



Accomplishments of the West Virginia Perinatal Partnership



Improving
Outcomes of
Mothers and
Newborns for
Six Years
2006-2012



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A special thank you to Nancy Tyler, Health Care Consultant, who compiled this report from six years of research completed by Steering Committee members.



Accomplishments of the West Virginia Perinatal Partnership

Improving Outcomes of Mothers and Newborns for Six Years 2006-2012

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CHAPTER 1: THE WEST VIRGINIA PERINATAL PARTNERSHIP

In February 2006, funded by the Claude Worthington Benedum Foundation and encouraged by then First Lady Gayle Manchin, a group convened at the Governor's Mansion and a partnership of West Virginia medical professionals was formed in order to collaborate and aggressively address the State's poor health outcomes of our mothers and babies. The State had some of the worse health outcomes in the country related to low birth weight, infant mortality, and teen pregnancy. Collaboration and action were needed for West Virginia to begin to reverse the statistics.

A common goal allowed these participants to come together from differing perspectives to work toward their shared vested interest on the improvement of the health of mothers and babies in West Virginia. The participants could see the common threads that brought them together including their desire to not only improve the health of mothers and babies, but to impact their environments, their family situations and their futures in a positive way. It was evident to the participants that it was critical they work together in a true partnership to effect the changes that needed to occur.

The West Virginia Perinatal Partnership was formed and began engaging various partners and contributing organizations (see right sidebar) through the 2006 *Key Informant Survey*, a "Call for Papers," and by hosting the first Perinatal Summit. From these initiatives the Perinatal Partnership Work Plan was developed and the participation and accomplishments naturally grew through the interest and commitment of participating professionals.

This partnership model has become recognized throughout West Virginia for its effectiveness. By leveraging the power and outreach of this model, the West Virginia Perinatal Partnership accomplished more in its first six years of existence than the individual organizations could have accomplished alone. This report is a tribute to all of the partners who have committed time and energy toward the accomplishments of the West Virginia Perinatal Partnership. The following chapters will share some of the many successes of this partnership and show the value of working together toward common goals.

The West Virginia Perinatal Partnership (2007)

American Academy of Pediatrics West Virginia Chapter
American College of Nurse-Midwives
West Virginia Affiliate
American College of Obstetrics and Gynecology
West Virginia Section
Bureau for Medical Services, West Virginia
Department of Health and Human Resources
Center for Business and Economic Research,
Marshall University
Hospitals Ob/Gyn Department Chairs
Managed Care Organizations in West Virginia
March of Dimes - West Virginia Chapter
Marshall University Medical School
Mission West Virginia
Office of Epidemiology and Health Promotion –
West Virginia DHHR
Office of Maternal Child and Family Health –
West Virginia DHHR
Office of Community and Rural Health,
Division of Recruitment
Partnership of African American Churches
Wellness Council of West Virginia
West Virginia A Vision Shared
West Virginia Center for Nursing
West Virginia Chamber of Commerce
West Virginia Children's Health Insurance Program
West Virginia Council of Churches
West Virginia Health Care Authority
West Virginia Healthy Lifestyles Council
West Virginia Hospital Association
West Virginia Kids Count
West Virginia Primary Care Association
West Virginia Public Employees Insurance Agency
West Virginia School of Osteopathic Medicine
West Virginia Section-Association of Women's Health,
Obstetric, and Neonatal Nurses
West Virginia State Medical Association
West Virginia University National Center of
Excellence in Women's Health
West Virginia University School of Medicine,
Morgantown, Charleston, and Eastern Divisions
West Virginia Higher Education Policy Commission
Health Sciences Division
West Virginia Worksite Wellness Programs
Women, Infant and Children (WIC) Program –
West Virginia Department of Health and
Human Resources
West Virginia University Institute for
Health Policy Research



CHAPTER 2: STATEWIDE PERINATAL SYSTEM

Since the mid-1970s, there has been a system of perinatal regionalization with consultation, transport, and outreach education in place in West Virginia when Neonatal Intensive Care Units (NICUs) were opened at the academic medical centers in Morgantown, Huntington, and Charleston. Perinatal regionalization developed from the need to have access to all levels of perinatal care for all pregnant women and newborns in the state. West Virginia was divided into three perinatal regions with a tertiary perinatal center located in each. Tertiary perinatal centers provide the highest level of perinatal care available. In the regional system of perinatal care, tertiary care facilities provide consultation, outreach education, and transport backup for smaller hospitals in their referral regions. Regionalization in West Virginia was successful because of communication and backup support to facilities that were not equipped to handle complications. In the past, federal and state funding supported many components of this system. Gradually funding was lost and the glue that held the system together has slowly eroded over the last decade.

In 2006, as part of a *Perinatal Wellness Study* initiated by West Virginia Community Voices, a *Key Informant Survey* was distributed to gain input from West Virginia physicians, nurses, social workers and other personnel who worked with pregnant women and their newborn babies. One hundred sixty-five health professionals responded to this survey, representing a broad range of health professionals working in this area. The primary purpose of the study was to gather opinions on why there was such a high rate of infant mortality in the state and what potential solutions needed to be considered to reverse this trend.

The 2007 West Virginia Perinatal Partnership evolved from the need identified in the *Perinatal Wellness Study* for comprehensive, cooperative networks of public and private health care providers and businesses within the state to promote the well-being of pregnant women and their babies. The need for a more organized system of perinatal care in West Virginia was strongly recommended by health care professionals responding to the survey.

As a result, the West Virginia Perinatal Partnership was formed and included the development of the Central Advisory Council. The representatives on the council included rural providers, chairs and directors of perinatal health care organizations, deans of medical schools, payers of care, and businesses in West Virginia. The council's directives included establishing,

Original Central Advisory Council

Clark Hansbarger, MD, Council Chair

Luis Bracero, MD, Director of Maternal Fetal Medicine, CAMC Women and Children's Hospital and Professor of Obstetrics and Gynecology, WVU School of Medicine, Charleston Division

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Obstetrical Guidelines Subcommittee

Luis Bracero, MD, Director of Maternal Fetal Medicine, CAMC Women and Children's Hospital and Professor of Obstetrics and Gynecology, WVU School of Medicine, Charleston Division (Chair)

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Lori Blackburn, Nurse Manager, NICU, Cabell Huntington Hospital

Judi Polak, Neonatal Nurse Practitioner,

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Teresa Frazer, MD, Pediatrician from Bluefield

Jann Stewart, Clinical Preceptor, NICU,

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Charlita Atha, RN, IBCLC, Committee Coordinator

overseeing, directing, and approving the work of subcommittees appointed to study the problems identified in the *Perinatal Wellness Study*. The original Central Advisory Council members are listed in the sidebar on page 9.

The Central Advisory Council was charged with developing a plan for institutionalizing the recommendations of the five subcommittees which included: Guidelines for Perinatal Care; Consultation, Transport, and Outreach Education; Telecommunications; Universal Perinatal Risk-Screening Tool and Data Collection; and Adequacy of NICU Beds. Over time, additional subcommittees have been developed as additional areas were identified.

Perinatal Care Committee

The Perinatal Care Committee was charged with developing and promoting a statewide system of perinatal guidelines of care, based on national professional organizations such as the American College of Obstetrics and Gynecology and the American Academy of Pediatrics. The basis for a statewide system of care is that all providers agree on the same guidelines of care. The need for a formal system of communication among perinatal health professionals on all levels, primary, secondary, and tertiary, cannot be overemphasized. The committee accomplished its work through two separate committees:

- Obstetrical Guidelines Subcommittee
- Neonatal Guidelines Subcommittee

Members of the two subcommittees are listed in the sidebar.

As part of their work, the Perinatal Guidelines Committee made recommendations for *Guidelines for Perinatal Care in West Virginia* by recommending the following:

- Guidelines for establishing Designations and Definitions of Hospital Levels of Perinatal Care;
- Guidelines for Birthing Centers;
- Guidelines for establishing Designations and Definitions of Neonatal Levels of Care;
- Guidelines for Neonatal Assessments; and
- Guidelines for Registered Nurse/Patient Ratio for Perinatal Care Services

The guidelines are available on the West Virginia Perinatal Partnership website at www.wvperinatal.org. This was a significant achievement of the committee members who established, for the first time in West Virginia, a series of guidelines that have been

studied and approved by health professionals working in partnership to determine the most advanced guidelines that could be recommended statewide.

Hospital Self Assessment Program

The guidelines subcommittee developed Hospital Self-Assessment Checklists (HSAC) based on the guidelines it recommended. The HSAC were presented and discussed at the 2008 Perinatal Summit. The HSAC were also sent to nurse-managers of every obstetric facility in the state for feedback. In 2009, all hospitals that provide perinatal care services in West Virginia were asked to complete a self-assessment utilizing the HSAC. Through the self-assessment, hospitals are given the opportunity to self-identify what level of perinatal service they provide. The goals of this initiative are to:

1. Establish a consistent set of minimum expectations for each level of hospital perinatal services.
2. Enable each institution to provide consumers with a consistent level and quality of perinatal services.
3. Recognize and honor the capabilities, commitment and resources of institutions that are beyond the minimum expectation for their level of perinatal services.

Although this program is voluntary, a significant number of hospitals have valued this opportunity and have chosen to participate. As of October 15, 2012, the following hospitals have participated in self-assessment:

Camden Clark Memorial Hospital
Davis Memorial Hospital
Grant Memorial Hospital
Greenbrier Valley Medical Center
Logan Regional Medical Center
Monongalia General Hospital
Ohio Valley Medical Center
Preston Memorial Hospital
Pleasant Valley Hospital
Raleigh General Hospital
Reynolds Memorial Hospital
Saint Mary's Medical Center
Saint Joseph's Hospital of Buckhannon
Stonewall Jackson Memorial Hospital
Thomas Hospital System
United Hospital Center
Weirton Medical Center
Wheeling Hospital
Williamson Memorial Hospital



In addition to the self assessment, a site visit may be requested by hospitals to ensure that criteria are being interpreted in the same manner from hospital to hospital. Hospitals were also able to ask for assistance during their self-assessment process to meet the established criteria. The site visits are conducted by Perinatal Partnership staff members and members of the Guidelines Subcommittee.

As of the drafting of this report, the following hospitals had completed the self-assessment and site visit process:

Davis Memorial Hospital (Level I)
Grant Memorial Hospital (Level I)
Greenbrier Valley Medical Center (Level I)
Logan Regional Medical Center (Level I)
Stonewall Jackson Memorial Hospital (Level I)
St Joseph's Hospital (Level I)
St. Mary's Medical Center (Level II)
Raleigh General Hospital (Level IIA)
Monongalia General Hospital (Level IIA)
Ohio Valley Medical Center (Level IIA)
United Hospital Center (Level IIA)
Wheeling Hospital (Level IIA)
Thomas Hospital System (Level II B)

Connect-to-Care

When the West Virginia Perinatal Partnership published the *2007 Blueprint to Improve West Virginia Perinatal Health*, the only board-certified perinatal specialists in West Virginia were located in Charleston, Huntington, and Morgantown. Women who needed high risk specialists were forced to travel long distances for specialty consultations. The long distance travel created barriers to successful consultations for both the specialists and the mothers. Access to specialty care in rural parts of West Virginia needed to be developed.

Perinatal Risk Assessment Tool Committee

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Tom Light, Programmer, Health Statistics Center

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Robert Pulliam, MD, Access Health

Stephanie Shabandy, RN, Insurance Commission

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Ann Dacey, Nurse Coordinator, West Virginia Perinatal Partnership

Other states use telemedicine to bring consultative expertise to patients and community-based physicians in rural areas, saving pregnant women transportation cost and time. Telemedicine utilizes interactive video and audio teleconferencing technology that allows a physician at a specialty center to see the patient and/or sonogram in real time. With appropriate broad bandwidth, specialized ultrasound equipment can digitally transfer a sonogram image to a specialty center. Securing the appropriate broadband for rural facilities was the first hurdle and was made possible through the West Virginia Health Information Technology Infrastructure project. Telemedicine also gives health care providers access to continuing education lectures that are given at medical schools. The Partnership made a commitment to better utilize telecommunications for perinatal consultation and training.

In February 2010, the West Virginia Perinatal Partnership officially announced the launch of the *Perinatal Connect-to-Care Project*. The pilot project was funded by a Rural Utilities Service Grant from the US Department of Agriculture and matching funds from eighteen partnering West Virginia hospitals, including the three tertiary care centers and community health centers. The three

tertiary care centers in West Virginia provide high risk prenatal and newborn care consultation. Technical assistance and training for this project is provided by Charleston Area Medical Center Health Education and Research Institute, a partner organization of the West Virginia Perinatal Partnership. Dr. Luis Bracero, maternal fetal medicine specialist and member of the Central Advisory Council, serves as Principle Investigator for the project.

Perinatal Risk Assessment Tool

One of the recommendations from the *2006 Blueprint to Improve West Virginia Perinatal Health* was to identify a maternal risk scoring instrument to be used universally by all maternity providers and payers. In a continuing effort to improve the perinatal system, the Central Advisory Council established a committee to specifically study the need for such a tool and to recommend appropriate next steps. The Perinatal Risk Assessment Tool Committee was established.

The committee reviewed West Virginia health data and determined that the most common adverse pregnancy outcomes are preterm labor and/or low birthweight babies as the numbers to the right support.

Further review of data and the *2006 Key Informant Survey* showed that smoking during pregnancy played a significant role in poor pregnancy outcomes. In West Virginia, 26.6% of pregnant women smoked compared to the national average of 12.2%. The need to reduce smoking among pregnant women was clear.

Working closely with the Office of Maternal, Child and Family Health (OMCHF), the committee determined that a comprehensive risk assessment would enable the prenatal care providers throughout the state to determine whether a woman or fetus was at increased risk and provide the basis for further assessment and intervention. The committee identified a need for legislation to require the use of the screening tool for all pregnant women and to protect the privacy of women who were screened.

Within a year the Drug Use During Pregnancy Committee of the Perinatal Partnership also identified a need for legislation for maternal risk screening for substance abuse. With both committees recommending legislation to address their concerns, members of the Partnership worked closely with legislative staff to draft

legislation and to promote its passage. The need for drug screening and its relationship to this legislation is addressed in Chapter 4.

“The Uniform Maternal Screening Act” was signed into law in May of 2009 by former West Virginia Governor Joe Manchin III. The bill required the Bureau for Public Health, Office of Maternal, Child and Family Health (OMCFH) to convene a diverse maternal risk council. The council was charged to develop a uniform maternal risk screening tool to help identify pregnant women for potential at-risk pregnancies. The council and OMCFH were required to develop a statistical matrix to measure incidents of high-risk pregnancies. The council is required to meet annually to review the findings of the screening process and to review the tool and make adjustments as needed.

In June 2009, as required in the legislation, named representatives included at least one private maternity service provider; at least one public maternity provider; representation from each of the State’s three medical schools; at least one certified nurse-midwife; at least one representative of a tertiary care center; Bureau for Public Health Commissioner (or designee); and OMCFH Office Director (or designee). By August 2009, selection and appointment of the Committee was complete. Committee members are listed in the sidebar.

