 children <sup>2</sup>
West Virginia Perinatal Partnership	West Virginia Healthy Kids and Families Coalition and West Virginia Community Voices	Funded by the Claude Worthington Benedum Foundation	A statewide partnership of health care professionals and public and private organizations working to improve perinatal health in West Virginia.	Statewide	Close to 86 percent of WV women have adequate prenatal care <sup>3</sup>
Caress (Congenital Abnormalities Registry, Education and Surveillance System)	Office of Maternal, Child and Family Health, Bureau for Public Health	The project was previously funded by a CDC grant but presently operates with no funding <sup>4</sup>	The program collects data from the birthing facilities within the state to study the rates and trends of birth defects to aid in determining possible causes. An additional component of the CARESS Program involves community outreach and education on birth defects prevention within the state.	Charleston	Does not directly service individuals
West Virginia's Family Nutrition Program <sup>6</sup>	Part of the Food and Nutrition Service arm of the U.S. Department of Agriculture	Funded by county, state, and federal resources. For FY2007 \$3,114,378 was applied to the program.	Offers nutrition and physical activity programs to help limited-resource families, youth, and adults improve their health. (Targets risk factors associated with obesity, cardiovascular disease, diabetes, hypertension, and other chronic diseases). <sup>5</sup>	The Program is operated in at least 42 counties	See Footnote <sup>6</sup>

Title	Responsible Organization	Source of funding	Scope of Program	Locations	Clients served
WVCHIP (See appendix B for more information)	DHHR and SCHIP	Federal and State <sup>7</sup>	The primary purpose is to provide health insurance to uninsured children in families whose income disqualifies them from coverage available through the Medicaid Program, but is less than or equal to 220% of the current Federal Poverty Level. WVCHIP's average cost per child for FY 2007 was \$1,670.	Outreach offices throughout WV	As of 2007, approximately 25,000 children were enrolled in WVCHIP. <sup>8</sup>
Early Childhood Health Project (ECHP)	Organizational home of ECHP is the West Virginia Department of Health & Human Resources (DHHR)/Office of Maternal, Child and Family Health/Division of Infant, Child and Adolescent Health/Early Childhood Health Project.	Title V, Social Security Act <sup>9</sup>	Collaboration of individuals and agencies working together to improve the health and safety of young children while in out-of-home care in West Virginia. <sup>10</sup>	Office located in Charleston	Does not directly serve individuals in the state; instead, collaborates with other agencies to improve the efficiency of out-of-home care throughout the state.
West Virginia Immunization Program	West Virginia DHHR, West Virginia Immunization Network (WIN), West Virginia Bureau for Public Health, Center for Rural Health Development, Inc. <sup>11</sup>	Federally funded program	Offers the Vaccines For Children "VFC" program that provides free vaccines to eligible children, including those without health insurance coverage, those who are enrolled in Medicaid, American Indians and Alaskan Natives and those whose health insurance does not cover vaccines and go to Federally Qualified Health Clinics or Rural Health Centers.	Available at more than 380 provider locations across the state including all 54 health departments	

<b>Title</b>	<b>Responsible Organization</b>	<b>Source of funding</b>	<b>Scope of Program</b>	<b>Locations</b>	<b>Clients served</b>
Newborn Metabolic Screening Program	Office of Maternal, Child, and Family Health within the Bureau for Public Health	Title V through DHHR <sup>9</sup>	West Virginia state law requires that all infants be screened for certain disorders that when detected and treated early can prevent the harmful and developmental effects of those diseases. Prior to leaving the hospital (or after a home birth) babies will receive screening for the newborn disorder.	Main headquarters in Charleston within the office of maternal, child and family health	As of 2005, 99.5% of the 21,150 births are screened and followed.
Right from the Start	Division of Perinatal and Women's Health	Subject to State and Federal Funding; Title V <sup>9</sup>	Obtain medical coverage for both mother and baby, access to other services such as parenting classes, transportation to medical appointments, assistance with quitting smoking, and nutrition guidelines.		20,366 Home Visits were conducted for FY 2007 <sup>12</sup>
Women, Infants, and Children (WIC; See appendix B for more information)	WIC	Federally funded buy the Department of Agriculture	WIC is the Special Supplemental Nutrition Program for Women, Infants and Children. WIC focuses on the link between good nutrition and good health.	Clinics throughout WV	Served approximated 50,000 persons each month in 2005-06 (12,000 women, 12,000 infants, and 26,000 children) <sup>13</sup>
Birth Score	West Virginia Bureau for Public Health, Office of Maternal, Child and Family Health and the West Virginia University School of Medicine, Department of Pediatrics	A state legislated initiative funded through the Bureau for Public Health Office of Maternal Child and Family Health	Identification of infants who are at greatest risk for health and developmental problems, and ensuring that these children have access to appropriate health and special care systems.	32 birthing sites throughout the state	WV Code requires infants born in WV to have a Birth Score, Developmental Risk Screen and Newborn Hearing Screen at birth.

Title	Responsible Organization	Source of funding	Scope of Program	Locations	Clients served
Children with Special Health Care Needs	Office of Maternal, Child, and Family Health	Financed by the client's primary coverage sources which include: Title XIX (Medicaid), Title XXI (CHIP), and private health insurance.	Advances the health and well-being of children and youth with certain chronic, debilitating conditions by providing specialized medical care and care coordination services to children.	12 teams in WV <sup>14</sup>	
Health Check	Division of Infant, Child, and Adolescent Health	Title V through DHHR <sup>9</sup>	Early and Periodic Screening, Diagnosis and Treatment Program (E.P.S.D.T.); This program provides periodic, comprehensive health examinations; vision, dental and hearing assessments; immunizations; and treatment follow-up of conditions found through the health examination.	For the nine segments of the state, there are nine program specialists available	
Systems Point of Entry	Division of Infant, Child, and Adolescent Health	Title V through DHHR <sup>9</sup>	Serves as the centralized information, education and referral center for the Office of Maternal, Child and Family Health; serves children with special health care needs and their families through referral and coordination of service.		
Oral Health Program	Division of Infant, Child, and Adolescent Health	Title V through DHHR <sup>9</sup>	Children's Dentistry Project works in concert with other OMCFH children's programs, Head Start, public schools, local health departments, community health centers and others to promote dental health services as an integral part of preventive, primary health services and to encourage proper self-care.	Provides oral health education in public schools in 55 counties	

Title	Responsible Organization	Source of funding	Scope of Program	Locations	Clients served
Starting Points	DHHR	WV uses CBCAP (Community Based Child Abuse Prevention) funds to partially support the states network of SPCs.	The Starting Points Centers provide a wide range of supports to families with young children by bringing needed services together at a single community location and offering parent support groups and family activities in addition to more traditional screening, referral, child development, nutrition, and child care services.	18 SPC centers in 16 counties <sup>15</sup>	For October 2006 through September 2007 SPCs served: 7,071 individuals 3,813 families 8,255 new individuals 3,502 new families 144 children with disabilities 87 parents with disabilities
ABLE Families (Affirming, Believing, Learning, Empowering)	Non-profit, faith based agency	Private donors and grants (WV-DHHR, Strength Through our Plan, Logan Health Care Foundation, along with private donations).	Provides nutrition education programs, home visiting program for pregnant women or women with children under four, a read aloud program to help parents learn how to read to their children, and instruction in infant massage to teach parents how to sooth colicky babies and bond with their infants.	Rural Tug Valley area of northern Mingo County	86 families
TEAM for WV Children	TEAM is the state chapter for Prevent Child Abuse America	Partial funding from community donation.	Includes a variety of programs including Child Assault Prevention Project, Health Families America, New STEPS screening, Prevent Child Abuse WV, and others		93 families, 88 children, 241 individuals
West Virginia Childcare Centers United	Nonprofit professional childcare providers organization		Non-profit organization to improve the quality of childcare in WV through networking, advocacy, and education.		