The Advisory Committee for the Uniform Maternal Risk Screening was briefed on the preliminary work completed by the West Virginia Perinatal Partnership Maternal Risk Screening Workgroup leading to advocacy for the legislation. After a review of potential screening tools, the Committee agreed to adapt and update the OMCFH, Right From the Start Program’s Prenatal Risk Screening Instrument. The instrument was originally developed by West Virginia University Department of Obstetrics and Gynecology. The instrument was widely used by maternity providers throughout the state for years. Since the 1980s, West Virginia has screened all women eligible for government sponsored medical maternity care. Now the screening would be expanded to all pregnant women. Women with third party health care coverage or who paid for medical care with private funds would now have the benefit of early screening. The screening tool was finalized

Low Birthweight Births by Age of Mother West Virginia Residents 2000-2004

Age	Number of Births	Low Birthweight	Percent of Total
10-14	142	13	9.2%
15-17	3,745	408	10.9%
18-19	9,351	928	9.9%
20-24	33,756	3,050	9.0%
25-29	29,583	2,282	7.7%
30-34	18,352	1,580	8.6%
35-39	7,276	762	10.5%
40-44	1,436	168	12.0%
45+	108	25	25.0%
UNKNOWN	163	13	8.1%
West Virginia TOTAL	103,912	9,229	8.9%

SOURCE: West Virginia Health Statistics Center, West Virginia Bureau for Public Health

Maternal Risk Screening Council

- Luis Bracero**, MD, Director of Maternal Fetal Medicine, CAMC Women and Children’s Hospital and Professor of Obstetrics and Gynecology, WVU School of Medicine, Charleston Division
- Phyllis Bradley**, RN - Camden-Clark Memorial Hospital
- Stephen Dexter**, CEO - Thomas Memorial Hospital
- Kimberly Farry**, MD, Associates in Women’s Health
- Lyn Haley**, CNM - West Virginia Chapter American College of Nurse-Midwives
- Michael Lassere**, MD, Summersville Women’s Health
- Robert Nerhood**, MD, Marshall University
- Stephanie Nicodemus**, MSN, CNM
- Victoria Shuman**, MD, Family Medicine of Clarksburg
- Michael Stitely**, MD, West Virginia University
- Tina Williams** - United Hospital Center
- Chris Curtis**, M.P.H – Commissioner Bureau for Public Health
- Anne Williams** – Director Office of Maternal, Child & Family Health
- Jeannie Clark** - Director Perinatal Programs, OMCFH
- Kathy Cummons** – Director Division of Research, Evaluation & Planning, OMCFH



in June 2010, and was then identified as the West Virginia Prenatal Risk Screening Instrument (WVPRSI). In addition to the screening standards, the new tool contains an opt-in/opt-out for client referral services and an alert to the prenatal provider that the client may need a referral for a maternal fetal medicine consultation. The OMCFH is responsible for collecting the screening tools, analyzing the data gathered, and providing the Advisory Committee with reports related to risk factors West Virginia pregnant women face.

NICU Bed Study

The *Key Informant Survey of 2006* also identified a serious lack of availability of NICU beds in the state. Community providers and tertiary care providers expressed concern that both high-risk pregnant women and high-risk newborns were being turned away from West Virginia tertiary care centers. They expressed several reasons for this situation:

- Lack of availability of neonatal intensive care beds or maternal beds at times when a request to take a transfer from a local provider was received.
- Lack of availability of specially trained maternal and/or neonatal transport nurses to handle the transport at the time the transfer request was received from the local provider.

During 2005, 1,988 infants were admitted to NICUs in West Virginia. However, at least 97 newborns requiring a NICU bed were turned away from two of the state's three tertiary care centers that year.

Pregnant women needing specialized care were turned away from tertiary care facilities in the state as well. Between July 1, 2005, and June 30, 2006, Cabell-Huntington Hospital received 217 calls from local providers requesting the transfer of high-risk

pregnant women to that facility. Of those calls, 59 women were refused transfer because of a lack of NICU beds to handle their newborn infants. At West Virginia University Hospitals (WVU) the story was very similar to Cabell-Huntington. In another twelve month period, 437 requests for maternal transfers were received; 380 referrals were accepted and 57 refused. The most common reason for refusals was lack of a NICU bed, but second most common was a lack of a bed for the mother during labor and delivery.

This data from 2005 established that the number of NICU beds was wholly inadequate to serve the needs in the state. Fortunately, West Virginia University Hospital applied for a Certificate of Need (CON) in 2007 and nine additional beds were approved. As the beds became available in July 2007, there appeared to be a reduction in turn-aways at that hospital, although future needs had not yet been resolved. Approval of additional NICU beds did not, in and of itself, resolve the problem. Upon approval, the hospital was still challenged with staffing the beds and availability of transport for the babies to the hospital. The availability of a neonatal and maternity transport system is a critical component of addressing the problem, but it is only one of the many issues that needed continued work.

The West Virginia Health Care Authority determined that the Certificate of Need (CON) process developed by the Health Care Authority in the 1970s was no longer reflective of the actual need in West Virginia. Although the methodology being used was based on recommendations of the American Academy of Pediatrics and the American College of Obstetrics and Gynecology at that time, the current situation clearly required a change to the methodology. As an example, in the 1970s when the Certificate of Need methodology for NICU beds was established, the number of low birth weight babies needing NICU care was less than in 2005. In the 1970s the state's low birth weight rate was approximately 8 for every 1,000 live births. In 2005, that number had increased to 9.7 per 1,000 live births, as reported by the West Virginia Bureau for Public Health, Health Statistics Center.

The increase was alarming. The West Virginia Health Care Authority reviewed the methodology and developed a new system to be used that is more in line with the actual number of low birth weight babies being born. Since then, there have been CON approvals for additional NICU beds for both Cabell-Huntington Hospital and West Virginia

West Virginia Tertiary Care Facility	NICU turnaways prior to delivery (2005)	Number of babies turned away after delivery	Maternal turnaways (2005)
Cabell-Huntington Hospital	25	32	59
CAMC Women's and Children's Hospital	44		5
West Virginia University Hospitals	59	65	57

University Hospitals. Cabell-Huntington Hospital was approved for an additional 10 NICU beds in 2009 but has not yet opened the additional beds. West Virginia University Hospital was approved for an additional 15 NICU beds and expects to expand over the next 5 or more years. The CON approval is the first step in meeting the increased demand, but CON approval does not indicate immediate expansion.

According to a report completed in 2012, NICU bed availability is somewhat less of a problem, compared to the 2006 report. Hospitals have developed new policies and procedures that now allow for babies, which previously would have been referred to NICU, to be cared for in less intensive facilities, resulting in the availability of more NICU beds. However, the new data indicates that there are still newborns turned away due to lack of beds.

Perinatal Transport System

When West Virginia perinatal providers responded to the *Key Informant Survey*, they called for a more coordinated, statewide approach to ensuring that appropriate maternal and infant transport is available 24-hours, seven days a week. Early recognition and transfer of high-risk pregnant women and sick newborns to facilities with adequate diagnosis and treatment expertise is essential to reduce neonatal mortality rates. Although all tertiary care hospitals have infant transport teams, only Cabell-Huntington Hospital operates a maternal transport system for referrals to their hospital.

This transport committee has made and is in the process of implementing the following goals:

1. Maternal and infant transport should be available 24-hours, seven days a week for all Level I and Level II facilities in the state. West Virginia should insure that reliable, accurate, comprehensive communication systems between referring hospitals and between

the transport teams and hospitals, regarding response times, capabilities, and facilities be continuously up to date.

2. West Virginia should investigate the implementation of a One Call system for perinatal transport. The One Call System became operational in November of 2012. The committee indicated that the characteristics of this center should include:
 - a. Daily knowledge of all NICU and high risk maternal beds available in West Virginia and surrounding states.
 - b. Ability to immediately connect referring physicians with the appropriate neonatal or obstetrical specialists for consultation and care recommendations while awaiting transports.
 - c. The ability to find available beds and arrange the transports of mothers or babies.
 - d. The ability to arrange transports to tertiary centers closest to the homes of mothers and babies (whenever possible).
 - e. A centrally maintained website with evidence-based guidelines for maternal-fetal and neonatal care including:
 - i. resuscitation, stabilization and transport guidelines for mothers and infants
 - ii. general care for mothers and infants
 - iii. development of these guidelines should take place in collaboration with perinatal care providers across West Virginia.
3. Until a One Call system was in place, the committee recommended the following:
 - a. Interagency collaboration and communication should be fostered through monthly communication meetings of representatives from the three tertiary centers.
 - b. Special attention should be given to ways for tertiary centers to communicate with each other for back-up when a small hospital is in crisis and a transport is not available in the hospital's region.
 - c. Ability of tertiary centers to rely on each other for help in finding NICU beds. (Some

- systems of care have a daily regional NICU bed-board posted on a multi-user website. Every morning each tertiary care center enters the number of beds available).
- d. A centrally maintained website with evidence-based guidelines for maternal-fetal and neonatal care was developed in 2008:
 - i. resuscitation, stabilization and transport guidelines for mothers and infants
 - ii. general care for mothers and infants
 - iii. development of these guidelines took place in collaboration with perinatal care providers across West Virginia
 - e. Education of all personnel who may take calls at tertiary centers.
 - f. West Virginia should investigate the possibility of making emergency maternal transport available to all community hospitals in the state. The model developed by Cabell-Huntington Hospital should be evaluated for relevance to the entire state.
 - g. Advanced Life Support in Obstetrics (ALSO) courses should be made available for EMS personnel, transport nurses, and hospital perinatal nurses.
 - h. Emphasis on keeping mothers/fathers and babies together should be promoted. Systems for the mothers to return to their communities when appropriate, without undue financial stress should be ensured.
 - i. Tertiary centers should keep logs of all requests for transports whether they are turned down or not. Assistance given to declined requests for transfer should be noted.
 - j. Community hospitals should keep logs of all requests for transports and their dispositions.
 - k. Referring providers should receive frequent updates and information on mothers and babies that they have referred. Obstetric providers should also receive information on the health status of the infants of mothers born after being transported to tertiary centers.
 - l. Referring hospitals should receive frequent updates, and information in order to support separated families in times of stress and grief.
 - m. West Virginia should establish an organized perinatal outreach education program coordinated by each of the three Level III perinatal facilities for each of their referral hospitals. State funding for an office and a coordinator for these activities in each Level III perinatal center is vital as well as reimbursement for teaching time by healthcare professionals. Special attention and support should be given to those hospitals that deliver less than 750 babies per year. Results of the outreach education survey should be taken into consideration when scheduling these programs. All birthing hospitals should be offered a yearly review of the following programs:
 - i. Transport/perinatal case reviews specific to each hospital
 - ii. NRP, Neonatal Resuscitation Certification
 - iii. STABLE, (Sugar, Temperature, Assisted Breathing, Blood Pressure, Lab Work, and Emotional Support to Family), a program designed to provide healthcare professionals with knowledge on how to stabilize patients during the post-resuscitation/pre-transport period
 - iv. Electronic Fetal Monitoring
 - v. Advanced Life Support in Obstetrics
 - vi. Hospital data reviews with individual hospitals and opportunities for quality improvement
 - n. A special outreach education program should be developed for staff at those hospitals that have agreed to take babies back for convalescent care after NICU admissions.
 - o. Plans for a perinatal transport summit, inviting all stakeholders to discuss implementation of the above recommendations, should be made for sometime early in 2008.
- In 2008, the West Virginia Perinatal Partnership held a Perinatal Transport Summit to bring all of the partners together to focus on this important issue. In response to that summit, a consistent set of transport guidelines from the tertiary care centers was developed and made available statewide. These documents included both "Immediate Care and Transport of the Sick Newborn in West Virginia" and "Immediate Care and Transport of the High-risk Mother in West Virginia."
- Since the comprehensive recommendations were made, the work of the committee has been significant and successful in many areas. A One Call System hotline to find a NICU or maternal bed has been implemented through the collaboration of the West Virginia Perinatal Partnership and the West Virginia Trauma and Emergency Medical System and the Bureau for Public Health.
- Maternity and neonatal providers in community or rural hospitals can now make just one call to find a bed and/or to find immediate consultation with a specialist.

Being Born at the Right Place

As the Consultation and Transport Committee recommended in 2010, the West Virginia Perinatal Partnership studied the place of delivery of Very Low Birth Weight babies (VLBW) and found that the state has not yet met the goal set in 1990 that at least 90 percent of the Very Low Birth Weight babies be born in qualified tertiary care centers. The graph on the following page demonstrates the lack of progress toward this goal since the year 2000.

Most recently, researchers from the Centers for Disease Control/DRH, the Rollins School of Public Health, Emory University, and the University of Maryland, School of Medicine conducted a meta-analysis of published research on risk appropriate care in the United States. The major finding from this work indicates that VLBW and very preterm infants born outside of a Level III hospital are at an increased likelihood of neonatal death or death prior to discharge from the hospital. This work was published in September 2010.

West Virginia must continue to focus and resolve any issues that are creating barriers to reaching the goal of 90 percent of low birth weight and preterm babies being born in the three tertiary care centers. To work towards this goal, the West Virginia Perinatal Partnership plans to initiate a Quality Initiative project. This initiative includes the following Partner organizations and professionals:

- Non-tertiary perinatal hospitals and providers
- Tertiary perinatal hospitals and providers
- Health Statistics Center, West Virginia Bureau for Public Health
- Office of Maternal Child and Family Health (OMCFH)
- State Trauma and Emergency Medical System (STEMS)
- West Virginia Health Care Authority (WVHCA)
- Representatives of West Virginia Legislature, Legislative Oversight Commission on Health and Human Resources Accountability
- West Virginia March of Dimes (WVMOD)

This initiative includes the following goals:

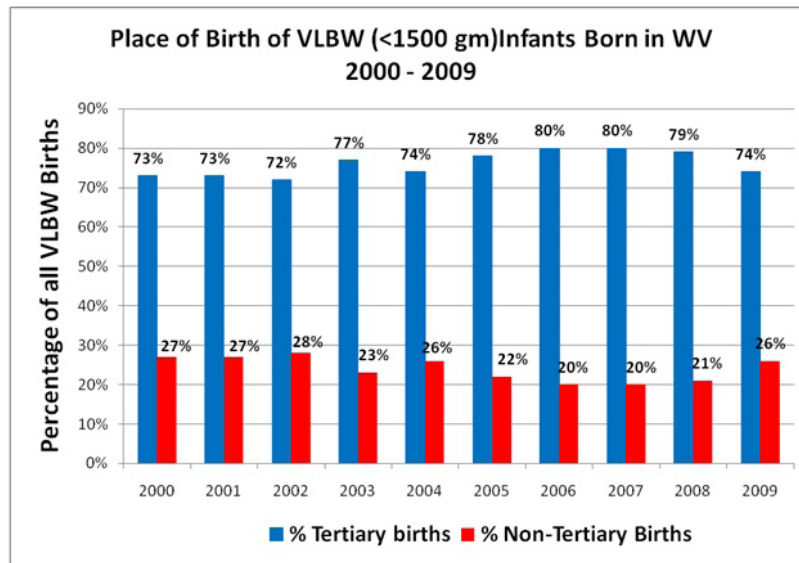
1. To meet the goal set in 1990 by Healthy People 2000 to increase the proportion of Very Low Birth Weight (VLBW) infants born at Level III hospitals or subspecialty perinatal centers to 90 percent.
2. To assure that infants are cared for in the most

appropriate medical setting as close to the infants family home community - to allow for family bonding, education of family on caring for infant, and for reattachment to infants' medical care providers within his/her home community for continuous follow-up care.

Perinatal Outreach and Education

The 2006 *Key Informant Survey* surfaced many state maternity system flaws. During the previous three decades, the latest in maternity best care practices was made available through education programs offered by the tertiary care centers' experts. Those programs, however, were no longer being offered. Many hospital medical and nursing staff responding to the *Key Informant Survey* requested that the outreach education programs be restarted. In 2009 the Perinatal Partnership began to offer outreach education topics which included sessions related to the committee work of the Perinatal Partnership, such as hospital guidelines, drugs and pregnancy, and identifying newborns exposed to addictive substances. Since 2009, numerous additional topics have been offered to maternity providers around the state with the goal of making the latest best practices uniform throughout the state.