Title	Responsible Organization	Source of funding	Scope of Program	Locations	Clients served
STEPS	Family Resource Network	The Huntington, WV-Ironton, Ohio Empowerment Zone provided funding	Provide families expecting a baby with information about community resources, Contact with a family resource specialist and performs a home visit, families receive baby baskets	Cabell-Wayne Counties	
Maternal Infant Health Outreach Worker Program (MIHOW)	Vanderbilt University Medical Center		To stimulate the birth and growth of low-cost, parent-to-parent interventions that improve health and child development for low-income families.	Ohio County MIHOW, ABLE Families, Inc in Kermit, New River Health Assoc. in Scarbro, and Summers Co. MIHOW in Hinton	In the Mingo County, 77 families are served with obtaining solid positive outcomes after home visits. (Source: E-mail from the director)
Parents as Teachers; <i>Born to Learn</i>	Parents as Teachers (National Program)	CBCAP funds to partially support the state's network of in-home family education programs, as well as part of WV Parent Connections' federal funding.	Providing parents with child development knowledge and support	16 PATs operate in the state <sup>16</sup>	
WV Infant and Toddler	DHHR		Quality training program for infant/toddler caregivers across Early Childhood Programs		

<b>Title</b>	<b>Responsible Organization</b>	<b>Source of funding</b>	<b>Scope of Program</b>	<b>Locations</b>	<b>Clients served</b>
WV State Training and Registry System (STARS)	WV Early Childhood Training Connections and Resources		Improve the quality of care and education for young children and their families in WV by enhancing the skills and career opportunities for all those who care for and educate young children		
West Virginia Association for Young Children	The state affiliate of the Southern Early Childhood Association (SECA) and the National Association for the Education of Young Children (NAEYC)		Dedicated to ensuring availability of high quality early childhood programs		
Family Planning Program	Division of Perinatal and Women's Health	Federal and State <sup>17</sup>	Make contraceptive supplies and services available to persons who want and need them but are unable to afford them without government assistance.	148 clinics <sup>18</sup>	Eligible individuals in 148 various health institutions <sup>19</sup>
Children's Home Society of WV	Private organization	Government contributions, private grants, contract revenues, and other revenues	The Children's Home Society of WV is a private, non-profit child welfare organization founded in 1896. Current programs adoption, foster care, in-home and in-community services for children and families, emergency shelter care, parent education training, prenatal and early childhood services, volunteer and mentoring, and assessment services.	12 locations throughout the state <sup>20</sup>	6,887 children each year
Healthy Families America <sup>21</sup>	Partnership with Prevent Child Abuse in America and Ronald McDonald House Charities		Home visitation for new parents to reduce child abuse and neglect; The home visitor spends time with pregnant women and new parents about parenthood.	Cabell-Wayne Counties	

<b>Title</b>	<b>Responsible Organization</b>	<b>Source of funding</b>	<b>Scope of Program</b>	<b>Locations</b>	<b>Clients served</b>
In-Home Family Education Programs <sup>22</sup>	Partners in Community Outreach	Public and Private Funding	Aims to create a state-wide system of In-Home Family Education in order to provide education and support to families in their homes during pregnancy and early childhood.	22 Counties	1,000 families
Early Head Start	US Department of Health and Human Services, through the Administration for Children and Families, Office of Head Start	Federal Head Start Funds	A community-based program for low-income families with infants and toddlers and pregnant women. Its mission is to promote healthy prenatal outcomes for pregnant women, enhance the development of very young children, and promote healthy family functioning	EHS services are provided in the following counties: Wyoming, Brooke, Marshall, Wetzel, Marion, Preston, Randolph, Tucker, Cabell, Lincoln, Mason, Wayne, and Monongalia.	Currently, WV receives funding to enroll 394 children in twelve counties. (This includes 20 slots for pregnant women in Wyoming County.)
Child Care	WV Department of Health and Human Resources, through the Bureau for Children and Families and the Division of Early Care & Education	Federal Child Care & Development, federal TANF Funds and State Funds.	Covers the cost of child care services for children birth to age 13. Offers consumer education, resource and referral services and provides training and technical assistance for child care providers.	Services provided through the statewide CCR&R system with offices in 21 cities.	During state fiscal year 2008, an average of 4,179 children age birth to three received child care subsidies.

Title	Responsible Organization	Source of funding	Scope of Program	Locations	Clients served
Child Care Resource and Referral Agencies	WV Department of Health and Human Resources, through the Bureau for Children and Families and the Division of Early Care & Education through contracts with three non-profit agencies	Federal Child Care & Development Funds.	Determines eligibility for families receiving child care assistance, makes payment to providers, refers families to child care providers and other community resources, educates consumers and provides training and technical assistance to child care providers.	Six child care resource and referral agencies in 21 cities offer services in all WV counties. CCR&R services are offered by River Valley Child Development Services, Mountain Heart and Catholic Community Charities.	The same number of children served through child care

<sup>1</sup> Federal funding formula for allocating federal funds is based on the state’s population of infants and toddlers, not on the number or percentage that are served under Part C. (Part C of the Individuals with Disabilities Education Act (IDEA)) State funding is \$3,000,000. Have drawn on Medicaid and Title V funds because cannot maintain system otherwise.

<sup>2</sup> Sources: WV BTT Communications to the Field, 3/24/2008 and Growing Together with Proposed Changes in the WV Birth to Three System

<sup>3</sup> In a study conducted by the Perinatal Partnership, in 2007 when the study on maternity providers was completed, close to 86 percent of WV women have adequate prenatal care (Source: Shortage of Obstetrical Providers, WV Perinatal Partnership website).

<sup>4</sup> Source: Email from Melissa Baker, M.A. Epidemiologist, Office of Maternal, Child and Family Health.

<sup>5</sup> Every \$1 spent on nutrition and health education leads to savings in health-care costs of between \$3.63 and \$10.64 over time (Source: West Virginia's Family Nutrition Program Overview, homepage).

#### <sup>6</sup> Family Programs

- 30 instructors made 34,115 direct contacts
- 30 instructors made 1,403,383 indirect contacts
- 30 instructors taught 2374 lessons
- 97% made a positive change in diet behaviors
- Graduates saved an average of \$6 monthly in food purchases
- Participants ate 1.2 more servings of fruit and vegetables daily
- 93% improved nutrition practices
- 69% improved food safety practices
- 87% improved resource-management practices
- 72% improved label reading practices

#### Youth Programs

- 24 instructors made 96,599 direct contacts
- 24 instructors made 1,007,869
- 24 instructors taught 3764 lessons
- 13,518 Youth participated in school-based and summer lessons
- 9% of youth reported eating a variety of foods
- 12% of youth reported an increase in their knowledge of the essentials of human nutrition
- 13% of youth improved practices in food preparation and safety
- 23% of youth increased their ability to select low-cost, nutritious foods
- 3532 campers learned about nutrition in 85 summer camps
- 751.5 hours of nutrition education were delivered
- 113 partnerships were formed to offer camping opportunities
- 529 volunteers provided assistance at camps for a total of 4143 donated hours
- \$107, 410 were provided in support donations for summer programs

<sup>7</sup> Federal SCHIP allocations are calculated using a formula with two key components: the Child Component Factor (CCF) and the Health Cost Factor (HCF). States must contribute to the program cost and the federal government provides matching payments to the states up to their annual capped federal allotment. The CCF is a combination of the number of low income children (under 200 percent of the Federal Poverty Level (FPL)) and the number of low income uninsured children based on three years of pooled state estimates from the CPS. The HCF is used as a proxy for estimated program expenses. The HCF is based on Bureau of Labor Statistics estimates of the ratio of the average state wage in the health services industry relative to the national health services wage for the most recent three years of available data. The matching rates are based on the Medicaid Federal Matching Assistance Percentages (FMAP) but are “enhanced” reflecting greater federal financial participation. ((Source: [http://www.sph.umn.edu/img/assets/18528/SCHIPPolicy\\_ExecSumm\\_Feb07.pdf](http://www.sph.umn.edu/img/assets/18528/SCHIPPolicy_ExecSumm_Feb07.pdf)))

<sup>8</sup> 95% of eligible children receive coverage (Source: SCHIP Fact Sheet, 10/15/2007).

<sup>9</sup> Payments shall be made as provided by section 6503(a) of title 31, United States Code<sup>[8]</sup> to each State provided such an allotment under section [502\(c\)](#), for each quarter, of an amount equal to **four-sevenths of the total of the sums expended by the State during such quarter in carrying out the provisions of this title**. (Where \$850,000,000 for fiscal year 2001 and each fiscal year thereafter would be the amount separated between the states) [http://www.ssa.gov/OP\\_Home/ssact/title05/0500.htm](http://www.ssa.gov/OP_Home/ssact/title05/0500.htm)

<sup>10</sup> The program has three areas of focus:

- Promoting the use of national health & safety standards (such as Stepping Stones) at home and in child care.
- Increasing access to medical care through "medical home" advocacy and Medicaid & WV CHIP enrollment promotion.
- Linking the medical/public health community to child care centers to serve as health care consultants.

(Source: <http://www.wvdhhr.org/echp/programoverview.asp>).

<sup>11</sup> ([http://www.wvdhhr.org/immunizations/pdf/wv\\_adolescent\\_immunization\\_project\\_overview.pdf](http://www.wvdhhr.org/immunizations/pdf/wv_adolescent_immunization_project_overview.pdf))

<sup>12</sup> (Source: WV DHHR - OMCFH - RFTS - RFTS Info Packet Overview 2007).

<sup>13</sup> However, it is only serving 61% of Medicaid population. If serving maximum, could be serving 75,000. (Source: [www.nal.usda.gov/wicworks/Sharing\\_Center/WV/InServicePresentation.ppt](http://www.nal.usda.gov/wicworks/Sharing_Center/WV/InServicePresentation.ppt)).

<sup>14</sup> *Beckley*, Charleston, Elkins, Franklin, Huntington, Logan, Morgantown, Parkersburg, Princeton, Sutton, and Wheeling offices.

<sup>15</sup> Marshall, Wetzel, Monongalia, Preston, Taylor, Doddridge, Tucker, Morgan, Webster, Nicholas, Fayette, Kanawha, Lincoln, Wayne, Summers, Mercer.

<sup>16</sup> Charleston, Morgantown, Fairmont, Alloy, Union, Wheeling, Weirton, Moundsville, Beckley, Rainelle, Miami, and other cities in WV.

PAT (Source: Edvantia/ Parents as Teachers National Center Establishes Office in West Virginia)

<sup>17</sup> Since 1970 the West Virginia Bureau for Public Health, Office of Maternal, Child and Family Health, Family Planning Program has been the sole Federal Title X grantee in West Virginia. The Program also receives funding from Title V Maternal and Child Health Block Grant, Title XIX/Medicaid and State Appropriations.

<sup>18</sup> The Program offers services in approximately 148 clinics operated by county health departments, primary care centers, university medical schools, and hospitals, physicians in private practice and college student services.

<sup>19</sup> The WV Family Planning Program contracts with approximately 148 local county health departments, primary care and rural health centers, college and university student health clinics, hospitals, and private medical practices to deliver clinical family planning services to eligible individuals.

<sup>20</sup> Huntington, Charleston, Logan, Morgantown, Parkersburg, Martinsburg, Romney, Beckley, Lewisburg, Northfork, Princeton, Summersville (Source: Children's Home Society of WV: <http://www.childhswv.org/sites/map.htm>)

<sup>21</sup> For every \$3 spent on prevention, we save at least \$6 that might have been spent on child welfare services, special education services, medical care, foster care, counseling and housing juvenile offenders. Healthy Families America services cost an average of \$3,500 a year per family versus \$10,000 for one year of foster care for one child.

<sup>22</sup> Partners in Community Outreach is a coalition of research-based In-Home Family Education programs operating in West Virginia, including Healthy Families America, Maternal Infant Health Outreach Workers (MIHOW), and Parents As Teachers. This coalition is funded through state legislative appropriations which amounted to \$540,000 in FY07. Moreover, private funding such as grants from the Claude Worthington Benedum Foundation contributed to the coalition. Areas of operation include 17 counties which are Cabell, Wayne, Mingo, Kanawha, Clay, Raleigh, Fayette, Nicholas, Greenbrier, Summers, Monroe, Pocahontas, Doddridge, Wetzel, Marshall, Ohio, and Hancock. During the state fiscal year 2006-2007, the programs served around 737 families in 14 counties. However, when fully implemented, the system would serve approximately 9,700 families which constitute 20% of families who are expecting a child or have a child under age three. The obstacle is lack of funding which decreased since 2004 reducing the families served by 50% (Source: <http://www.wvpartners.org/docs/mainReport.pdf>).

## **APPENDIX B: MEDICAID - WEST VIRGINIA BIRTH TO THREE – WIC - WVCHIP**

### **WEST VIRGINIA BIRTH TO THREE**

The West Virginia Birth to Three Program is a statewide program that supports children under the age of three who have a developmental delay or could be at risk of having a delay. A child may have a cognitive delay, physical delay, social or emotional delay, adaptive delay, or communication delay. Under the Federal regulations of IDEA, states must be sure that all eligible infants and toddlers with developmental delays are not only identified, but also the children must be provided with developmental services. States are not permitted to have waiting lists for the services.

The WV Birth to Three Program provides a seven step process to facilitate the early intervention process. The first step is a referral. A parent or physician who is concerned about a child's development can make a referral to the program. The second step is the first visit in which an Interim Service Coordinator will perform a home visit to the child and the family. The third step of the early intervention process is the evaluation. If the child is diagnosed with a delay, the child may then be eligible for the program's services. Eligibility for the program is not based on the family's income, but the program's professionals will gather information to determine the eligibility of the child. The fourth step of the process is an individualized family service plan meeting. This meeting will determine what services the family needs to improve the health and well-being of the child. The fifth step is the delivery of services which includes the individualized family service plan provided in the family's home or community. These services are provided at no charge to families. The sixth step in the early intervention program is the service coordination. At this stage, the service coordinator, who the family met at the individualized family service plan meeting, will continue to work with the family by providing additional information and access to other services in the community. The final stage of the process is the transition. When the child turns three, he or she will exit the program. The service coordinator will assist with the transition process and introduce the family to other services.

While there are no financial eligibility requirements, a child's eligibility for the program is based on other criteria. Children ages birth to 36 months are eligible, and the eligibility is determined during the initial family meeting. A child is eligible for birth to three services if he or she is experiencing a developmental delay, has been diagnosed with a physical or mental condition that has a high probability of resulting in a developmental delay, or the child is at a large risk of having a developmental delay if early intervention services are not provided.

From July 1, 2006 to June 30, 2007, 5,438 West Virginia children received Birth to Three services. The program divides the State into eight regions, and reports the number of children served in each county. In Kanawha County, for example, 569 children received Birth to Three services from July 1, 2006 to June 30, 2007. However during that same period of time, in Tyler County only 20 children received services, and in Wirt County only 14 children received services. Doddridge County has the least amount of children served in the State with only ten children under the age of three receiving Birth to Three program services.

The WV Birth to Three Program is funded by four areas. First, the program receives funding from the Federal Part C Funds. This allocation is based on the State's population of infants. Additional funds are not provided if the program serves more infants and toddlers. Second, the program is funded by the State BTT Line Item. This line item for service costs has not increased since the late 1990s. Next, the program is supported by Title V Funds. This fund provides support for non-Medicaid eligible children. The last form of funding for the program is

Medicaid reimbursement. This is billed to Medicaid for the children who do have that coverage. The following is the approximate annual budget for the Birth to Three Program.

<b><i>West Virginia Birth to Three Approximate Annual Budget (from the 2007 annual report)</i></b>	
Federal Part C Funds	\$2,138,714
State BTT Line Item	\$3,307,043
Title V Funds	\$50,000
Medicaid Reimbursement	\$14,000,000

The WV Birth to Three Program measures performance outcomes for the infants, toddlers and families by using nationally established criteria. The Program monitors three child outcome indicators. As of February 2007, 45 percent of infants and toddlers had positive social-emotional skills that were comparable to children of the same age level. The second outcome measures the ability of the infants and toddlers to acquire and use knowledge and skills. In February of 2007, 140 children (68 percent) functioned below the level of children the same age. The third outcome measures the children's use of behaviors to meet their needs. Thirty percent of the children did perform at the same level of their peers, while 145 children (70 percent) performed below their peers.

The program also measures the outcomes of the families involved in the program. As of June 2006, 95.6 percent of the families exiting the program agreed that the early intervention services had helped them communicate more effectively with those who were involved with the child and the family. Also, 82.7 percent of the families expressed strong or very strong agreement that the early intervention services had helped the family understand the child's special needs.