Other topics that have been offered at various locations in the state to provide the most advanced education and training available include the following:

- Neonatal abstinence
- Hemorrhage control workshops including hemorrhage simulation training
- Evidence-based labor support
- Our Babies Safe and Sound
- Maternal transport
- First Baby Initiative
- Pediatric nurse education
- Community Baby Showers
- Breastfeeding techniques and support
- Gestational diabetes
- Advanced fetal monitoring

The Outreach Education project is funded by the Office of Maternal, Child and Family Health. A simulation mannequin, “Noelle” and “Baby Hal” as well as support for the Obstetric Hemorrhage workshop is funded by the Claude W. Benedum Foundation. The March of Dimes provided funding for “Evidence Based Labor Support” and “Our Babies Safe and Sound” programs to be presented statewide in order to meet the goals of decreasing cesarean deliveries; reducing late-preterm births; and providing infant safe sleep practices to Labor and Delivery nurses.

The West Virginia Perinatal Partnership along with the Charleston Area Medical Center pushed for

a focus on substance abuse and related issues at the 38th Annual Newborn Day Conference in November of 2011. This conference was sponsored by the Charleston Area Medical Center, the CAMC Institute, Women and Children’s Hospital and the West Virginia March of Dimes. Conference presentations topics covered: research on the effects of substance abuse on the newborn; marijuana use during pregnancy; an update on RSV immunizations; the legalities of substance abuse testing; findings of the West Virginia Birth Score data and the cord study and establishing links to the birth score data. This conference enabled the sharing of critical data concerning substance abuse’s impact on newborns as well as West Virginia specific data. The conference provided another opportunity for the West Virginia Perinatal Partnership to further inform as many providers as possible.

Permanency for the West Virginia Perinatal Partnership

Based on the success of the initiatives of the West Virginia Perinatal Partnership and the tremendous support of the perinatal health care community, the Central Advisory Council determined that the Partnership needed a permanent home in state government. Being dependent only on individual grants made it difficult for the Partnership to plan for the future. In 2012, Governor Earl Ray Tomblin included funding of \$250,000 in the state budget for work of the Perinatal Partnership. This funding is being provided to the Higher Education Policy

Commission, which recognized the value of the partnership, to not only the three medical schools, but also to maternity health care professionals and the citizens of West Virginia. The West Virginia Legislature has been very supportive of the West Virginia Perinatal Partnership's efforts and has sought expert opinions from the Partnership on a variety of issues facing the legislature in recent years. It is not often a practice of the Governor and the Legislature to add funding to establish a new entity in state government, further acknowledging the respect the West Virginia Perinatal Partnership has garnered in only six years.

Perinatal Policy Improvements through Legislative Action

The West Virginia Perinatal Partnership has made policy recommendations to the State Legislature when a change in policy could improve maternal and infant health. The West Virginia Perinatal Partnership is often called on to speak to Legislative committees that are studying some aspect of perinatal health, and many of the partners have shared their expertise with the Legislature. The relationship between the West Virginia Perinatal Partnership and the Joint Committee on Health and the Joint Committee on Education has proven to be beneficial. The Legislature considers this group one of the primary non government sources of information related to perinatal health in the state. The West Virginia Legislature has supported the policy endorsements made by the West Virginia Perinatal Partnership with the following actions:

- Supported the passage of SB245 which updated the HIV statute to conform with recommendations of the Centers for Disease Control;
- Supported funding for training of lactation professionals to be available in birthing facilities throughout the state;
- Supported newborn testing to be expanded to all 29 metabolic conditions;
- Supported pulse oximetry testing to be offered to all newborns to detect heart conditions at birth;
- Supported the passage of legislation that said that breastfeeding in public was not public indecency.
- Supported maternal mortality review legislation in 2008 and expanded the review legislation to include infant mortality reviews in 2011;



- Supported the development of the Uniform Maternal Risk Assessment which was implemented in 2011;
- Supported a study of the need to provide insurance coverage for birth control and prenatal care which is a continuing work in progress;
- Supported the sustained funding for the West Virginia Perinatal Partnership and its placement in the Higher Education Policy Commission in 2011;
- Supported a Child's Right to Nurse legislation in 2012 although the support was withdrawn due to amendments;
- Supported the demise of a variety of legislative efforts that were considered poor public policy such as legislation to create a crime for drug/alcohol abuse during pregnancy; and
- Supported an increase in the state excise tax on tobacco products as a way to decrease overall tobacco use among our population and specifically among pregnant women.



CHAPTER 3: MATERNITY PROVIDER SHORTAGE AREAS

Many responders to the 2006 *Key Informant Survey* reported a shortage of maternity providers in certain areas of West Virginia. Some respondents indicated that after a woman calls to schedule the first prenatal appointment, it might take several weeks before providers' schedules can fit in a new patient. Numerous responders identified the need to address the high cost of malpractice coverage. The West Virginia Perinatal Partnership Central Advisory Council determined that there needed to be a committee whose purpose was to study the location of maternity providers and birthing hospitals and birth centers to the populations, to identify access and shortage issues, and to develop a plan to overcome identified problems. Members of the Provider Access and Shortage Areas Committee are listed in the sidebar. In particular, we recognize Ann Dacey, RN, BS, Nurse Coordinator, for the enormous amount of research work and report writing that has given us an objective look at provider shortage areas and the negative impact on our pregnant women and babies.

Examination of the Economic Feasibility of Alternate Models for Delivery of Prenatal Services in West Virginia

One of the most significant accomplishments of this committee was the publication of a report entitled, *An Examination of the Economic Feasibility of Alternate Models for Delivery of Prenatal Services in Rural West Virginia*. The report was prepared by the Center for Business and Economic Research at Marshall University. The purpose of this study was to investigate the feasibility of establishing rural maternity services. To make that evaluation, three models were considered:

1. The creation of a free standing maternity clinic;
2. Utilizing visiting maternity specialists to existing facilities;
3. Establishing a mobile maternity facility.

For demonstration purposes, two regions in West Virginia consisting of two counties each were studied. None of these counties had existing access to maternity services within a 30 minute drive. Given the results of the analysis, the use of a free-standing facility was rejected as it did not provide self-sufficiency at any time during the study period. The visiting specialist model appeared to be the best alternative given the level of effective demand. The mobile maternity facility was identified as a less effective model due to the number of pregnant women needed to make it economically feasible. The report explicitly stated that the key to self-sufficiency was effective demand for services. If any of the three models were

Provider Access and Shortage Areas Committee

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Angelita Nixon, CNM, MSN, West Virginia Affiliate, American College of Nurse-Midwives (Co-Chair)

Charlita Atha, RN, Regional Care Coordinator, Region VII Right From the Start

Martha Cook Carter, CNM, CEO, FamilyCare Health Center (WomenCare, Inc.)

Jann Foley, CNM, MSN, Women's Health and Wellness Center, Fairmont

Barbara Good, Physician Practice Advocate, West Virginia State Medical Association

Tom Light, Health Statistics Center, West Virginia Department of Vital Registration, DHHR

Molly McMillion, RN, BSN, IBCLC, CCE, CPST, Lactation Consultant, Tiny Toes Program Coordinator, Healthy Woman Co-Coordinator, Greenbrier Valley Medical Center

Dottie Oakes, RN, MSN, CAN, Vice President and Chief Nurse Executive, West Virginia University Hospitals, Inc.

Fran O'Brien, RN, Director of OB/NBN, Greenbrier Valley Medical Center

Angela Oglesby, MD, Assistant Professor Rural Family Medicine Residency at Harpers Ferry and Director for the Maternity and Women's Health Center

Karen Pauley, Program Coordinator, Division of Rural Health and Recruitment, West Virginia Bureau for Public Health

Alicia Tyler, MA, West Virginia Higher Education Policy Commission (retired); staff member, Recruitment Retention Committee of the West Virginia Rural Health Education Partnerships

Ruth Walsh, RN, CPM

Staff:

Ann Dacey, Nurse Coordinator, West Virginia Perinatal Partnership

Amy Tolliver, Government Relations Specialist, West Virginia State Medical Association



to be used, there would be a need to combine the service with an outreach and promotional program to increase demand in the areas being served. The cost of these efforts was not included in the analysis. The report was completed in 2007 and helped the committee gain an understanding of what is feasible in the area as the work of the committee continued.

Another important accomplishment of this committee was the development of an updated list of maternity care providers statewide to ensure that all resources are identified for those seeking access to services.

The research on maternity provider shortage areas supported the need to increase the number of perinatal care providers in underserved counties. In order to address the high cost of malpractice insurance, in 2007, the Partnership conducted a statewide study to identify private maternity practices in the state that might benefit from being matched to an existing Federally Qualified Health Center (FQHC) site. This designation would allow medical professionals to have medical liability coverage under the Federal Tort Claims Act.

Over the last year, the West Virginia Primary Care Association has held quarterly meetings via WEBEX with providers in high need areas of the state. The providers have explored ways to collaborate to enhance perinatal services and share resources such as physicians. These collaborations are anticipated to continue.

One such community health center, FamilyCare, Inc., has expanded perinatal services to three new sites. The expansion was accomplished by scheduling an obstetrician physician on a monthly rotation to each of the sites. A certified nurse-

midwife or a certified nurse practitioner follows the patient locally on a regular schedule.

Wirt County Health Association is expanding perinatal services in the Jackson county area using a certified nurse-midwife who is developing practice arrangements with local physicians to support this service. The expansion of maternity care in targeted areas rests upon the supply of skilled practitioners and willing and available medical providers who will support a collaborative practice agreement. There is an extreme shortage of both professional types in the most rural areas.

Development of Certified Nurse-Midwife Programs in West Virginia

To address the shortage of maternity professionals in West Virginia, Marshall University School of Nursing has partnered with Shenandoah University in Winchester, Virginia, to offer a concentration in midwifery through the Master of Science in Nursing Program. Midwifery students will complete 25 graduate credit hours at Marshall University and will then transfer to Shenandoah to complete their degree requirements. The Shenandoah University Program is accredited by the Accreditation Commission for Midwifery Education by the American College of Nurse-Midwives. The nurse-midwifery concentration opens the door to local West Virginia nurses interested in midwifery who previously were forced to travel out of state for this specialization. This program allows them to remain at home and still meet their educational objectives.

Marshall was the first university in West Virginia to offer nurses the opportunity to earn a master's degree with a concentration in nurse-midwifery. This program could not have existed without the forward thinking individuals who worked so hard to bring this program to West Virginia – Dr. Madonna Combs of Marshall University School of Nursing and Dr. Julianna Fehr of Shenandoah University. The West Virginia Perinatal Partnership recognizes their efforts and hopes to see more creative thinking in the state to ultimately impact the provider shortage areas in the state.

In 2011, a collaborative agreement between West Virginia Wesleyan College in Buckhannon, West Virginia and Shenandoah University was signed to create a partnership between the institutions allowing them to collaboratively offer two new programs leading to Master of Science in Nursing degrees. Beginning in 2011, prospective students were able to pursue a master's degree with a

certificate in psychiatric mental-health nurse practitioner or a certificate of endorsement in nurse-midwifery. After two years of full-time study, graduates will be eligible to sit for the certification examinations in their respective field of study. A part-time option is also available to better meet the needs of currently working nurses. This agreement between the two institutions will address not only the needs of students wishing to pursue a career as a nurse practitioner or nurse-midwife, but will also benefit local communities by graduating skilled, competent and caring health care providers to work in these underserved areas.

Maternity Provider Shortage Studies

Further data analysis was performed by the committee which identified a number of specific issues that contributed to poor access to services. These issues were identified in the *Report on the Blueprint to Improve Perinatal Health*, which was released in 2008 and reported the following concerns:

- A decline in the number of hospital and birthing facilities in the state
- A decline in geographic location of prenatal providers
- A change in type of maternity providers
- The cost of medical liability insurance in West Virginia

Although this topic has been identified as a concern for many years, previous reports have revealed some data accuracy concerns. The West Virginia Perinatal Partnership completed another study in 2010 and, although there are some limitations, it provides the most current information. Some of the key findings as indicated in the recently released *2011-2012 Report of the Maternity Care Provider Shortages Committee* are:

Birth facilities and prenatal care in West Virginia

- Thirty-six (36) licensed birth facilities have closed since 1976.
- More than half of all West Virginia counties have no birth facilities.
- Fifteen (15) West Virginia counties have prenatal care providers only and no birthing facility.
- Sixteen (16) West Virginia counties have neither prenatal care nor a birth facility.
- A large geographic area of West Virginia is not within a 30 minute drive time of any birth facilities.

- A smaller but significant portion of West Virginia is not within a 30 minute drive time of any prenatal facility.

Practicing licensed maternity providers who attend births

- The total number of providers who attend births showed a modest decrease in 2010 after a substantial rise in the years between 1992 and 2006.
- The number of obstetricians who attend births has shown a slow but steady increase since 1992.
- The number of family practice physicians who attend births has steadily dropped since 1991.
- There are very few private family practice physicians who are currently attending births in rural (non-metropolitan), licensed birth facilities outside of teaching hospitals.
- One family practice physician is currently attending home births in a very rural area of West Virginia.
- The number of certified nurse-midwives who attend births showed a slight decrease in 2010 after a sharp rise between 1992 and 2006.

The map on page 24 indicates counties where there are licensed maternity providers, prenatal care, and licensed birth facilities. It also shows counties that have no maternity services. Maps showing areas of the state where women have to drive more than 30 minutes to receive prenatal and/or birth care from licensed maternity providers are available in the full *Report of the Maternity Care Professional Shortages Committee* which is available on the West Virginia Perinatal Partnership website (www.wvperinatal.org). The areas present a big challenge to the goals of the West Virginia



Perinatal Partnership and increased risks to both mother and child. The committee has recommended the following next steps in order to increase access to maternity care:

1. Place the recruitment and retention of rural maternity professionals at the forefront.
2. Because the current federal system of identifying health professional shortage areas does not identify those areas where there are maternity provider shortage areas, the State should identify maternity provider shortage areas.
3. In addition, the State should collaborate with other states and federal authorities to change the current identification by the federal system to be more reflective of the current reality of rural providers.
4. Increase support for programs that have proven track records of training professionals to practice maternity care in rural areas.
5. The State should fund Postgraduate Fellowship Training in Obstetrics for Family Medicine Physicians so that more family physicians with the training will consider working in rural areas.
6. The State should explore ways to increase the number of nurse-midwives providing maternity care in rural areas.
7. The State should provide additional incentives to support new maternity care providers such

as loan forgiveness programs, scholarships, tax credits and more.