## **WEST VIRGINIA CHILDREN'S HEALTH INSURANCE PROGRAM**

The West Virginia Children's Health Insurance Program is a low cost health care plan for children and teenagers of working families. A variety of services are covered by WVCHIP including doctor visits, check-ups, hospital visits, immunizations, prescriptions, tests and x-rays, dental care, vision care, emergency care, mental health, diabetic supplies, urgent care visits, and case management for special needs. WVCHIP's average cost per child for the state fiscal year of 2007 was \$1,670.

The WVCHIP was created on April 19, 1998 after the West Virginia Legislature passed House Bill 4299. WVCHIP is one of nineteen state CHIP programs run separately from Medicaid funding. The WVCHIP is funded with both federal and state money. Each year the WVCHIP receives an allotment of federal money that can be used to fund expenditures of the program. The State money is provided through general appropriations. The match rates as of June 30, 2007 were 80.97 percent federal share and 19.03 percent state share. WVCHIP covers uninsured children in families earning income up to 220 percent of the federal poverty level.

Children and teenagers must be eligible for enrollment to receive WVCHIP services. Children are eligible for WVCHIP if he or she meets the following criteria:

- Lives in West Virginia
- Eighteen years old or younger
- Without health insurance
- Not eligible for the WV State Employee Health Insurance
- Not eligible for Medicaid

- Living with a family who meets the income guidelines of the program
- United States citizen or qualified alien

If a child has not had health insurance in the past six months then the child is eligible for the Basic CHIP Plan. If the child has been without health insurance for the past twelve months, then the child is eligible for the CHIP Premium Plan.

WVCHIP covers uninsured children in families earning income up to 220 percent of the federal poverty level. The WVCHIP guidelines are based on the size of the family. (Family size is the number of parents living with their natural or adopted children plus the number of children under the age of 19.) The following chart includes the income requirements for families to be eligible for the WVCHIP Program.

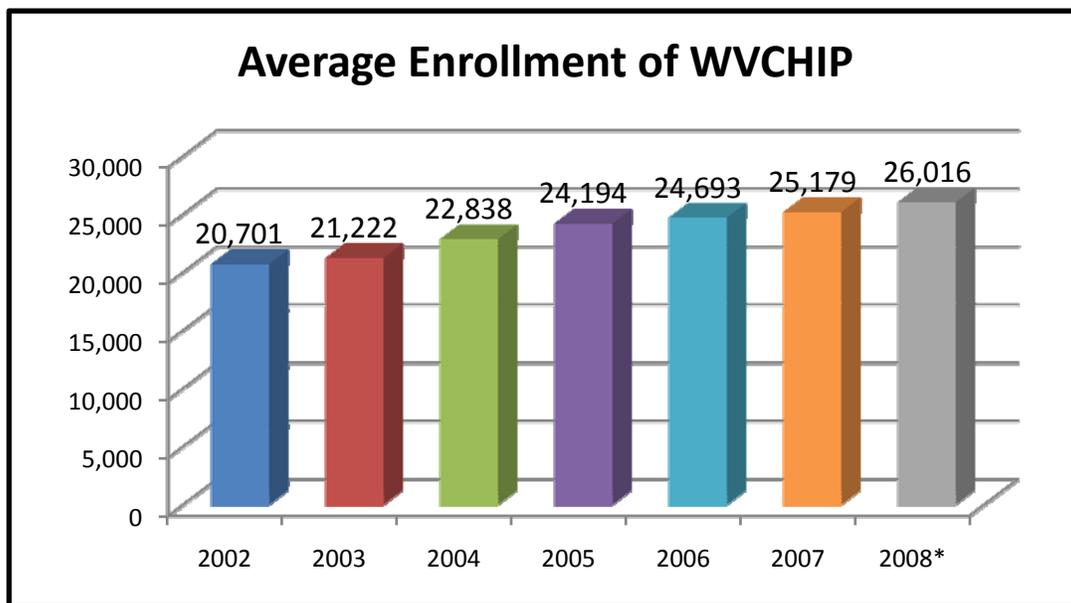
Family Size	Group A Drug Co-Pays Only		Group B All Co-Pays Apply		Premium Plan All Co-Pays Apply	
	Per Month	Annual	Per Month	Annual	Per Month	Annual
2	\$1,750	\$21,000	\$2,334	\$28,000	\$2,567	\$30,800
3	\$2,200	\$26,400	\$2,934	\$35,200	\$3,227	\$38,720
4	\$2,650	\$31,800	\$3,534	\$42,400	\$3,887	\$46,640
5	\$3,100	\$37,200	\$4,134	\$49,600	\$4,547	\$54,560
6	\$3,550	\$42,600	\$4,734	\$56,800	\$5,207	\$62,480
7	\$4,000	\$48,000	\$5,334	\$64,000	\$5,867	\$70,400
8	\$4,450	\$53,400	\$5,934	\$71,200	\$6,527	\$78,320

A family income may exceed the eligibility requirements for the CHIP Program. However, there are options that may help a family qualify for the program. Income disregards are subtracted from each applicant's gross income. Listed below are the types of disregards available to applicants:

- \$90 monthly deduction for each parent working full-time or part-time
- \$50 monthly deduction on total child support income

- Up to \$175 monthly deduction for child care expenses for each child over the age of two
- Up to \$200 monthly deduction for child care expenses for each child under the age of two
- Up to \$175 monthly deduction for dependent adult care expenses.

As of October 10, 2008, 14,841 children were enrolled in the basic CHIP program in West Virginia, 8,650 were enrolled in the CHP3 program, and 336 were enrolled in the premium CHIP program. This is a total of 23,827 children enrolled in the State. The total unduplicated number of children enrolled in WVCHIP since its inception (as of June 30, 2007) is 100,742 children. WVCHIP coverage is immeasurable to a child's success. Children involved have a higher success rate of having physical, emotional, social, and behavioral problems addressed early, which correlates to greater school and employment success. WVCHIP's partnership with local and national organizations has assured that eligible families have access to information about the program; in 2007, 95 percent of eligible children received WVCHIP coverage.



## WOMEN, INFANTS AND CHILDREN (WIC)

WIC, the Special Supplemental Nutrition Program for Women, Infants and Children, was established in 1972 and became a discretionary program in 1974. WIC services and goals are implemented to “identify and correct nutrition problems during critical stages of growth and development.” The West Virginia Bureau for Public Health, Office of Nutrition Services administers the program in the state.

In West Virginia, eight local contracted agencies provide services to eligible individuals. To be eligible for the program three criteria must be met: category, income, and nutrition risk. Category criteria is achieved if the individual is a pregnant woman, a woman breast feeding an infant, a postpartum woman up to six months after delivery, or a child from birth through five years of age. To be eligible in the income category, the household must have income equal to or below 185% of the FPL. The final criterion, nutrition risk, is met if there is any medical or health

problem which can be corrected or lessened by proper nutritional intake (i.e. low iron, insufficient growth, or premature delivery).

WIC is a federally funded program through the United States Department of Agriculture and provides services to as many eligible individuals as funding allows.

Currently, West Virginia WIC is currently serving 50,000 residents, which accounts for 61 percent of the eligible Medicaid recipients. Approximately 75,000 West Virginians currently qualify for WIC services, suggesting one-third of the population that is eligible, is not enrolled. If this percentage was accessed and registered, federal funds for the WIC program would increase by \$18 million.

WV WIC PROGRAM: PARTICIPATION AND FUNDING					
	2003	2004	2005	2006	2007
PARTICIPATION	49,837	50,436	49,961	49,704	49,588
FUNDING	\$30,660,823	\$32,093,881	\$33,174,872	\$32,285,553	\$32,403,414

Participation in WIC results in savings for other state programs, but benefits transcended to WIC recipients are immeasurable. Medicaid savings is one of the easiest measures of savings for WIC participation by pregnant women. Women who receive WIC services have better birth outcomes than their non-WIC peers. Babies are less likely to be born prematurely, mothers are more likely to receive adequate prenatal health care, and infant and fetal mortality rates decline.

Children who participate in the WVWIC program are more likely to be healthy, do better in school, maintain up-to-date immunizations, and have regular medical care as well as lower medical costs than those not participating in the program. According to the 2007 Pediatric Nutrition Surveillance System (PedNSS), the percentages of WVWIC children that are overweight, have anemia, or watched less than 2 hours of television per day are lower than the WIC national average. Each of these indicators measure national health objectives for adolescents or signal as a deficiency indicator for future health problems. In contrast, WVWIC children rank worse than the national WIC average in the number that are born of LBW and are exposed to smoking in the household.

## **MEDICAID**

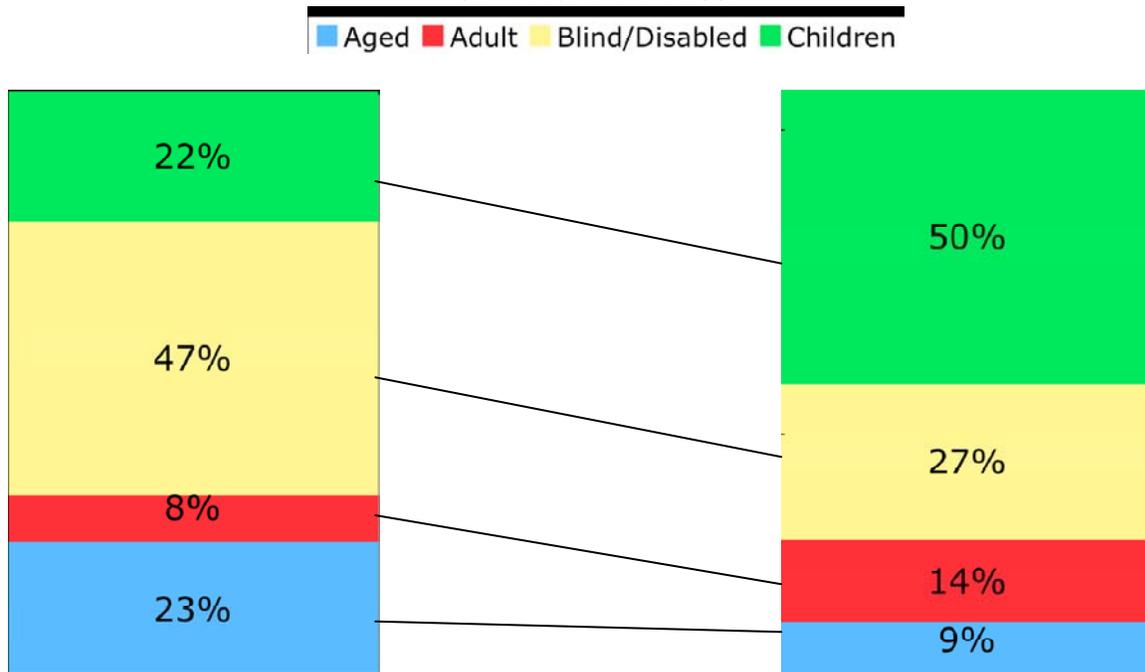
Medicaid provides medical care to individuals who otherwise may not be able to afford the care. The program is a major public source of financing for providing services to pregnant women, infants, and children. Medicaid is a state and federal partnership with about 75 percent of the costs paid by the federal government. The remaining 25 percent is made up of WV State dollars. State dollars come from the General Revenue Fund, Lottery, Medical Services Trust Fund, and Provider Tax.

A variety of services are included for those who are covered by Medicaid in West Virginia including physician's services, hospital inpatient and outpatient services, routine dental care for children, prescribed drugs, vision care services for children under age 20, family planning services and Early and Periodic Screening Diagnosis and Treatment (EPSDT) for children aged birth to 20.

Eligibility for Medicaid is based on categorical relatedness, income, and assets. However, the eligibility of pregnant women and children up to age 19 is determined solely on income. Medicaid covers pregnant women earning income up to 150 percent of the federal poverty level.

In West Virginia in 2004, women of child-bearing age (19-44) and children under 19 accounted for 64 percent of all Medicaid participants. However, only 27 percent of expenditures were allocated to the needs of these groups.

West Virginia Eligibles and Expenditures by Enrollment Group  
State Fiscal Year 2007



FY 2007 Federal Expenditures  
\$1.9 Billion\*

Eligibles Enrolled in Medicaid  
392,054

\*Does not include State only expenditures or adjustments made for federal spending reporting purposes

Medicaid eligibility levels for infants is 150 percent of the FPL (\$25,755 annual income), for children under age six 133 percent of the FPL (\$22,836 annual income), and children age six through eighteen 100 percent of the FPL (\$17,170 annual income).

West Virginia has the highest percentage of its overall population enrolled in Medicaid among the neighboring states. About 20 percent of WV's population, 390,000 people, received Medicaid benefits in 2007. Almost half of those receiving benefits were children (Eyre 2008). Medicaid financed medical expenses for more than 1.6 million births in the United States in 2002. This accounted for more than 40 percent of all births to pregnant women in the nation. In West Virginia, 50 percent of births in 2002 were financed by Medicaid (NCCP 2002). West Virginia also spends more per Medicaid recipient than any other bordering state. West Virginia spends \$6,285 per recipient, Kentucky spends \$4,964, and Maryland and Ohio both spend about \$5,800 per enrollee (Eyre 2008).

## APPENDIX C: BRIGHT FUTURES

### BRIGHT FUTURES

Bright Futures for Infants, Children, and Adolescents Initiative was launched in 1990 by the Health Resources and Services Administration's Maternal and Child Health Bureau with support from the Medicaid Bureau in the Health Care Financing Administration. Bright Futures was created as a system of preventive care for children and intended to guide clinical care and reimbursement policies. Many states implement Bright Futures principles and guidelines in an effort to strengthen the partnerships between state and local programs, pediatric primary care, families, and the local communities. The mission of Bright Futures is to "promote and improve the health, education, and well-being of infants, children, adolescents, families, and communities." The specific goals of the program include the following:

- Enhance the health professionals' knowledge, skills, and practice of developmentally appropriate health care in the context of family and community;
- Promote desired social, developmental, and health outcomes of infants, children, and adolescents;
- Foster partnerships among families, health professionals, and communities;
- Increase family knowledge, skills, and participation in health promotion and prevention activities.

The above mentioned goals are to be achieved by the implementation of five specific objectives. These objectives include developing materials and practice tools; distributing Bright Futures materials; training families, health professionals, and communities to work together for the benefit of children's health; developing and maintaining public private partnerships; and evaluating the efforts of Bright Futures.

To achieve the goals and objectives, Bright Futures conducts regional and state-based training, presents information at a variety of conferences, exhibits at national conferences, and continually distributes Bright Futures materials. Frequently, the demand for the resources exceeds the amount of available resources.

Bright Futures focuses its efforts on a comprehensive set of health supervision guidelines for infants, children, and adolescents from birth to age 21. This document, *Bright Futures Guidelines for Health Supervision of Infants, Children, and Adolescents*, was most recently updated in 2002. Other written documents have been published on such topics as nutrition, physical activity, oral health and mental health. These publications are organized by a child's developmental stage, written for a broad audience, and include practical tools and examples.

Bright Futures has also developed publications and tools to facilitate the goal of training providers including training materials for primary care clinicians and supplemental information concerning the WIC program. Many States have developed publications in an effort to train staff members to provide services consistent with Bright Futures guidelines. For example, Washington developed a training manual for child care health consultants, and Virginia developed a training manual for community health workers. Additional training tools have also been developed including forms for health professionals that identify key topics for well-child visits. EnterVue, a system for collecting information electronically from parents in the waiting room, has also been developed using Bright Futures materials. An initial evaluation of the EnterVue system shows that doctors who use the system report an increase in the number of

topics discussed at each visit. Patients also report higher levels of satisfaction regarding the conversations with doctors than before the EnterVue system was put into place in the office.

Bright Futures also provides informational materials for families. Some of the materials include activity books for children, fact sheets on key child health topics, and a booklet for parents to record information about their child's health visits. Other materials have been developed on specific topics including preventing violence and protecting children from lead poisoning.

Many of the materials mentioned above have been disseminated extensively, but the cost of publications remains a major barrier to increased distribution. The materials are distributed by public health agencies and the corporate partner of Bright Futures, Pfizer. Other materials are distributed during presentations and exhibits.

Training activities are also an important objective for Bright Futures. Some of the training efforts are focused on pediatric residents. At the Children's Hospital in Boston, physicians formed the Bright Futures Center for Pediatric Education. The curriculum focused on health supervision and preventive care. There are also pediatric nurse practitioners training programs which have incorporated Bright Futures into their curriculum. Of all 87 pediatric nurse practitioners training programs in the nation, all of the programs have incorporated Bright Futures into their curriculum. Other programs include nutrition training programs, continuing education programs, and parenting training programs.