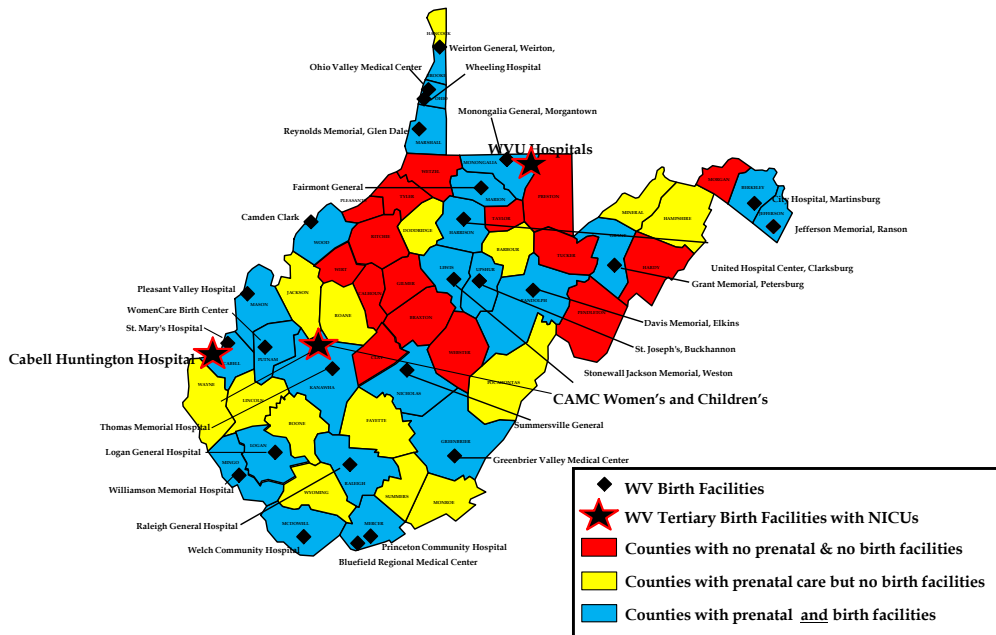
8. The “Group Prenatal Care” model should be considered and implemented. Group Prenatal Care has proven to be a successful model in improving birth outcomes. This model utilizes group visits as well as individual visits with the provider.
9. A collaborative practice model for prenatal care should be used as a model for rural maternity care in West Virginia. This type of model includes collegial working relationships, networks for appropriate consultation, collaboration, coordination of patient care, referral interdisciplinary teamwork and excellent division of labor using the expertise of all professionals who provide maternity care.

Future studies that are needed in the study of maternity professionals in West Virginia.

The committee recommended the following studies to more accurately describe maternity professional shortage areas of West Virginia.

1. Licensed maternity professionals who provide prenatal care but do not attend births were not identified individually; however, all licensed prenatal care facilities were identified and counted. In counties with prenatal care only, some prenatal clinics have very limited times

Locations of Licensed WV Birth Facilities 2012
 Counties With Prenatal Services but No Licensed Birth Facilities
 Counties With No Prenatal Services and No Licensed Birth Facilities



when they provide prenatal care to pregnant women (sometimes only every two weeks). Others provide prenatal care only till the third trimester leaving women to do the most traveling during the most uncomfortable time of their pregnancies. A more in-depth study of access to prenatal care should be undertaken in 2013.

2. The 2006 and 2010 studies counted birth attendants in licensed birth facilities only. Approximately 80–130 births a year occur outside of state licensed facilities. Accurate numbers of planned home births are not available because they are grouped with “non-hospital” births. Many “non-hospital” births are unplanned and take place enroute to a hospital. Further study of this subject is needed to accurately depict a picture of where women give birth, planned and unplanned.
3. Mechanisms and feasibility of licensing for currently unlicensed maternity professionals who are nationally certified through their own professional organizations should be reviewed. There are Certified Professional Midwives (CPMs) and Certified Midwives (CMs) providing care in West Virginia. There is currently no state licensing for them. Many of these professionals provide care for West Virginia women in locations where there are no state licensed maternity providers. In addition, surrounding states have licensed CPMs who are attending home births in West Virginia.
4. Study of birth outcomes in counties with no licensed maternity services is needed.

Obstetrical Fellowship Program for Family Practice

In addition to the above recommendations, the West Virginia Perinatal Partnership provided matching funds to the West Virginia University School of Medicine Eastern Division in February of 2012. With this funding, Dr. Konrad Nau, Dean of the School of Medicine, is conducting a feasibility study for a Cesarean section residency program for the Family Medicine Program. Once operational, the program will offer training to family practice physicians in obstetrical procedures such as needed c-sections. By preparing family practice physicians with obstetrical skills, they will be better prepared to provide the full range of services to pregnant women. This skill would improve the family practice physicians’ confidence to practice

maternity care in rural parts of the state and better serve pregnant women and their newborns. This will be an exciting training opportunity and it is expected to be available by January of 2013.

Emergency Maternity Care and Communication Workshops

The Emergency Maternity Care and Communication Workshops are another innovative educational method to better equip medical and nursing personnel for unforeseen maternity emergencies. This program has been developed through collaboration with Shenandoah University Midwifery Program, the West Virginia Perinatal Partnership and the CAMC Health Education and Research Institute. The program provides continuing education to emergency medical technicians (EMTs), nurses, practical nurses, certified nursing assistants, paramedics and physicians to better prepare them to provide emergency care when needed throughout the state. In the early stages of the partnership, it was noted that many EMTs in the state were not comfortable transporting pregnant woman to tertiary care centers when needed. This training program includes assessment, management and communication skills to be performed during labor and delivery, postpartum, and newborn care. This program has been offered and will continue to be made available over the next few years. The staff from Right From the Start will be trained during the upcoming year to better prepare them to assist in maternity care in emergency situations such as a pandemic, or because of lack of access to care in underserved areas of the state. This training will also assist in improving the transportation system for mothers and babies throughout the state.

Through the work of the Provider Shortage Committee, the Perinatal Partnership will continue to make every effort necessary to assure that needed maternity care providers are available in the state and that certified nurse-midwives, nurse practitioners and physicians work collaboratively to provide services in underserved areas of the state.



CHAPTER 4: DRUG USE DURING PREGNANCY

As reflected in the 2006 *Key Informant Survey*, drug use during pregnancy was identified by a large number of respondents as a major problem affecting newborn health outcomes. Smoking during pregnancy and in-home smoking by other family members was noted by 50% of respondents and identified as a causative factor for low birth weight and illness of infants after birth. Many of the key informants recommended tobacco cessation during pregnancy and not just a reduction in tobacco.

Another problem that surfaced is the amount of legal and illegal drug use during and after pregnancy, not only street drugs, but also opiates, methamphetamine, and methadone. Forty-five percent (45%) of the respondents noted concern around all of these types of drug use. A few key informants indicated alcohol as a concern. Many identified a lack of treatment availability within the state as a serious problem. Others mentioned that the legal implications of drug testing during pregnancy are not clear, and this lack of clarity interferes with a regular testing program. In response to the 2006 *Key Informant Survey*, a committee of the Central Advisory Council was formed. Members of the Committee on Drug Use During Pregnancy are listed on the sidebar.

Upon reviewing initial information provided from the West Virginia Department of Health and Human Resources regarding the number of pregnant women treated in government funded drug treatment programs, and the West Virginia Health Care Authority hospital discharge data, the committee determined that comprehensive data on drug use during pregnancy was not available.

The West Virginia DHHR, Bureau of Health, Division of Alcohol and Drug Abuse, Programs for Women and Women with Children reported that federal funds were prioritized in the following manner: (1) IV-Drug using pregnant women, (2) Pregnant women, (3) Women with children. In 2006 there were four treatment programs that operated eight residential treatment facilities in which treatment for pregnant women was a priority. The Bureau reported that in fiscal year 2006, in the State-funded treatment programs, 373 pregnant women were treated for substance abuse, 214 through behavioral health centers. The other 159 women received treatment through proprietary methadone clinics. At that time, the availability adequacy of the treatment programs had not yet been established.

The West Virginia Health Care Authority also provided hospital discharge data. There were inconsistencies in the data and

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the actual numbers were difficult to identify. Neonatologists, who treated drug addicted babies, believed that the numbers provided were seriously underreported. Some obstetricians did not feel comfortable reporting drug use of pregnant women due to: lack of clarity on legal issues; lack of screening in general; different time frames when addiction was observed in newborns; and different billing codes that were used in different hospitals.

Hospital Nurse Managers were surveyed in 2010 and reported the following:

- There was no standard protocol used for withdrawal treatment for newborns,
- There was no consistently used addiction scoring tool to identify affected newborns,
- There was no accurate method of identifying babies exposed to addictive substances in utero. Meconium testing was the primary method used to test infants; however, meconium testing does not identify all potential drugs that could be the cause of drug exposure in newborns.

Recommendations from the Committee

After identifying and reviewing the existing information, the committee made a series of recommendations that included the following:

Care of pregnant women

1. Continue the study of medical and legal issues surrounding drug use and testing during pregnancy. Determine existing laws that may impact the ability of medical personnel to screen for drug use during pregnancy as well as what changes may be needed to protect pregnant women from prosecution if they come in early for prenatal care and treatment.
 - a. Gain an understanding of existing state and federal legal issues that affect pregnant addicted women;
 - b. Develop a report of other states' best practices;
 - c. Engage the West Virginia Legislature's Judiciary and Health Committees in discussion and design of solutions to any identified problems; and
 - d. If indicated, provide advice regarding appropriate legislation.
2. Draft medical guidelines for maternity providers to use statewide for testing for drug use during early pregnancy and for referral for treatment.
3. Plan to take an educational program statewide to train maternity providers to implement the 2008 recommended guidelines.

4. Write and publish reports and educational materials to provide perinatal providers and pregnant women information and guidelines needed to assure pregnant addicted women receive adequate and timely prenatal care and addiction treatment beginning early in pregnancy.

Protection of addicted pregnant women

1. Protection of pregnant women from retribution
 - a. No criminal prosecution based solely on medical records – exempt records from use in criminal proceedings
 - b. Exempt records from FOIA
 - c. No termination of state benefits (Medicaid, CHIP, etc.)
2. Mandate Screening
 - a. Provide immunity to healthcare providers for screenings/results (particularly if patient refuses help after positive screening or testing)

Care of newborns

1. Establish recommended guidelines for screening and testing of delivering women for addictive substances.
2. Design hospital guidelines and tools needed to identify neonates in addiction withdrawal, and recommended treatment for neonates.
3. Enumerate the current services provided for detoxification of newborns.

Work with the three tertiary care centers and additional hospitals to conduct chart reviews of newborn discharges for 2005.

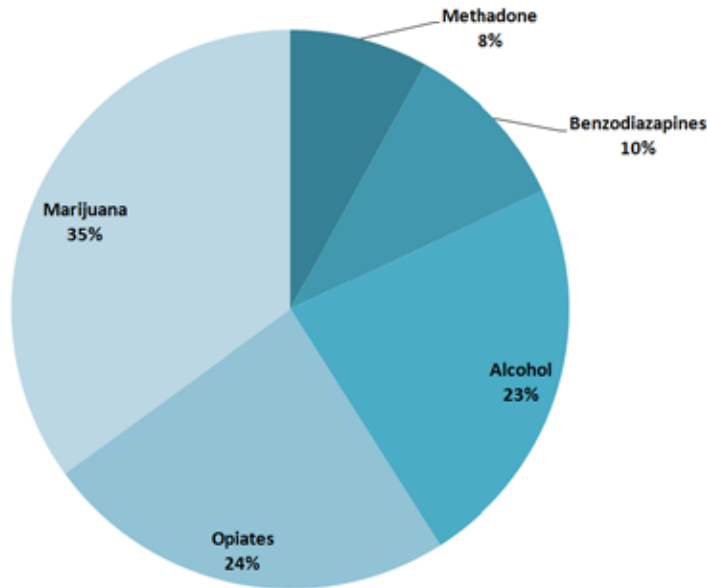
1. Study and report the economic impact of detoxification of newborns compromised by drug addiction as compared to normal newborn care.
2. Design and conduct educational opportunities for hospital nurses, physicians, and other personnel regarding the use of recommended guidelines and tools.
3. Establish an expert committee to regularly review and update the guidelines.

The above recommendations have been the work of this committee since they were originally determined. There have been many successes since that time which will be provided in detail.

Umbilical Cord Study

In 2009, an umbilical cord study was initiated with funding by the West Virginia Department of Health and Human Resources, Bureau of Public

Drugs Found in Cord Tissue



Health, Office of Maternal, Child and Family Health, with federal Maternal and Child Health Block Grant funds. The project was designed as a multi-hospital anonymous collection and assay of umbilical cord segments in as many patients as delivered in the month of August 2009. Dr. David Chaffin of Marshall University, Joan C. Edwards School of Medicine was the lead investigator. The following eight hospitals participated in the study:

- Bluefield Regional Medical Center
- Cabell Huntington Hospital
- Charleston Area Medical Center
- City Hospital of Martinsburg
- Raleigh General Hospital
- Ruby Memorial Hospital
- Thomas Memorial Hospital
- Wheeling Hospital

The results of the Cord Tissue Study were quite disturbing. Nineteen percent (19%) of babies born during this period in participating hospitals had evidence of drug or alcohol exposure. Marijuana use led the way followed by opiates, alcohol, benzodiazepines and methadone. The lack of finding of methamphetamine or cocaine was considered surprising. Regional variations and polysubstance use were found. Of the 759 umbilical cord specimens collected in this study, 146 were found to be positive for drugs and/or alcohol. The chart above provides the results of

the positive cord specimens. The above results do not include information on whether any of the drugs noted were prescribed for a legitimate purpose. Regardless, there is no question that West Virginia is facing a serious problem for the newborns of the state.

Legal Issues Concerning Newborn Screening

Prior to initiating steps towards the creation and implementation of a screening tool, the Central Advisory Council determined that the legal issues surrounding this topic must be thoroughly reviewed and guidelines developed. Many concerns were identified in the *2006 Key Informant Survey* results, which indicated that many healthcare providers were concerned about their patients' rights and their responsibilities related to testing for drug abuse. The normal physician-patient privacy protections protect medical records to the extent permitted by law. A patient's medical record may be shared for treatment, payment and health care operations except where West Virginia law or other federal law is determined to be more specifically protective. Although West Virginia law provides specific protections for the treatment records of the mentally ill patient, it was not determined if this included patients with a diagnosis of addiction or inebriation. The Central Advisory Council therefore recommended that any legislation that established a screening tool should include specific protections for patient privacy.

Subcommittee on Guidelines for Substance Abuse

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Model Policies for Substance Abuse Screening and Testing of the Pregnant Patient During the Outpatient Visit and at the Hospital

Screening and testing for substance abuse early in the pregnancy provides needed information to health care professionals to enable them to appropriately identify and intervene as early in the pregnancy as possible.

Abstinence from drugs and alcohol during pregnancy gives a baby the best chance for a positive start in life. Therefore, the subcommittee on guidelines for substance abuse highly recommended that all pregnant women be screened each trimester as part of a normal maternity care routine. The subcommittee also recommended that all postpartum women be screened if possible. After considerable study of the issue, the subcommittee established a series of recommended policies that birthing facilities and other health care providers could consider for implementation. The subcommittee members are listed in the sidebar.

The guidelines are available on the West Virginia Perinatal Partnership website and have been reviewed and implemented in various settings.

Uniform Maternal Risk Screening Act

Through the work of the Subcommittee for Guidelines on Substance Abuse, a model policy was developed to establish a screen of all pregnant women for controlled and addictive substances as early in prenatal care as possible and in each trimester. This policy required legislation for the development of a screening tool with needed protections for pregnant woman. Such a law passed and was signed by then Governor Joe Manchin and became effective July 5, 2009. The West Virginia Office of Maternal, Child and Family Health was charged with creating the Advisory Council on Maternal Risk Assessment. This Advisory Council included many of the members of the West Virginia Perinatal Partnership committee who had been working on this issue since 2006. The goal was statewide uniformity in discovering at-risk and high-risk pregnancies to ensure appropriate interventions during these pregnancies. The legislation was further designed to provide uniform data-collection so that public health officials would have a better understanding of the prevalence of substance abuse and other risk factors. The legislation provided some specific privacy protections for pregnant women

and protections for maternity care providers. The protections were of critical importance to assure that pregnant women would have access to needed interventions without fear of criminal repercussions. It assured maternity providers that their provision of the screening tool and steps to intervene with the pregnant women would not be questioned. This was an important step in improving maternal and infant health in the state.