Bright Futures has been implemented across the country in private practices, health departments, and programs for a variety of reasons. The different attributes of the program and its materials allow those involved to utilize the training, education, and clinical practice to improve children's health care. The features of Bright Futures are highlighted below:

- Focus on prevention
- Family and community oriented approach
- Comprehensiveness of developmental periods
- Appealing to a wide variety of audiences
- Materials are attractive and easy to use
- Materials are useful for training
- Extended support for Bright Futures by health professional organizations.

Bright Futures is being used by many groups and individuals at state, local, and regional levels. Child care providers, school nurses, family support programs, community entities, pediatric residents, and many others are involved in utilizing Bright Futures. Bright Futures is often adopted as a solution to a problem or need. For example, Bright Futures was identified as a program that improves the consistency of child health supervision and creates uniformity across programs, disciplines, and clinical practice settings. Others are implementing the Bright Futures program, because the philosophy of Bright Futures reflects the individual or organization's key values.

Bright Futures is being used in a variety of ways including policy development and program planning, education and training of health related professionals, clinical practice, education and outreach to families. However, there are still many challenges to State Bright Futures Efforts. The challenges are listed below:

- Engaging and involving private providers
- Translating policy into practice
- Providing ongoing training targeted to audience needs
- Dealing with staff turnover
- Obtaining funding for Bright Futures materials
- Engaging partners who may not see themselves as focused on child health
- Collecting information about Bright Futures and the experiences of those who use the program.

Although there are challenges associated with the adoption of Bright Futures, the program has been seen as successful. While there has been very little formal evaluation of Bright Futures efforts, individual reports have been positive. The American Academy of Pediatric Dentistry felt that Bright Futures was “ahead of its time” in meeting the needs of providers. The Virginia Department of Health supported Bright Futures and used the program as the standard for child health care in the State. Other departments, including the Illinois Department of Human Services, the Georgia Department of Human Resources, and the Kentucky Department for Public Health stated that the Bright Futures training sessions had been very successful. There are many other local-level statements that also illustrate the effectiveness of the Bright Futures program including county health departments, private practices, and school-based health centers.

## APPENDIX D: HEALTHY START

### HEALTHY START

Established in 1991 by the Health Resources and Services Administration (HRSA) and the U.S. Department of Health and Human Services (HHS), The Healthy Start Program seeks to improve the health and well-being of women and their infants. As the United States ranks 23<sup>rd</sup> among the industrialized nations in infant mortality rates, and low birthweight issues are rising, the Healthy Start Program's mission to actively address these issues is essential. Specifically, the Program seeks to promote the development of community-based maternal health initiatives, along with prenatal care measures for mothers at risk.

The vitality of Healthy Start's mission is rooted on the importance of its goals and their purpose. The social services and medical expenses inquired due to high mortality rates and low birthweight infants are a high cost for the American taxpayer. Also, racial minorities need special attention when it comes to these issues, given that they are the ones being affected the most. This is why the Healthy Start Program, recognizing that true change can only be brought by a change in individual habits, has chosen to intervene intensely at the community level.

Having such ambitious visions, the Healthy Start Program carries different activities to help fulfill its mission. These include providing adequate prenatal care and promoting positive prenatal care behavior, meeting nutrition, housing, and psychosocial support needs, and reducing barriers to health access in different states. The Healthy Start Program has 96 projects across the United States; the states in which these have been founded include South Dakota, Tennessee, Texas, Virginia, West Virginia and Wisconsin.

The Healthy Start Program only has one project in West Virginia, and its targeted counties are located in the northern part of the state; these include Barbour, Harrison, Marion, Monongalia, Preston, Randolph, Taylor, and Upshur counties. The Healthy Start Program works in collaboration with other institutions such as the West Virginia Office of Maternal, Child, and Family Care and West Virginia University, among others in the state.

Some services provided by the Project include:

- In-home information and education on healthy pregnancy behaviors
- Infant development
- Assistance with transportation and childcare costs
- Wellness
- Assistance with transportation
- Costs associated with childcare
- Assessment and payment of treatment for depression
- Smoking cessation and counseling
- Family building
- Specialized oral health services for pregnant women.

To be eligible to receive the benefits of the Healthy Start Program in West Virginia, women must be West Virginia residents and hold a West Virginia Medicaid card. Eligibility is also determined by the level of risk associated with a pregnant woman. Smoking, postpartum depression and the birth of a low birthweight baby could increase the risk of a pregnant woman.

Aside from its community-based goals and services provided, the Healthy Start Program receives support and education from the National Healthy Start Association in various ways. Quarterly newsletters, research updates, regional conferences, toolkits and training materials are some of the benefits that the local Healthy Start Projects obtain. One of the main goals of the National Healthy Start Association is to oversee the local programs and make sure these are running appropriately by getting appropriate assistance and by collecting and analyzing data and findings on local Healthy Start Projects.

Providing adequate prenatal care is the essence of the Healthy Start Program. According to the National Healthy Start Association, “the Healthy Start Program offers the best models for the reduction of infant mortality, low birthweight and racial disparities in perinatal outcomes.” The program continues to emphasize the importance of community-based partnerships in reducing infant mortality and low birthweight throughout the United States.

<b>Percent of Grantees that Reported They Achieved Selected Intermediate Outcomes from the Healthy Start Program, 2003</b>	
Increased access to the services available for participants	93%
Increased positive health behaviors among participants	91%
Increased number of participants with a medical home	76%
Increased awareness of the importance of interconceptional care	92%
Increased awareness of disparities in birth outcomes as a priority in the community	87%
Increased screening for perinatal depression among providers in the community	74%
Increased integration of prenatal, primary care, and mental health services	69%
Increased cultural competence of providers in the community	57%
Increased consumer involvement in Healthy-Start decision making	67%
Increased consumer involvement in other community activities addressing systems changes	51%
Increased consumer involvement in decision-making among partner agencies	31%

Source: A Profile of Healthy Start: Findings from Phase I of the Evaluation 2006

## **REFERENCES**

- Advisory Committee on Immunization Practices. 2008. Prevention and Control of Influenza. Morbidity and Mortality Weekly Report. 57 (17): 1-60.
- American Academy of Pediatric Dentistry. 2004. Policy on the Dental Home. Chicago, Illinois: American Academy of Pediatric Dentistry.
- American College of Obstetricians and Gynecologists (ACOG). 2002. *Smoking Cessation During Pregnancy: A Clinician's Guide to Helping Pregnant Women Quit Smoking*. Washington: ACOG.
- American College of Obstetricians and Gynecologists Committee Opinion No. 316. 2005. Smoking Cessation During Pregnancy. *American Journal of Obstetrics and Gynecology*. 106 (4): 883-8.
- Annie E. Casey Foundation. 2008. 2008 Kids Count Data Book: State Profiles of Child Well-Being. Baltimore, Maryland: Annie E. Casey Foundation.
- Alexander, G. and Korenbrot. 1995. The Role of Prenatal Care in Preventing Low Birth Weight. *The Future of Children*. 5 (1): 103-20.
- Baldwin, L. et al. 1999. The Effect of Expanding Medicaid Prenatal Services on Birth Outcomes. *American Journal of Public Health*. 88 (11): 1623-9.
- Barker, David. 2003. The Midwife, the Coincidence, and the Hypothesis. *BMJ*. 327: 1428-30.
- Barnett, W.S. 2004. Better Teachers, Better Preschools: Student Achievement Linked to Teacher Qualifications. *Preschool Policy Matters*. 2: 1-11.
- Becker, Davida et al. 2007. The Quality of Family Planning Services in the United States: Findings from a Literature Review. *Perspectives on Sexual and Reproductive Health*. 39 (4): 206-15.
- Bilukha, Oleg et al. 2005. The Effectiveness of Early Childhood Home Visitation in Preventing Violence: A Systematic Review. *American Journal of Preventive Medicine*. 28 (2S1): 11-39.
- Bitler, Marianne P. and Janet Currie. 2004. Does WIC Work? The Effects of WIC on Pregnancy and Birth Outcomes. Los Angeles, California: Department of Economics, UCLA.
- Carneiro and Heckman. 2003. Human Capital Policy. In *Inequality in America: What Role for Human Capital Policies?*, eds. Heckman, James and Krueger. Cambridge, Massachusetts: MIT Press.
- Cawthon, L. and Salazar. 1999. First Steps Database: The First Steps Program: 1989-1997. In *Research and Data Analysis*. Olympia, Washington: DSHS.