The benefits of implementing a universal screening tool statewide cannot be overstated. The tool allows for early intervention and/or referral for treatment, increases the identification of drug users, improves provider skills and comfort with focusing on this issue, provides educational opportunities about the risks of substance abuse and treatment strategies and it enhances public awareness and could affect substance abuse identification and treatment in the future.

**Neonatal Abstinence Syndrome Tool Kit
Answering the Questions of Perinatal
Exposure to Illicit Substances**

Through a project of the West Virginia Community Voices, funded jointly by the Benedum Foundation, the West Virginia March of Dimes, and the West Virginia Perinatal Partnership, Sandy Young, DPN, RN, BC, of Thomas Hospital Systems completed extensive research on how to identify neonates

exposed to addictive substances, and designed a tool kit for hospital nursery personnel to assist in identification and treatment of exposed neonates. Dr. Young presented numerous education sessions on the topic for medical care providers at hospitals, for social workers and for health and social workers at local health departments in the state. Pre and post research on knowledge and attitude of those attending the educational sessions was also conducted. In the program, guidelines for greater awareness and further assessment of possible substance exposure was offered along with reference to: maternal and neonatal indicators; commonly used methods of substance detection; the action, transfer and delivery issues of certain drugs identified as those most widely used in West Virginia; physical symptoms; withdrawal symptoms; potential long term outcomes; and breastfeeding implications. Resources for treatment have also been shared with participants. These programs have provided important information to over 700 participants and continue to be offered throughout the state. As an outcome of this program, a fully developed Neonatal Abstinence Syndrome Toolkit was developed and made available to all birthing facilities and providers of perinatal services throughout the state.





**Treatment Projects Developed in West Virginia:
*Drug Free Moms and Babies Project***

In late 2011, the West Virginia Perinatal Partnership announced the establishment of the Drug Free Moms and Babies Project. With collaborative funding from the Benedum Foundation, DHHR Bureau for Behavioral Health and Health Facilities, and the Office of Maternal, Child and Family Health, this exciting new initiative provides up to four model programs across the state. Its purpose is to fund comprehensive and integrated programs to identify and treat pregnant women and newborns for up to 2 years. Services included in the project include screening of all pregnant women, comprehensive medical care, drug and alcohol counseling, long term follow-up of mothers and home visitations. There is a required data component to enable the program to be adequately assessed in terms of effectiveness.

The first grantee was Shenandoah Valley Medical Systems in Martinsburg, a federally qualified health center offering maternity care and behavioral health services. This center uses existing staff, including nurse midwives, obstetricians, psychiatrists, psychotherapists, and certified addiction counselors. It added a Recovery Coach.

The second grantee was Thomas Memorial Hospital in South Charleston, a private community hospital serving 12 counties in West Virginia. This hospital includes both in-patient and out-patient behavioral health services. Pregnant women are identified by obstetricians, emergency room personnel and referrals from outside the hospital. Individual and group sessions in outpatient settings are provided. Funding made it possible to hire additional behavioral health staff and to cover testing, educational materials, training and incentives.

Recently, two additional programs were chosen for funding – Greenbrier Valley Medical Center and West Virginia University Ob/Gyn Department. The research that will be conducted as part of the project will be a significant step forward in identifying best practices. It is the intent that lessons learned by the pilot sites will be shared and the pilot sites' effectiveness in reaching their goals will be evaluated.

Each of the four pilot programs will dedicate time to educate other maternity providers in the State. The professional educational sessions will offer information regarding treatment

options, guidelines, and policies that have been implemented by their pilot programs as well as guidelines and policy recommendations of the Perinatal Partnership. Professional journal articles to share what has been learned will be developed. It is expected that a great deal of progress will be made with this tremendous learning opportunity.

Charleston Area Medical Center (CAMC)

Like many hospitals around the state, CAMC Women and Children's Hospital experienced a growing number of babies born suffering from the effects of substance exposure in utero. In response to frustration with their lack of knowledge about drug use, CAMC created a multi-disciplinary team to plan and implement strategies to deal with this increasing problem. Pregnant women at high risk for use of addictive substances are referred to a program intended to help them have a drug free birth experience. The high risk prenatal care clinic instituted universal urine drug testing, hired a certified addictions counselor, and coordinates with the Right From the Start program. The program has been successful in helping women wean off addictive substances during pregnancy.

Joan C. Edwards School of Medicine

Joan C. Edwards School of Medicine at Marshall University found providing maternity care for pregnant women with addiction problems to be extremely challenging. Optimizing the outcomes for them and their neonates was the goal of the Maternal Addiction and Recovery Center (MARC). While some think that methadone maintenance remains the gold standard of therapy, recent data published in the New England Journal of Medicine suggested that maintenance therapy with buprenorphine (Subutex) results in neonates that spend less time in the intensive care nursery. Access to buprenorphine therapy during pregnancy had been limited at best. In an attempt to improve access, the Department of OB/GYN at the Joan C. Edwards School of Medicine at Marshall University, with the help of a generous grant from Carelink Health Plans, Inc. instituted the Maternal Addiction and Recovery Center under the direction of Maternal Fetal Medicine specialists Dr. David Chaffin and Dr. Ryan Stone and assisted by Glennis Peters, Certified Clinical Addiction Counselor (CCAC). Opiate addicted pregnant patients receive the highest quality pregnancy care, regular addiction counseling in both group and individual settings, as well as buprenorphine maintenance therapy in one clinical

location. In addition, physicians are educated on the importance of addiction treatment.

Governor's Initiative on Substance Abuse

In addition to the efforts of the West Virginia Perinatal Partnership and a number of maternity clinics in the State, Governor Earl Ray Tomblin has also sought solutions to the substance abuse epidemic. In 2011 he created an advisory panel to make recommendations for the Governor's consideration. On this panel are some of the most learned professionals in the state in the area of substance abuse. Dr. Stefan Maxwell who has been an active partner of the West Virginia Perinatal Partnership serves on this important council and was a key player in the development of a series of recommendations that ultimately ended in legislation in 2012.

Although the problem is far from being solved, much work has been done to address the serious problem of substance abuse during pregnancy in West Virginia. Much of the success in raising awareness of the problem and seeking effective strategies is in large part due to the leadership and tireless efforts of Dr. Stefan Maxwell. Not only was he chosen to be a part of the Governor's Advisory Council on Substance Abuse, but he has served as chair of the West Virginia Perinatal Partnership's Drug Use During Pregnancy Committee and as a member of the Central Advisory Council.





CHAPTER 5: UNPLANNED AND TEEN PREGNANCY

The West Virginia Perinatal Partnership, through its *Key Informant Survey* and a review of the data, acknowledged that unplanned pregnancy is a serious social problem in West Virginia and needed to be a focus of attention by the partners. A committee was established to set priorities and recommend strategies to address this important issue. The committee membership is listed on the sidebar.

National Campaign to Prevent Teen and Unplanned Pregnancy Learning Tour

In early 2008, the National Campaign to Prevent Teen and Unplanned Pregnancy asked the West Virginia Perinatal Partnership to plan and host one of a series of meetings being conducted across the country. The meetings, called Learning Tours, brought together national, state, and community leaders to ask how they saw the problem of unplanned pregnancy among single, young adults. The National Campaign is a national, non-partisan, nonprofit organization based in Washington D.C. For more than a decade, the National Campaign has worked to reduce teen pregnancy and is now expanding its mission to also focus on preventing unplanned pregnancy among young adults ages 20-29.

A diverse cross-section of West Virginia leaders, professionals, providers, policymakers, and advocates were generous with their time and offered many thoughtful insights about how best to address the challenge of unplanned pregnancy. The findings from this Learning Tour are helping to inform the work of the National Campaign. Many professionals in West Virginia participated in these discussions and the West Virginia Perinatal Partnership was an active partner in this effort.

Upon completion of the Learning Tour, the West Virginia Perinatal Partnership embarked upon a multi-year project funded by the National Campaign to Prevent Teen and Unplanned Pregnancy to reduce the incidence of unplanned pregnancy among young adults. An advisory committee was formed that is broadly representative of professionals in the fields of medicine, social services and state agencies concerned with the impact of unplanned pregnancies.

Upon reviewing the data, it became clear to the committee that about 43% of West Virginia births are the result of an unplanned pregnancy. Studies show that unplanned pregnancy is at the root of a number of important public health and social challenges. Children born from unplanned pregnancies are at an increased risk of low birth weight, developmental delays, and poverty. This translates into high

Committee on Unplanned Pregnancies

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Denise Smith, RN, CHES, Director, Division of Perinatal and Women's Health, WVDHHR (Co-Chair)
Terri Bliziotos, Director of Quality and Health Center Continuity, WV Primary Care Association
Kelli Caseman, Executive Director, WV School Based Health Assembly
Angela Cavender, Kanawha County school nurse at Capitol High School
Margaret Chapman, Executive Director, WV FREE
Sheryn Carey, Office of Minority Health, WVDHHR
Ann Dacey, RN, Nurse Coordinator, WV Perinatal Partnership
Sam Hickman, WV Association of Social Workers
Patricia Kelly, MD, Professor of Pediatrics, Joan C. Edwards School of Medicine, Marshall University
Becky King, representing WV School-Based Health Association
Rebecca King, Coordinator, HIV Prevention Education, Office of Healthy Schools, WV Department of Education
Wendy Moore, Health Programs Coordinator, Partnership of African American Churches
Angelita Nixon, CNM, State Policy Chair, American College of Nurse-Midwives – West Virginia Affiliate
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Nancy Tolliver, Director, WV Perinatal Partnership
Angie Whitley, Partners in Community Outreach, Huntington, WV
Penny Womeldorff, MA, WV Healthy Start/HAPI Project, Morgantown, WV
Patricia Woods, RN, WV Medicaid, WVDHHR

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public sector costs for health care, social services, and education in West Virginia. The majority of unintended pregnancies occurs among single women, but close to 30% also occurs among married women. Women between the ages of 20-29 are most vulnerable to an unintended pregnancy.

The cost of unplanned pregnancies in the U.S. in the year 2002, according to the National Campaign to Prevent Teen and Unplanned Pregnancy, was five billion dollars in direct medical costs. This included only the costs associated with the births, abortions and miscarriages and is a small portion of the actual costs to the public sector for healthcare, social services and education.

The West Virginia Perinatal Partnership focused on project initiatives in public policy, in-home visitation programs, and education. Policy issues include expansion of Medicaid coverage of contraceptives, improvement of public school education on how to have healthy pregnancies and babies, and expansion of insurance contraceptive coverage for dependent children.

Medicaid Family Planning State Plan Amendment

The West Virginia Perinatal Partnership, through its advisory committee on unplanned pregnancy, has encouraged the Bureau of Medical Services for several years to consider applying for a Medicaid Family Planning Waiver. A study done by the West Virginia Center on Budget and Policy determined that a family planning waiver could improve the health of West Virginia women and their babies by providing family planning services for new mothers for 24 months beyond the birth of the baby. The current policy is to cover women up to 150% of the Federal Poverty Level during pregnancy and only for 60 days postpartum.

Flexibility in the federal Medicaid program permits states to expand coverage for family planning services through a waiver. Over 26 states have received such a waiver. The federal flexibility includes a requirement that the expansion be cost neutral so that no additional funding would be required to provide this service. The West Virginia Center on Budget and Policy (WVCBP) studied this Medicaid option. The WVCBP is a nonprofit organization that focuses on how policy decisions affect all West Virginians, including low- and moderate-income families. Their study showed that there has been great effort in this country to improve birth outcomes by the provision

of pregnancy coverage, prenatal care, early intervention programs, and nutrition programs, to name a few.

It has been clearly established in the literature that the health of a population is dependent upon the health of mothers and babies. Because of this knowledge, enormous strides have been made to improve infant mortality rates, and the rates have seen significant improvement. Yet a study of 11 million women found that better pregnancy spacing could have a dramatic effect on neonatal complications and deaths, both nationally and throughout the world. (JAMA, April 19, 2006).

According to a draft family planning proposal from 2008, providing Medicaid-covered women with family planning services and supplies for 24 months postpartum would reduce the number of Medicaid births by over 800 births in a given year. Estimates of the reduction in cost associated with the pregnancy and births prevented through this family planning proposal would reduce the Medicaid costs by approximately \$10,700 for each birth averted.

In 2011, the Bureau of Medical Service focused attention on developing a Family Planning State Plan Amendment, a new option that became available in order to make this coverage change easier for states to apply for through the federal government. However, in January of 2012 the Bureau found the need to curtail efforts on this project due to other important items on their agenda. As of this writing, the West Virginia Medicaid program has not expanded coverage for family planning services and supplies and the State is missing out on dollars that could have been saved if this expansion had been initiated in an earlier year.

With the continuing concerns about Medicaid costs to the State, it seems obvious that the Medicaid Family Planning Waiver or State Plan Amendment would reduce costs significantly and should be seriously considered as a cost saving measure and a public health measure that would provide ongoing benefits to the State.

Parents Program

One of the issues brought forward by the advisory committee was lack of education for parents regarding unintended repeat pregnancies and birth spacing. The West Virginia Perinatal Partnership asked for volunteers from among agencies that

provide in-home counseling and education services to parents. The Perinatal Partnership teamed up with the Healthy Start/HAPI Project that serves prenatal and postpartum women in eight West Virginia counties. The HAPI project is funded by the Health Resources and Services Administration (HRSA) as one of 96 Healthy Start Projects nationally. In addition, Partners in Community Outreach, a statewide umbrella organization for home visitation programs such as Healthy Families America, Maternal Infant Health Outreach Workers, and Parents as Teachers, agreed to train their in-home visitors to provide counseling on contraceptive use and birth spacing.

As the educational program was being planned, the Perinatal Partnership reviewed existing materials and selected appropriate ones from the State Family Planning Program and the March of Dimes, WV Chapter. In addition to the materials, the Perinatal Partnership also received a contribution of pregnancy testing kits, which were used as part of the educational approach.

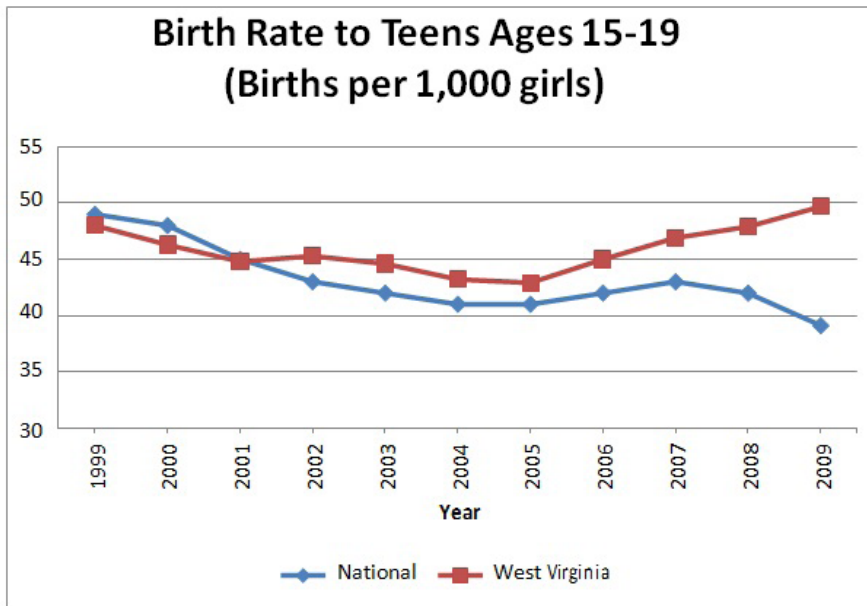
The small planning group for this aspect of the project developed teaching protocols, tracking forms, and a handout on birth spacing. This handout, based on international research, succinctly explains why spacing births by at

least 24 months is healthy for the current baby, the mom, the family, and the next baby. In-home visitors identified this handout as the most valuable tool we gave them. The document, entitled "Why Spacing between Children is a Healthy Choice," has been printed in tear-off sheet form and made available to family planning providers, Right From the Start care coordinators, and home visitors through the State Family Planning Program, WVDHHR.