- Centers for Disease Control and Prevention (CDC). 1999. Increased Risk of Dying from Pregnancy among Hispanic Women in the United States. National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health.
- Center for Disease Control and Prevention (CDC). October 2008. Healthy Youth! Childhood Obesity. National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health.
- Center for Disease Control and Prevention (CDC). 2008. Breastfeeding Report Card—UnitedStates, 2008. National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity, and Obesity.
- Centers for Medicaid and Medicare Services. 2006. *Medicaid Program—General Information: Overview*. Washington, D.C.: U.S. Department of Health and Human Services.
- Center on the Developing Child at Harvard University. 2007. *A Science-Based Framework for Early Childhood Policy: Using Evidence to Improve Outcomes in Learning, Behavior, and Health for Vulnerable Children*.  
<http://www.developingchild.harvard.edu> (accessed October 9, 2008).
- Child Welfare League of America. 2003. National Data Analysis System.  
[http://ndas.cwla.org/data\\_stats/states/](http://ndas.cwla.org/data_stats/states/) (accessed October 5, 2008).
- Committee for Economic Development. 2002. *Preschool For All: Investing In a Productive and Just Society*. Washington, D.C.: Committee for Economic Development.
- Cornell, Emily. 2002. *The Benefits and Financing of Home Visiting Programs*, Issue Brief. Washington, D.C.: NGA Center for Best Practices.
- Cunha, Flavio et al. May 2005. *Interpreting the Evidence of Life Cycle Skill Formation*. National Bureau of Economic Research.
- Currie, Janet. 2001. Early Childhood Education Programs. *Journal of Economic Perspectives*. 15 (2): 213-38.
- Daniels, Stephen R. 2006. The Consequences of Childhood Overweigh and Obesity. *The Future of Children*. 16 (1): 47-67.
- Division of Science. 1998. *Maternal and Child Health Services Economics in MCH*. In *A Review of Descriptive Costs Studies and Economic Evaluations of MCH Interventions: Volume 2*. MCH Bureau, HRSA.
- Donovan, P. 1994. Experimental Prenatal Care Program Reduced Preterm Deliveries by 20 Percent, Saved \$1,800 per High-Risk Woman. *Family Planning Perspectives*. 26 (6): 280-1.
- Edwards, J., Bronstein and Adams. November 2003. *Evaluation of Medicaid Family Planning Demonstrations*, The CNA Corporation, CMS Contract No. 752-2-415921.

- Fight Crime: Invest in Kids. 2006. Preventing Crime with Pre-kindergarten: A Critical Investment in West Virginia's Safety. Washington, D.C.
- Fiscella, K. 1995. Does Prenatal Care Improve Birth Outcomes?. *American Journal of Obstetrics and Gynecology*. 82 (3): 448-50.
- Fowles, Eileen R. 2004. Prenatal Nutrition and Birth Outcomes. *JOGNN*. 33 (6): 809-822.
- Frick, K. 1999. Commentary: How Well Do We Understand the Relationship Between Prenatal Care and Birth Weight?. *Health Services Research*. 34 (5): 1063-73.
- Frost, Jennifer, Adam Sonfield and Rachel Benson Gold. November 2006. Estimating the Impact of Expanding Medicaid Eligibility for Family Planning Services, 28. *Occasional Report*. Guttmacher Institute.
- Gift, Reisine and Larach. 1998. The Social Impact of Dental Problems and Visits. *American Journal of Public Health*. 82: 1163-8.
- Gordon, Anne and Lyle Nelson. 1995. *Characteristics and Outcomes of WIC Participants and Nonparticipants: Analysis of the 1988 National Maternal and Infant Health Survey*. Alexandria, Virginia: U.S. Department of Agriculture.
- Gorsky, R. and Colby. 1989. The Cost Effectiveness of Prenatal Care in Reducing Low Birth Weight in New Hampshire. *Health Services Research*. 24 (5).
- Grunewald, Rob and Art Rolnick. 2003. A Proposal for Achieving High Returns on Early Child Development. Washington, D.C.: Committee for Economic Development.
- Guttmacher Institute. 2006. Contraception Counts: West Virginia. New York, New York: The Guttmacher Institute.
- Hagan, Joseph, Judith Shaw and Paula Duncan, eds. 2008. Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, Third Edition. Pocket Guide. Elk Cove Village, Illinois: American Academy of Pediatrics.
- Halfon, N. et al. May 2005. *Quality of Preventive Health Care for Young Children: Strategies for Improvement*. New York: The Commonwealth Fund.
- Hartmann, Katherine E. et al. 2007. Best Practice Smoking Cessation Intervention and Resource Needs of Prenatal Care Providers. *American Journal of Obstetrics and Gynecology*. 110: 765-70.
- Hatziandreu et al. 1994. *A Cost-Benefit Analysis of the Diphtheria Tetanus Pertussis vaccine*. Arlington, Virginia: Batelle.
- Health Resources and Services Administration (HRSA). 2006. *Maternal and Child Health Services Title V Block Grant Program Guidance and Forms for the Title V*

- Application/Annual Report*. Washington, D.C.: U.S. Department of Health and Human Services.
- Health Resources and Services Administration and Maternal and Child Health Bureau. 2006. A Profile of Healthy Start: Findings from Phase I of the Evaluation 2006. U.S. Department of Health and Human Services.
- Heasley, Steven. November 2007. An Examination of Preventable Cost Factors in West Virginia's High Risk Families with Young Children. Partners in Community Outreach.
- Heckman, James et al. 2005. Interpreting the Evidence of Life Cycle Skill Information, Working Paper. Cambridge, Massachusetts: National Bureau of Economic Research.
- Helburn, Suzanne W., John R. Morris and Kathy Modigliani. 2002. Family Child Care Finances and Their Effect on Quality and Incentives. *Early Childhood Research Quarterly*. 17 (4): 512-38.
- Herzenberg, Stephen, Mark Price and David Bradley. 2005. Losing Ground in Early Childhood Education : Declining Workforce Qualifications in an Expanding Industry, 1979-2004 : Summary. Washington, D.C.: Economic Policy Institute.
- Huntington, J. and Connell FA. November 1984. For Every Dollar Spent—the Cost Savings Argument for Prenatal Care. *New England Journal of Medicine*. 331 (19): 1303-7.
- Institute of Medicine of the National Academies. September 2004. Childhood Obesity in the United States: Facts and Figures. In *Preventing Childhood Obesity: Health in the Balance*. Institute of Medicine.
- Johns Hopkins University Bloomberg School of Public Health. 2008. Mother's Flu Shot Protects Newborns. *ScienceDaily*.  
<http://www.sciencedaily.com/releases/2008/09/080917095346.htm> (accessed October 9, 2008).
- Kaiser Family Foundation. December 2007. Medicaid's Role in Family Planning, Issue Brief. Menlo Park, California: The Henry J. Kaiser Family Foundation.
- Kaye, Neva, Jennifer May and Melinda Abrams. December 2006. State Policy Options to Improve the Delivery of Child Development Services: Strategies from the Eight ABCD States. In *National Academy for State Health Policy*. Portland, Maine: National Academy for State Health Policy.
- Kent et al. 2005. The Economic Impact of Early Child Development Programs in West Virginia. Huntington, West Virginia: Center for Business and Economic Research.
- Lester, Barry M. and Jean E. Twomey. 2008. Treatment of Substance Abuse During Pregnancy. *Women's Health*. 4 (1): 67-77.