Additional training sessions were held in 2010 for Right From the Start care coordinators. The materials developed by the project continue to be used across the state by in-home visitors and family planning providers.

Teen Pregnancy Studies

For more than a decade, births to West Virginia teens had consistently declined, and between 1991 and 2004 teen births had dropped by 24%. Then, in 2006, the rate of teen childbearing in the state increased, with alarming social and economic costs. A white paper addressed the problem: *Study on the Incidence of Teen Pregnancy and Childbearing in West Virginia* (October 2008). The purpose of that report was to focus on the incidence of teen pregnancies in West Virginia, the impact of those rates, and to establish



(From the Report on Teen Pregnancy and Birth Rates)



strategies and policies aimed at reducing the rate. Many partners have been dedicated to improving teen perinatal outcomes, including Brenda Dawley, MD, Ob/Gyn, Faculty at the Marshall University Joan C. Edwards School of Medicine, who has been very instrumental in educating legislators on this issue.

As the chart on the previous page shows, the rise in teen birth rates in West Virginia is an exception to the decrease noted nationwide.

Study of Health Education in Schools

Edvantia, Inc., a non-profit educational research organization, was contracted to conduct a two-phase study between August and October 2009. The Edvantia study was commissioned to meet the requirements of the House Concurrent Resolution No. 53 (HCR 53). The purpose of the study was to provide needed information to the Legislature to reduce poor perinatal health outcomes for women less than 20 years of age.

Researchers conducted a two-part study to meet the requirements of HCR 53. In the first phase of the study, researchers identified the counties with the best perinatal health outcomes. During the second phase of the study, researchers collected and

reviewed information regarding teen reproductive and perinatal health curricula from twelve high school health and Family and Consumer Science (FACS) teachers in five target counties.

Hardy, Jefferson, Lewis, Monroe, and Pleasants counties were identified as the West Virginia counties with the most favorable outcome data across a 6-year time period (2003 to 2008) for the following indicators: percentage of births to teenage mothers; babies with low birth weight born to teen mothers; births by teen mothers resulting in second, third, or fourth child; and teen mothers who smoked during pregnancy. For most of these five counties, occurrence of indicators was ranked below the state average.

The following observations about the favorable counties were noted:

- The following content areas were covered: female/male reproduction; sexually transmitted disease; planning and nutrition for healthy pregnancy; responsibilities of parenting; social pressure and influence; contraception methods; and the effects of alcohol, tobacco, and addictive drugs on developing fetuses.
- All general health education teachers who were interviewed were certified to teach health and

most had a significant number of years (> 20) of experience teaching health in schools.

- Teachers employed various methods of instruction to teach these topics including lecture, videos, student presentation, class discussion, projects and research papers, and technology.
- Most health teachers provided general information and gave students an opportunity to explore additional information.
- Teachers often reported their use of resources outside the school setting.
- The most evident difference across the counties that showed the most favorable outcomes was the definition of a class unit and the differences in the number of hours health was taught and the addition of specialized courses such as Life Connections, Parenting and Strong Families, Parenting and Child Development, and Adolescent Parent Program. These additional courses focused on perinatal content in much more depth.

A second Edvantia study was commissioned in 2012 and funded by the National Campaign to Prevent Teen and Unplanned Pregnancy, through a grant to the West Virginia Perinatal Partnership. The study began during the summer of 2012 and the results are expected in early 2013. This study will look at what health educational opportunities are missing in schools that have high rates of teen births and poor teen pregnancy outcomes. This information will be made available to and can be used by policy makers, educators, and the Legislators to make wise choices to help reduce teen pregnancy rates and to improve the perinatal outcomes for teens who are pregnant. The results of this second study will be presented to the Legislature during the 2012 interim period.

Insurance Coverage of Contraception for Dependents

One of the issues brought forth by the advisory committee was the lack of insurance coverage for contraception for dependents under most insurance plans in West Virginia, including the large state employee plan, PEIA. Although the Contraceptive Equity Act was passed by the State Legislature in 2005, the law contained an exemption for minors. As a result of this project and the efforts of the Perinatal Partnership, the Health Committee of the West Virginia House of Delegates became aware of this issue and introduced HCR 104 calling for a study of the costs and benefits of insurance coverage of dependents'

coverage for contraception and pregnancy care. The Legislature funded the study, conducted by Marshall University's Center for Business and Economic Research. Interim committees received the results of the study and drafted bills amending the law, but ultimately, the bills were dropped. The Affordable Care Act, passed by Congress, contains the requirement for all insurance plans to cover contraception for dependents. Legislation to require insurance coverage of dependents is expected to be taken up in the 2013 Legislative Session.

Community and Technical College Initiative

In 2010, the Unplanned Pregnancy Project developed an initiative that focused on ways to educate community college students about the impact of unplanned pregnancies on degree completion and how to prevent unplanned pregnancies. While community college administrators are very concerned about college completion rates, the fact that students are non-residential does not give the community colleges the opportunity that universities have to provide health services and counseling on topics such as contraception.

The project coordinator spoke to the West Virginia Higher Education Advisory Council on Student Affairs and presented materials and ideas from the National Campaign that could be incorporated into the student orientation curriculum at each college. Two college presidents volunteered to work with the project – Southern West Virginia Community and Technical College and West Virginia University at Parkersburg. Activities included surveying students about their attitudes and knowledge about prevention of unplanned pregnancies; using National Campaign curriculum materials in their orientation and social work classes; and planning health fairs and student activities focused on reproductive health. At West Virginia University at Parkersburg, arrangements have been made for the local health department's family planning provider to come to campus and have a place to do exams and provide counseling and contraceptive services.

The National Campaign to Prevent Teen and Unplanned Pregnancy has been a tremendous partner, contributing financial support and substantive information related to teen and unplanned pregnancy. The West Virginia Perinatal Partnership would not have accomplished much on these initiatives without the ongoing support that was provided.



CHAPTER 6: ORAL HEALTH SERVICES

As early as 2003, the West Virginia Community Voices, Inc., parent organization to the West Virginia Perinatal Partnership, determined that the oral health of the citizens of West Virginia was deplorable and provided initial funding for an oral health group to raise awareness and identify problems and solutions to the poor oral health of West Virginia. Since 2003, there has been greater awareness of oral health problems in the state. Funding from other sources became available for oral health studies and services through organizations in addition to the West Virginia Perinatal Partnership. Much of what has been accomplished in the State on oral health is directly related to the increased interest and support for oral health care from additional philanthropic foundations.

The 2006 *Key Informant Survey* identified oral health as a concern related to low birth weight babies and birth outcomes. Over the past twenty five years, a growing body of research has supported the link between poor birth outcomes and lack of oral health during pregnancy. Dental maladies ranging from bleeding gums to a dental-related abscess have special significance during pregnancy. Other factors contributing to poor oral health status during pregnancy include: changes in diet and oral hygiene directly resulting in higher decay (cavity) rates, tooth erosion from esophageal reflux and vomiting and pregnancy gingivitis. According to the National Institute of Health, “as many as 18 percent of the 250,000 premature low-birth-weight infants born in the United States each year may be attributed to infectious oral disease.” In response to this identified need, an oral health committee was established. Committee members are listed on the sidebar.

The committee determined that, for many women in West Virginia, pregnancy is the only time they will have medical and dental coverage. West Virginia Medicaid then and currently covers women up to age twenty one (21) for full dental benefits. This period of time is also when women are more receptive to modifying or changing behaviors that result in better health outcomes for themselves and their unborn child. This window of opportunity allows healthcare professionals to provide education and treatment to improve the oral health status for the woman and ultimately her child.

One critical issue identified by the committee was the need to educate health care professionals in recognizing the direct correlation between oral health and overall health. The committee determined that current research provided sufficient evidence to recommend appropriate oral health

Original Oral Health Committee

Gina Sharps, R.D.H., B.S., West Virginia University School of Dentistry, Morgantown (Chair)
Allan Chamberlain, MD, OB/Gyn, Huntington
Jeannie Clark, RN, Right from the Start Director, Charleston
Paula Darby, RN, Right from the Start, Region VII
Ellen Kirby, RN, Right from the Start, Region VIII
Barbara Lott, RN, Right from the Start, Region V
Richard Meckstroth, DDS, West Virginia University School of Dentistry, Morgantown
Dee Messinger, RN, Right from the Start, Region II
Michelle Truax, RN, Right from the Start, Region VI
Barbara Vessely, Clerk, Right from the Start, Region II
Susan Walter, Oral Health Community Liaison, Martinsburg
Andrea Kelly, DDS, Dental Director, Valley Health, Westmoreland
Lisa Dunn, DDS, Director of Dental Health Programs, West Virginia University Martinsburg
Amy Leedy, Oral Health Coordinator, Valley Health, Huntington
Elliot R. Shulman, DDS, West Virginia University School of Dentistry, Morgantown
Renate Pore, West Virginia Healthy Kids Coalition

Staff:

Bobbi Jo Muto, RDH, BS, MPH Valley Health Systems

Health Care Authority Researcher:

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Oral Health Committee 2012

Gina Sharps, RDH, BS, MPH, Marshall University (Chair)
Mary Beth Shea, RDH, Mid-Ohio Valley Health Department
Louise Veslicky, DDS, WVU School of Dentistry
Vinod Miriyala, BDS, DDS, MPH, CAGS, Pediatric and Public Health Dentist
Ashley Logan, RDH, Regional Oral Health Coordinator
Wendy Mosteller, RDH, Regional Oral Health Coordinator
Marsha DeLancey, RDH, Regional Oral Health Coordinator
Jason M. Roush, DDS, State Dental Director, WVDHHR
Deonna Williams, MS, CHES, Project Coordinator, WV Oral Program
Ted Cheatham, WV PEIA
Ron Stollings, MD, Physician and WV Senator
Amy Wenmoth, WV Health Care Authority

Staff:

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care for pregnant women. Recent studies have shown that women with periodontal disease are at 3-5 times greater risk of a preterm birth than those who are periodontally healthy. At that time, it was theorized that bacteria and toxins from periodontal disease enter the bloodstream and cause an inflammation that triggers premature labor. This situation can be aggravated if a pregnant woman's periodontal disease becomes worse during pregnancy. While most pregnant women know that smoking and drinking alcohol can be harmful to their babies, they may not know that taking care of their oral health is very important as well. Periodontal disease and dental caries can be prevented and treated. A limited number of healthcare professionals recognize periodontal disease and dental caries as infectious diseases and an even smaller number are aware of treatment options and available resources.

Availability of Oral Health Services and Providers for Medicaid-Covered Pregnant Women

Over half of all pregnant women in West Virginia receive benefits through Medicaid. While the data on the availability of oral health care for these women is inadequate, what is known suggests that West Virginia has a serious problem.

The ratio of dentists to pregnant women can be compared, but it is not known how many dentists will see Medicaid patients. Some dentists will see Medicaid patients on a limited basis; others will not accept new Medicaid patients, but are willing to see existing patients of record. Availability of dental services for Medicaid-covered women fluctuates from month to month and varies from county to county. West Virginia does not meet the ratio of dentist-to-population as recommended by the Association of State and Territorial Dental Directors (ASTDD). Below is a chart showing the recommendation and the West Virginia ratio.

In January 2007, a study was conducted by the West Virginia DHHR, Office of Women, Children and Family Health, called *Attitudes of West Virginia Dentists Toward Publicly-Sponsored Patients and Children with Special Health Care Needs*. The study was a mailed survey to 823 dentists in the State. Thirty-eight percent of the dentists responded to the survey. Of those responding, 35 percent refused to have their names printed in a referral directory of dentists serving Medicaid-covered clients. A similar study completed in 2002 to determine dental provider attitudes toward serving Medicaid-covered or CHIP-covered clients found that just 20 percent of the respondents agreed to be listed in the West Virginia DHHR resource directory and 80 percent declined to be listed.

Further compounding the problem of oral health services for pregnant women is that West Virginia Medicaid fees for dental services are at or below the 10th percentile in the nation according to a report of the American Dental Association.

The State Right From the Start program for at-risk pregnant women is making a continuing effort to improve use of oral health services among pregnant women. This service is available in eight regions of the state and found that utilization of dental services varied from region to region with the lowest rate at 14.9 percent and the highest rate at 23.7 percent. With the inherent risk of poor oral health to a baby, these rates need to be improved throughout the state. This ongoing process of improvement requires a partnership of many agencies, community groups and health care professionals. The West Virginia activities that were initiated in the early months of the committee's work included:

- Right From the Start began education of the program's health care professionals on the importance of good oral health and its potential impact on positive birth outcomes.
- The West Virginia Birth Score tool, maintained by West Virginia University School of Medicine, was revised to include questions pertaining to oral health. This data was collected and reported, measuring changes in the use of oral health services over the next several years.
- New mothers were educated on the value of oral health care; hospitals began to provide new mothers with a newly-developed perinatal oral health brochure.

National Average Dentist-to-Population Ratio
63.6/100,000
West Virginia Average Dentist-to-Population Ratio
47.2/100,000



- Right From the Start would educate and monitor their clients accessing oral health care, and would identify barriers to care.
- Legislators were educated on potential policy initiatives that could improve oral health of our citizens, with partners presenting to the special West Virginia Legislative Committee on Oral Health during the 2007 interim sessions.

Committee Recommendations

The Oral Health Committee made the following recommendations:

1. Encourage and support a broad partnership of health professionals to work together to ensure that all health care providers are aware of the association between oral health and overall health, and therefore recognize the correlation between infectious oral disease and unfavorable birth outcomes.
2. Encourage and support programs working with families to promote oral care before, during, and after pregnancy as a key strategy to improve maternal health, fetal development, infant health, and birth outcomes.
3. The Bureau for Medical Services should review the reimbursement rates for Medicaid- covered dental services and evaluate the positive impact of preventable dental services for all women of childbearing age. Dental care for all pregnant

women may result in an overall cost savings by reducing the number of pre-term births and the rate of low birth weight births.

As oral health became a large focus of the overall health of all West Virginians, it was clear that sufficient data was not available to track progress in improving oral health over time. Effort was put into establishing a surveillance system to measure progress and develop plans.

As the importance of dental care became more widely known to the general public, increases in individuals seeking care were significant. In 2004 and 2005, twenty-seven percent of the population sought and received dental care.

Early goals of the Perinatal Partnership dental committee included increasing utilization of services by those who did have coverage. To accomplish this goal, there was a tremendous need to not only educate obstetricians, but also dental providers, some of whom were concerned about providing care to pregnant women. Funding was sought and received to provide training, education, and the development and printing of the *West Virginia Guidelines for Oral Health and Pregnancy*. The “First Smiles CE Campaign” was developed, which offered continuing education to providers throughout the state. Additional training was offered to non-dental providers through an

established program available online through the University of Albany.

A new study published in the American Journal of Public Health January 2011 showed that women with dental health coverage who received preventative dental care had better birth outcomes than those who received no treatment. This study showed the critical importance of preventative dental care and more fully clarified the work of the West Virginia Perinatal Partnership and those focused on this work.

Oral Health Coalition

The West Virginia Perinatal Partnership worked to encourage and support a broad partnership of health professionals to work together to ensure that all health care providers are aware of the link between oral health and poor birth outcomes. The West Virginia Oral Health Coalition, funded by the Claude Worthington Benedum Foundation, brought together a large group of community health providers to support the need for oral health and to ensure that oral health for pregnant women is a focus due to the negative impact on birth outcomes. The coalition came together in June of 2011. Members of the coalition are listed on page 45.

This coalition's purpose is to improve oral health in West Virginia by a collaboration of interested providers and persons. One example of the tremendous work of this coalition is the development of an oral health course to strengthen the knowledge of oral health as it pertains to the Head Start population and the young children of the state. This course is a self-paced, continuing education program for the dental team, the medical team and Head Start staff. It is approved for continuing education for nurses, social workers, dentists, dental hygienists and dental assistants. This coalition has been involved in the oral health initiatives in West Virginia and that exemplifies the effectiveness of working together to achieve goals.

The Appalachian Regional Commission and the Claude Worthington Benedum Foundation collaborated to fund a \$500,000 grant for children's oral health. The grant was developed to increase access to preventive dental services for youth in West Virginia through school-community partnerships. The funding provides support to schools and their local communities to provide preventive services to needy children. Much of the money has been made available to purchase

portable dental chairs to be used in schools throughout the state. The program is managed by the Robert C. Byrd Center for Rural Health at Marshall University. This program selects entities based on the ability to meet specific requirements which include:

- A partnership of at least two community – based organizations
- The ability to show support from county school boards, local dental society and target schools
- A sealant program focused on 2nd, 3rd and 6th grades
- A fluoride program if one does not currently exist
- Referral to a dental home
- An agreement to develop a biannual report
- Participation in a statewide surveillance system used by the state
- Development of a 24 month activity plan

West Virginia Oral Health Plan

Only a few years ago, there was not a full time oral health director in the state. Now there are a full time dental director and program staff who work tirelessly to support the Oral Health Central Advisory Council (OHCAC). The OHCAC is composed of leaders in health policy, dental care, and children's issues. The Bureau of Maternity, Children and Family Health in the Bureau of Public Health in the Department of Health and Human Resources has coordinated the work of the council. The OHCAC partnered with Marshall University and other key stakeholders to develop a statewide comprehensive oral health plan in accordance with the Centers for Disease Control recommendations. This effort was funded by a Claude Worthington Benedum Foundation grant to Marshall University to provide needed support to conduct forums throughout the state and get input from as many people as possible. As a result, a statewide Oral Health Plan was developed. The Oral Health Plan summarizes the current status of oral health in West Virginia as well as future goals and recommendations. The seven recommendations are as follows:

1. Strengthen the infrastructure and capacity to improve oral health services
2. Develop a budget and assess costs and revenues needed to support expansion of the West Virginia Bureau for Public Health Oral Health Program and fund expansion of oral health services

3. Promote oral health throughout the lifespan
4. Strengthen and improve the dental health workforce
5. Invest in community prevention
6. Strengthen the role of West Virginia's schools in promoting the oral health of students
7. Maintain, evaluate and monitor state plan implementation

Dental Health and Pregnancy Project

Based on results from a study conducted in central West Virginia, a new research project was developed led by Dr. Richard Crout of West Virginia University. This project will identify 500 pregnant women in West Virginia who will be seen for four in-person visits and six phone contacts. These women will receive simple dental screenings where plaque, gingival and saliva samples are obtained; short and long interviews will be conducted; and mother and baby will be followed for two years from birth. This program will provide a great opportunity to identify potential problems and intervene early. Already over 100 pregnant women have been recruited to participate in this project.

Home Visitors Project

The Claude Worthington Benedum Foundation has provided funding to Marshall University to provide support, education and supplies to home visitors working throughout the state in existing programs. This project will further educate new mothers on the importance of oral health in the overall health of their children. Many of these programs begin when the participants are pregnant so improved oral health of these pregnant women will also be accomplished.

Legislative Subcommittee on Oral Health

In addition to the above projects and accomplishments, The Oral Health Committee, the Oral Health Coalition, and the Oral Health Program located in the Department of Health and Human Resources have worked together to educate the Legislature. For two years the Legislature has had subcommittees of the Health Committee specifically established to study the oral health needs in the state. One significant accomplishment was the change in the Dental Hygienist Law to establish public health dental hygienists who could practice in the community without a dentist on site. These hygienists have additional training requirements and must be certified by the state. This has improved access to oral health services throughout the state. There is an expectation that public health dental hygienists routinely refer all of their patients to a dental home for more comprehensive care.

Oral Health Coalition

West Virginia Healthy Kids and Families Coalition (lead partner)
 West Virginia Community Voices
 West Virginia Academy of Pediatrics, West Virginia Chapter
 Office of Maternal, Child and Family Health, West Virginia
 Department of Health and Human Resources
 West Virginia Children's Health Insurance Program
 West Virginia Council of Churches
 West Virginia Kids Count Fund
 West Virginia Primary Care Association
 West Virginia School of Dentistry
 Bureau of Medical Services, West Virginia Department of Health
 and Human Resources
 West Virginia Public Employees Insurance Agency
 West Virginia Bureau for Public Health, Office of Epidemiology and
 Health Promotion in the West Virginia Department of Health and
 Human Resources
 Women, Infant and Children (WIC) Nutrition Program of West
 Virginia Department of Health and Human Resources
 West Virginia Head Start Collaboration Project
 West Virginia Partners in Implementing Early Childhood Systems
 (PIECES)
 West Virginia Head Start Association
 Marshall University School Health Technical Assistance Center
 Marshall University School of Medicine
 West Virginia Dental Hygiene Association
 Coronary Artery Risk Detection in Appalachian Communities
 (CARDIAC) Project
 Nicholas County Community Foundation
 West Virginia Dental Association
 West Virginia Public Health Association - Dental Section
 Mid-Ohio Valley Health Department
 West Virginia Free Clinic Association

Fluoride Application Training Program

The West Virginia Dental Association and the West Virginia University Dental School have established a program to train primary care physicians to apply fluoride varnish to children's teeth in order to prevent more significant decay; to refer these children for follow-up care with a dentist; and to assist their patients to identify a dental home. This program allows primary care physicians to charge for and receive reimbursement by Medicaid for applying fluoride varnishes. The application of fluoride varnishes to healthy teeth will save many teeth from decay and improve the oral health of West Virginians.



Dental caries are caused by bacteria that can be transmitted from care-giver to an infant. To address this problem, there is a continuing effort to increase Medicaid dental coverage to all pregnant women through the first two years postpartum. This effort has not yet been successful but will continue to be a goal of the various coalitions.

West Virginia KIDS COUNT Oral Health Evaluation

There has been tremendous effort to improve the oral health of West Virginia citizens during the last seven years. The Claude Worthington Benedum Foundation asked West Virginia KIDS Count to evaluate these efforts and prepare a report on the status of children's oral health in West Virginia. KIDS COUNT issued its report on June 1, 2012 during a meeting of the state's Oral Health Coalition in Charleston. The report, *Is West Virginia a Great Place for Kids' Smiles?*, lays out the state's recent progress in improving children's oral health and makes a series of recommendations for further improvements, including expansion of the school-based dental sealant program to all high-risk communities in West Virginia.

The KIDS COUNT report measures the status of children's oral health against the national standards developed by the Pew Center on the States. Pew has identified eight policies by which it rates states' efforts to prevent childhood dental disease:

1. Having sealant programs in at least 25 percent of high-risk schools;
2. Allowing a hygienist to place sealants in a school-based program without requiring a dentist's exam;
3. Providing optimally fluoridated water to at least 75 percent of residents who are served by community water systems;
4. Meeting or exceeding the 2006/2007 national average of Medicaid-enrolled children receiving dental services;
5. Paying dentists who serve Medicaid enrolled children the national average of dentists' median fees;
6. Reimbursing Medicaid medical providers for preventive dental services;
7. Authorizing a new type of primary-care dental provider; and
8. Submitting basic screening data to the national database that tracks oral health status.

According to the Pew Center on the States, dental health in the United States has markedly improved, but children have not benefited at the same rate as adults. Poor children suffer the most from dental decay, and poor dental health impairs growth and development, school readiness and performance, overall health, and even economic growth.

The Benedum Foundation has, for more than a decade, provided funding for innovative, broad-based efforts to improve oral health in West Virginia, especially children's oral health. The new KIDS COUNT report indicates those efforts are now paying big dividends. There is clearly more work to be done, especially in terms of the oral health of low-income kids. The state is fortunate to have the ongoing commitment of the Benedum Foundation to continue to fund the programs that have been so successful.

Pew's February 2010 report *The Cost of Delay* identified West Virginia as one of eight states to receive an "F" on its report card on children's oral health. The KIDS COUNT report notes that, by the time the Pew report card was issued in 2010, many of the benchmarks were well on their way to being met, thanks to the strong partnership efforts of the state's oral health community.

The KIDS COUNT report also credits a decade's worth of oral health advocacy for West Virginia's improvement from an "F" to a "C" in the 2011 Pew report card on children's oral health. The state's grade would have been higher, but the report was issued before the state's Oral Health Surveillance System was completed; before West Virginia's Medicaid began reimbursing primary care physicians for applying fluoride varnish and referring children to a dental home; and before new legislation was passed in 2012 allowing hygienists to place sealants without a prior dentist's exam.

The report identifies important next steps for each of the Pew criteria for children's oral health, including:

1. Expanding the school-based dental sealant program to all high-risk communities;
2. Fully implementing the state's plan to address its dental shortage;
3. Addressing the fluoridation problem for West Virginia children who use well water;
4. Examining Medicaid dental rates to pay a greater percentage of standard fees;

5. Monitoring reimbursement rates and incrementally phasing in rate increases;
6. Training more doctors, nurses, nurse practitioners and physician assistants to provide preventive dental services;
7. Exploring seriously the idea of mid-level dental practitioners; and
8. Addressing design issues in the state's oral health surveillance system to ensure a random sample of children.

The oral health system has seen significant improvements in the oral health of our citizens. Many community health providers have worked tirelessly in partnership with schools to get those much needed services into the schools. The state must continue its collaborative efforts to improve oral health and ultimately improve the overall health of our citizens. The need to continue to improve the oral health of pregnant women is imperative, and the need to cover oral health services for pregnant women through Medicaid is a continuing goal of the West Virginia Perinatal Partnership, and their collaborative efforts will continue. The West Virginia Perinatal Partnership recognized the importance of oral health for pregnant women many years ago and has worked with their partners to affect the services available and to educate the provider community and the Legislature of the importance of good oral health on the overall health of mothers and babies.



CHAPTER 7: COSTLY MEDICAL PROCEDURES ASSOCIATED WITH POOR BIRTH OUTCOMES

The West Virginia Perinatal Partnership reported on the effects of elective labor induction and of cesarean delivery on mother and baby after studying the West Virginia data on birth outcomes in response to the 2006 *Key Informant Study*. In response to this knowledge, the Central Advisory Council established a Committee on the Economic Impact of Poor Outcomes. Committee members are listed on the sidebar.

The committee determined that West Virginia, like most of the US and Canada, has seen a rise in the rate of elective primary cesarean delivery and in elective labor induction, in part due to the widespread perception that these procedures are of little or no risk to healthy women. The best outcomes for mothers and babies appear to occur with cesarean section rates of 15 percent or below.

In 2004, 29.1 percent of all births were cesarean sections, a 40 percent increase since 1996, as reported by the Centers for Disease Control and Prevention's National Center for Health Statistics. That year West Virginia ranked as the third highest state for cesarean sections with a rate of 33 percent, according to the Centers for Disease Control.

A study that compared elective primary cesarean delivery to planned vaginal delivery was published in February 2007 by the Canadian Medical Association Journal. The fourteen-year study found that the planned cesarean group had increased postpartum risks of cardiac arrest, wound hematoma, hysterectomy, major puerperal infection, anesthetic complications, venous thromboembolism, and hemorrhage requiring hysterectomy, and stayed in the hospital longer than those in the planned vaginal delivery group, but had a lower risk of hemorrhage requiring blood transfusion.

Many West Virginia perinatal providers have voiced similar concerns about two elective medical procedures – elective inductions and elective cesarean sections – and their potential impact on poor medical outcomes. During the West Virginia 2006 *Key Informant Survey*, many perinatal providers identified these two elective procedures as contributing factors to low birth-weight infants. Some also indicated that, especially for a first time mother, labor induction may lead more often to a cesarean section and sometimes to an infant needing NICU services.

Committee on the Economic Impact of Poor Outcomes

Luis Bracero, MD, Director of Maternal Fetal Medicine, CAMC Women and Children's Hospital and Professor of Obstetrics and Gynecology, WVU School of Medicine, Charleston Division (Chair)

Jay Bringman, MD, Associate Professor, Director of MFM Out-Patient Services, West Virginia University School of Medicine, Morgantown

David C. Jude, MD, FACOG, Professor and Interim Chair, Residency Program Director Marshall University School of Medicine, Huntington

Stefan Maxwell, MD, Chief of Pediatrics and Director of Neonatal Intensive Care Services, CAMC Women and Children's Hospital and Assistant Professor of Pediatrics, WVU School of Medicine, Charleston Division

Sandy Young, DNC, RN-BC, Nurse Director, Women and Children's Services, Thomas Hospital, Charleston

Ann Dacey, RN, West Virginia University School of Medicine, Morgantown

David Chafin, MD, Professor and Director of Maternal Fetal Medicine, Dept of OB/GYN, MU, Huntington

Ted Cheatham, Director, West Virginia PEIA, Charleston

Sue Binder, RN, West Virginia March of Dimes, Scott Depot

Phyllis Bradley, RN BSN MSHCA, Director, Women's and Children's, Camden-Clark Memorial Hospital, Parkersburg

Advisors:

Amy Wenmoth, West Virginia Health Care Authority, Charleston

Tom Light, Health Statistics Program, West Virginia DHHR, Charleston

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Nancy Tolliver, RN, MSIR

Researcher:

Kent Sowards, PhD, Director, Data and Survey Services, Center for Business and Economic Research, Marshall University

First-Time Mothers with One Complication of Labor and Delivery West Virginia Residents, 2001-2005	
Complication	Percent that were Labor Induced
Febrile	39.40%
Meconium	33.30%
PRM	21.30%
Abruptio Placenta	18.20%
Placenta Previa	5.70%
Other Excessive Bleeding	44.30%
Seizures During Labor	25.00%
Precipitous Labor	16.80%
Prolonged Labor	48.60%
Dysfunctional Labor	51.40%
Breech/Malpresentation	7.40%
Cephalopelvic Disproportion	45.80%
Cord Prolapse	36.80%
Anesthetic Complications	30.00%
Fetal Distress	40.30%
Other/Unlisted	45.70%

West Virginia birth outcomes data show that birth outcomes have been worse than national average rates for c-section and labor inductions. With these concerns in mind, the West Virginia Perinatal Partnership's Committee to Identify Costly Medical Procedures Associated with Poor Birth Outcomes decided to undertake a study of first-time mother data, knowing that the method of delivery with the first birth is a predictor of subsequent birth outcomes. The data for this study were provided by the West Virginia DHHR, Health Statistics Center, from West Virginia birth certificate records. The data covered a five-year time period from 2001 through 2005. The findings provide a serious basis to support a recommendation of other West Virginia Perinatal Partnership committees to work to increase the adherence to ACOG and AAP Guidelines as they relate to labor induction and cesarean section. These guidelines provide that no c-section should occur without medical reason, and that no labor induction should occur prior to the 39th week of gestation without medical indication. Findings from a review of West Virginia birth records from 2001-2005 included the following:

1. For all mothers in West Virginia, the rate of labor induction has continued to rise, from

- 29.5 percent in 2000 to 33.9 percent in 2005.
2. For all West Virginia resident mothers, the rate of cesarean section has continued to rise, from 26.7 percent in 2000 to 34 percent in 2005. According to the Centers for Disease Control, in 2004, West Virginia had the third highest rate of cesarean sections in the country.
3. The cesarean section rate for first-time West Virginia resident mothers was 31.9 percent of all births for 2001-2005. This rate steadily increased from 27.4 percent in 2001 to 34.6 percent in 2005.
4. For first-time mothers, the rate of labor induction was 37 percent.
5. Of most concern was the data showing that more labor-induced first-time mothers (54 percent) had no noted preexisting medical risk factor (without MRF).
6. One might assume that the labor inductions and subsequent cesarean sections could all be explained by some preexisting medical risk factor; however, almost as many first-time mothers with no pre-existing medical risk factor (27.7 percent) had a labor that ended in cesarean section as women with a MRF (33 percent).
7. The c-section rate for all first-time mothers in the study who were not induced was 32.6 percent.