- Liu, Gordon G. 1998. Birth Outcomes and the Effectiveness of Prenatal Care. *Health Services Research*. 32 (6): 805–23.
- Lowry, Lois W. and Beikirch PB. 1998. Effect of Comprehensive Care on Pregnancy Outcomes. *Applied Nursing Research*. 11 (2): 55-61.
- Lu, Michael C. et al. 2000. Elimination of Public Funding of Prenatal Care for Undocumented Immigrants in California: A Cost/Benefit Analysis. *American Journal of Obstetrics and Gynecology*. 182 (1, Part 1): 233-9.
- Ludwig, Jens and Matthew Miller. 2005. Interpreting the WIC debate. *Journal of Policy Analysis and Management*. 24 (4): 691–701.
- Maternal and Child Health Bureau. 2008. A Healthy Start: Begin Before Baby's Born. Health Resources and Services Administration. Washington, D.C.: United States Department of Health and Human Services.  
<http://mchb.hrsa.gov/programs/womeninfants/prenatal.htm> (accessed October 12, 2008).
- McCormick, M. and Siegel. 2001. Recent Evidence on the Effectiveness of Prenatal Care. *Ambulatory Pediatrics*. 1 (6): 321-5.
- McGregor, James. 2006. Advances in Prenatal Nutrition. *A Supplement to OBG Management*. Dowden Health Media.
- Messonnier, Mark L. et al. April 1999. An Ounce of Prevention: What are the Returns?. *American Journal of Preventive Medicine*. 16 (3): 248-63.
- Minkoff, H. July 2001. Welfare Reform in the Perinatal Health of Immigrants. In *Forum for Child Health*. New York: SUNY Health Center.
- Moore, T. et al. 1986. The Peri-natal and Economic Impact of Prenatal Care in a Low-Socioeconomic Population. *American Journal of Obstetrics and Gynecology*. 154 (1): 29-33.
- Munsen et al. July 1992. Does Prenatal Care Decrease the Incidence and Cost of Neonatal Intensive Care Admissions?. *American Journal of Perinatology*. 9 (4): 281-4.
- National Center for Children in Poverty (NCCP). 2008. United States Early Childhood Profile. New York, New York: National Center for Children in Poverty.
- National Governor's Association. 2001. Preventing Maternal Smoking, Issue Brief. Washington, D.C.: NGA Center for Best Practices.
- National Institute for Early Education Research. 2008.  
<http://nieer.org> (accessed October 3, 2008).

- National Institute of Dental and Craniofacial Research. 2000. *Oral Health in America: A Report of the Surgeon General*. Rockville, Maryland: US Department of Health and Human Services.
- National Research Council. 2001. *Eager to Learn: Education our Preschoolers*. Washington, D.C.: National Academy Press.
- Office of Research, Nutrition and Analysis. December 2007. WIC Participant and Program Characteristics 2006: Summary. Food and Nutrition Service, United States Department of Agriculture.
- Office of the Surgeon General. 2007. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity. U.S. Department of Health and Human Services.
- O'Leary, Sean et al. 2008. Vaccine-Preventable Diseases in Colorado's Children. *State of the Health of Colorado's Children*. V (1): 1-4.
- O'Neill, Cassandra. 2004. Healthy Babies: Efforts to Improve Birth Outcomes and Reduce High Risk Births, Issue Brief. Washington, D.C.: NGA Center for Best Practices.
- Partners in Community Outreach. December 2005. In-Home Family Education: Supporting Healthy Child Development in the First Years of Life. [www.wvpartners.org](http://www.wvpartners.org) (accessed October 5, 2008).
- Partners in Community Outreach. December 2007. In-Home Family Education: A Call to Action to Strengthen Families and Protect Children. [www.wvpartners.org](http://www.wvpartners.org) (accessed October 5, 2008).
- Petrou, S., Sach, T., and Davidson. March 2001. The Long-Term Costs of Pre-term Birth and Low Birth Weight: Results of a Systematic Review. *Child: Care, Health, and Development*. 27 (2): 97-115.
- President's Council of Economic Advisors. April 1997. The First Three Years: Investments that Pay. The White House.
- Regalado, Michael and Neal Halfon. September 2002. Primary Care Services: Promoting Optimal Child Development from Birth to Three Years. UCLA Schools of Medicine and Public Health. The Commonwealth Fund. [www.cmwf.org](http://www.cmwf.org) (accessed October 2, 2008).
- Robert Wood Johnson Foundation. April 2007. Making the Smoking Cessation Guideline a Routine Part of Prenatal Care. Princeton, New Jersey: The Robert Wood Johnson Foundation.
- Rolnick, Art and Rob Grunewald. 2003. Early Child Development: Economic Development with a High Public Return. *The Region*.

- Rose, D., Habicht and Devaney. 1998. Household participation in the food stamp and WIC programs increases the nutrient intakes of preschool children. *Journal of Nutrition*. 128: 548–555.
- Savage et al. 2004. Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs. *Pediatrics*. 114 (4): e418-23.
- Sills, Sara. 2007. Cost-Effectiveness of Medicaid Family Planning Demonstrations, State Health Policy Briefing. Portland, ME: National Academy for State Health Policy.
- Shackelford, J. 2005. State and Jurisdictional Eligibility Definitions for Infants and Toddlers with Disabilities Under IDEA, NECTAC Notes No. 18. Chapel Hill: The University of North Carolina, FPG Child Development Institute, National Early Childhood Technical Assistance Center.
- Shonkoff, Jack and Deborah Phillips, eds. 2000. *Neurons to Neighborhoods: the Science of Early Childhood Development*. Washington, D.C.: National Academy Press.
- Sonfield, A., Alrich and Gold. 2008. *State Government Innovation in the Design and Implementation of Medicaid Family Planning Expansions*. New York: Guttmacher Institute.
- Thomas et al. 2007. Emerging Practices in Prevention of Child Abuse and Neglect. Child Welfare Information Gateway.  
<http://www.childwelfare.gov/preventing/programs/whatworks/report/emerginga.cfm>  
(accessed October 4, 2008).
- Ural, S. et al. 1998. Lack of Prenatal Care Increases the Rate of Recurrent Pre-term Delivery in Health Care Costs when Compared to University Hospital-Based Prenatal Care. In *the Annual Meeting of the American College of Obstetricians and Gynecologists*. New Orleans, Louisiana.
- United States Census Bureau and Bureau of Labor Statistics. 2006. Current Population Survey. Washington, D.C.
- United States Census Quarterly Workforce Indicators. 2007. Local Employer-Household Dynamics: Quarterly Workforce Indicators. Washington, D.C.
- United States Department of Health and Human Services. 2006. A Profile of Healthy Start: Findings from Phase I of the Evaluation 2006. Health Resources and Services Administration, Maternal and Child Health Bureau.
- United States Department of Health and Human Services. 1998. *The NICHD Study of Early Child Care*. Washington, D.C.: National Institute of Child Health and Human Development.

- United States Department of Labor. 2007. Family and Medical Leave Act Regulations: A Report on the Department of Labor's Request for Information. Wage and Hour Division, Federal Register, 29 CFR Part 825. Washington, D.C.: United States Department of Labor.
- VanLandeghem, Karen. 2002. The Benefits and Financing of Home Visiting Programs, Issue Brief. Washington, D.C.: NGA Center for Best Practices.
- Wake Forest University School of Medicine. 2008. Vaccines: The Best Investment in Children's Health. Winston-Salem, North Carolina: Wake Forest University School of Medicine and North Carolina Baptist Hospitals.
- Wang, Ching-Tung and John Holton. September 2007. Total Estimated Cost of Child Abuse and Neglect in the United States. Economic Impact Study. Chicago, Illinois: Prevent Child Abuse America.
- West Virginia Bureau for Children and Families. West Virginia Child Care Centers. Washington, D.C.: West Virginia Department of Health and Human Resources.  
<http://www.wvdhhr.org/bcf/ece/cccenters/> (accessed October 1, 2008).
- Widom, Cathy Spatz. 1992. *The Cycle of Violence*. Washington, D.C.: National Institute of Justice.
- William-Mbengue, Nina. May 2004. States Using Evidence-Based Methods to Prevent Child Abuse. In *Public Health News*. Denver, Colorado: National Conference of State Legislatures.
- Williams, Anne and Jeannie Clark. 2006. Perinatal Care: Improving Pregnancy Outcomes. West Virginia Department of Health and Human Resources.
- Wojciak, Alison. 1999. *Smoking Cessation Makes Cents: The Cost-Effectiveness of Tobacco Interventions*. Washington, D.C.: Association of Maternal and Child Health Programs.
- WORKFORCE West Virginia. 2008. Comparative Occupational Wages 2008.  
<http://www.wvbep.org/bep/lmi/ow2008/state/PAGE0017.htm> (accessed May 2008).
- Zero to Three Policy Center. 2008. Supporting Parents and Child Development through Home Visiting. Washington, D.C.: ZERO TO THREE.