8. A concern voiced especially by pediatricians and by neonatal specialists attending in the NICU's is that some mothers are having elective induction of labor prior to the ACOG and AAP recommendation of at least 39 weeks gestation, and their infants are requiring NICU care. In fact, data showed that twenty-two percent of neonates of first-time mothers whose labor was induced were transferred to an NICU.
9. Overall, of West Virginia resident first-time mothers, 55 percent of those having an induced labor are not identified as have a medical risk factor.
10. Almost 7 percent of first-time mothers with labor induction experienced two or more complications of labor and delivery.
11. The rate of complications of labor and delivery was slightly higher for mothers whose labors were induced (38.5 percent) than for mothers without labor induction (33.5 percent).
12. The following chart shows the complications and the percentages of each for first-time labor-induced mothers who only suffered one complication of labor and delivery.
13. Annually, the West Virginia Health Statistics Center reports the methods of delivery for all deliveries at each birthing facility in the State. One might expect the tertiary care facilities to have the highest rates of cesarean sections due to the fact that they tend to handle many at-risk pregnant women. However, 66 percent of the West Virginia birthing hospitals reporting at least one birth during 2005 had rates of cesarean sections of over 30 percent.

Based on the review of all of the data, the committee made the following recommendations:

1. Provide regular and routine outreach training for all hospital medical records personnel and birthing attendants to ensure appropriate transcribing to the West Virginia Birth Certificate.
2. Gain an understanding of the reasons for labor induction in the absence of a medical risk factor by gathering information from birthing attendants in West Virginia.
3. Promote educational opportunities for birthing attendants that will encourage adherence to ACOG and AAP Guidelines related to elective labor induction only after 39 weeks gestation, and for eliminating elective cesarean section.
4. Work with hospitals and insurance payers to set guidelines that promote adherence to ACOG and AAP guidelines.

5. Assist birthing attendants in educating women about the risk of early labor induction and of elective cesarean section.
6. Hospitals should always internally review for Quality Improvement any elective induction of labor that results in:
 - a. A cesarean section
 - b. A baby that gets admitted to a Neonatal Intensive Care Unit
 - c. An induction that occurs prior to 39 weeks gestation
7. Hospitals should always internally review for Quality Improvement any elective cesarean section that results in a baby that gets admitted to a NICU.

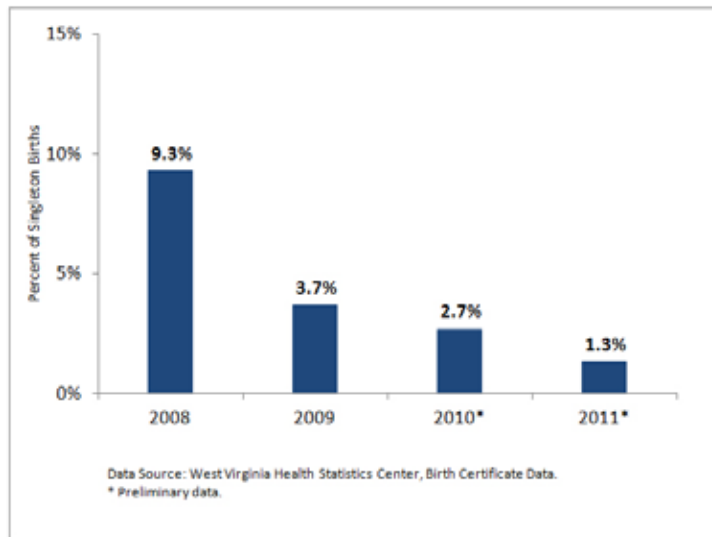
Based on a major study by the College of Business and Economics Research at Marshall University called "An Estimate of Potential Cost Savings Resulting from Pregnancy Complications During Delivery of First Mothers in the State of West Virginia," the estimated potential savings for failed inductions and infant transfers, due to their implicit costs and frequency, have the greatest potential for substantial cost savings. Additional costs arising from the conditions examined also have the potential to be significant. The potential for improved birth outcomes and healthier mothers and babies is of even more critical importance.

Obstetrical Quality Initiatives:

Based on these findings, the West Virginia Perinatal Partnership developed objectives and projects to improve obstetrical outcomes. In 2009, the West Virginia Health Care Authority, the West Virginia Perinatal Partnership, and



Figure 1
Percent of Singleton Births that were Induced <39 Weeks Gestation with
No Medical Risk Factor or Congenital Anomaly by Year, West Virginia, 2008-2011



the March of Dimes, West Virginia Chapter, undertook a planned approach to reduce elective labor inductions prior to 39 weeks gestation for all women. Fourteen West Virginia hospitals representing 70 percent of total births, participated in a collaborative quality initiative to reduce elective inductions prior to 39 weeks gestation. Participants were the following: Raleigh General Hospital, Beckley, West Virginia; St. Joseph's Hospital, Buckhannon, West Virginia; CAMC Women and Children's Hospital, Charleston, West Virginia; Thomas Memorial Hospital, South Charleston, West Virginia; Cabell Huntington Hospital, Huntington, West Virginia; St. Mary's Medical Center, Huntington, West Virginia; Greenbrier Valley Medical Center, Lewisburg, West Virginia; Monongalia Health System, Morgantown, West Virginia; West Virginia University Hospital, Morgantown, West Virginia; Camden Clark Hospital, Parkersburg, West Virginia; Princeton Hospital, Princeton/Bluefield, West Virginia; Ohio Valley Medical Center, Wheeling, West Virginia; Reynolds Memorial Hospital, Wheeling, West Virginia; and Weirton Medical Center, Weirton, West Virginia.

The committee developed Guidelines for Elective Induction of Labor or Cesarean Deliveries for Non-Medical Reasons that can be found at www.wvperinatal.org. These guidelines were provided to each hospital along with consultation

and advice. Hospitals also shared their policies and experiences that allowed them to reduce the rate of elective labor inductions. There was almost an immediate drop in elective inductions. During the project period, labor inductions prior to 39 weeks with no documented medical risk factor or congenital anomaly significantly decreased by 67 percent, from 8.2 percent in January 2009 to 2.7 percent in June 2009.

Further analysis indicates that elective pre-term inductions are continuing to decline in every hospital in West Virginia (see Figure 1). In 2011, only 1.3 percent of births in West Virginia hospitals were electively induced prior to 39 weeks gestation, which represents an 86 percent decrease since 2008.

First Baby Initiative

Because of the major success of the first initiative to reduce labor induction and cesarean sections, a statewide First Baby Initiative was begun by a collaboration of the West Virginia Health Care Authority, West Virginia Perinatal Partnership, and the March of Dimes, West Virginia Chapter. The First Baby Initiative was set to focus on reducing the rates of: early admission without active labor; labor induction; and cesarean section rates among low-risk nulliparous women, with a singleton pregnancy, and infants with vertex presentation. While the focus was on

reducing these rates, the First Baby Initiative Oversight Committee decided that this was a great opportunity to improve the entire birth process for first-time mothers. Committee members are listed in the sidebar on page 53.

Under the leadership of maternal fetal medicine specialists Dr. Luis Bracero and Dr. William Holls, and obstetrician/gynecologist Dr. David C. Jude, hospitals are examining practices and focusing on reducing cesarean section rates among low-risk nulliparous women with vertex presentations.

The goals of the project are:

1. To improve the quality of care outcomes
2. To reduce the rate of cesarean section
3. To reduce the rate of labor induction

The collaborative process was developed to incorporate the following:

1. Initial Oversight Committee meeting determined the data needed to measure progress during the project time period.
2. Oversight Committee reviewed and made recommendations regarding the planned methodology, participants, data reviews, and project time period.
3. A Steering Committee met periodically with the participating facilities (via teleconference and or face to face). The committee consisted of: Nancy J. Tolliver, RN, MSIR; Ann Stottlemeyer, MS; Joyce Daniels, MA; Amy Wenmoth, MS; Tom Light, BA; and Luis Bracero, MD, MFM.
4. All birthing facilities in West Virginia were invited to participate in the project and asked to identify a “first-time mothers project team” of people to be responsible for planning, implementing and measuring progress on the project within their facility. Teams were composed of:
 - a. Hospital Administration
 - b. Lead physician delivering within the facility
 - c. Community maternity provider and staff
 - d. Maternity/OB Nurse Manager
 - e. Certified Nurse-midwife (practicing at the facility)
5. Introductory Session – All planning group, oversight committee, and participating facility representatives were invited to participate in a structured learning session during which the latest information related to improving first time mother and infant outcomes was presented. Other first-time mother projects were reviewed as Models for Improvement. The Introductory

First Baby Initiative Oversight Committee

Committee Champions:

Luis Bracero, MD, Director of Maternal Fetal Medicine, CAMC Women and Children’s Hospital and Professor of Obstetrics and Gynecology, WVU School of Medicine, Charleston Division
William M. Holls, MD, Professor and Director of Labor & Delivery & Maternal and Fetal Medicine Outreach, Department of Obstetrics and Gynecology, West Virginia University School of Medicine
David C. Jude, MD, FACOG, Professor and Interim Chairman, Department of Obstetrics and Gynecology, Joan C. Edwards School of Medicine at Marshall University

Committee Members:

Nancy Atkins, West Virginia Medicaid, Charleston
Cindy Beane, West Virginia Medicaid, Charleston
Melissa Baker, West Virginia DHHR, Charleston
James Becker, West Virginia Medicaid, Charleston
Sue Binder, West Virginia March of Dimes, Charleston
Phyllis Bradley, RN, Camden Clark Hospital, Parkersburg
Martha Carter, RN, NM, FamilyCare Health Center, Scott Depot
Sonia Chambers, West Virginia Health Care Authority, Charleston
Ted Cheatham, PEIA, Charleston
Dan Christy, West Virginia Bureau for Public Health, Charleston
Ann Dacey, RN, Nurse Coordinator, West Virginia Perinatal Partnership, Morgantown
Joyce Daniels, West Virginia Perinatal Partnership, Charleston
Brenda Dawley, MD, Marshall University Joan C. Edwards School of Medicine, Huntington
Steve Dexter, Thomas Memorial Hospital, South Charleston
Jim Doria, West Virginia Bureau for Public Health, Charleston
Kimberly Farry, MD, Associates for Women’s Health, Buckhannon
June Jett, RN, NM, United Hospital Center, Bridgeport
Jim Kranz, West Virginia Hospital Association, Charleston
Tom Light, West Virginia Bureau for Public Health, Charleston
Lisa Marsh, Blue Cross/BlueShield, Charleston
Jim Pitrolo, West Virginia Health Care Authority, Charleston
Martha Richardson, RN, The Health Plan, St. Clairsville
Gail Rock, CNM, Morgantown
Michael Stitely, MD, West Virginia University School of Medicine, Morgantown
Ann Stottlemeyer, West Virginia Perinatal Partnership, Charleston
Gary Thompson, West Virginia Bureau for Public Health, Charleston
Nancy Tolliver, West Virginia Perinatal Partnership, Charleston
Amy Tolliver, West Virginia State Medical Association, Charleston
Jessica Toth, West Virginia Health Care Authority, Charleston
Amy Wenmoth, West Virginia Health Care Authority, Charleston;

Session included a process to identify and share information about Change Concepts being employed by maternity providers and facilities currently to address the high rates of c-section of first time mothers.

6. Throughout the process, the Collaborative teams interacted with each other and with the collaborative leadership through monthly teleconference learning sessions, listservs, and sharing of reports. Teams were encouraged to share tools and lessons learned and to generate ideas to address barriers and identify resources.

Twenty five hospitals responded to the initial call to action and 23 hospitals agreed to participate in the First Baby Initiative. Hospitals that are participating in the First Baby Initiative are included in the chart below.

The current data are still being studied. Two indicators are being measured and reported. The first indicator is primary c-sections among nulliparous singleton births with vertex presentations. Statewide, statistically significant improved outcomes have not occurred during the initial project period (July 1 2011-June 30, 2012). However, primary c-sections did decrease in eight hospitals during the project period. All other hospitals rates either remained the same or increased during the project period.

The second indicator being measured and reported is inductions among nulliparous singleton births < 41 weeks gestation with no medical risk factor or congenital anomaly. Two hospitals had significant decreases for this indicator (87 percent decrease and 37 percent decrease). Six hospitals experienced decreases,

PARTICIPATING HOSPITALS AND THEIR LOCATIONS	
Cabell Huntington Hospital	Huntington
CAMC Women & Children's Hospital	Charleston
Camden Clark Memorial Hospital	Parkersburg
Davis Memorial Hospital	Elkins
Fairmont General Hospital	Fairmont
Grant Memorial Hospital	Petersburg
Greenbrier Valley Medical Center	Ronceverte
Logan Regional Medical Center	Logan
Monongalia General Hospital	Morgantown
Ohio Valley Medical Center	Wheeling
Pleasant Valley Hospital	Point Pleasant
Princeton Community Hospital	Princeton
Raleigh General Hospital	Beckley
St. Josephs Hospital	Buckhannon
St. Mary's Medical Center	Huntington
Stonewall Jackson Memorial Hospital	Weston
Thomas Memorial Hospital	South Charleston
United Hospital Center	Bridgeport
Weirton Medical Center	Weirton
Wheeling Hospital	Wheeling
WVU Children's Hospital	Morgantown
WVU East – City Hospital	Martinsburg
WVU East – Jefferson Memorial	Ranson



in this indicator, between 23 and 45 percent. All other hospitals experienced an increase in this indicator during the project time period.

A First Baby Initiative hospital survey conducted in the fall of 2012 found that 22 of the participating hospitals intend to continue their efforts to reduce c-sections among nulliparous women with singleton births and will implement most of the strategies applied during the project period.

The Oversight Committee and participating hospitals recommended continued monitoring of the project and reporting of the indicators measured. It is anticipated that West Virginia will see a continued decline in the rate of c-sections among first-time mothers and a continued decline in the rate of elective labor inductions prior to 41 weeks gestation.

Newborn Screenings

Newborn screening identifies conditions that can affect a child's long-term health or survival. Early detection, diagnosis, and intervention can prevent death or disability and enable children to reach their full potential. Each year, millions of babies in the U.S. are routinely screened, using a few drops of blood from the newborn's heel, for certain genetic, endocrine, and metabolic disorders, and are also tested for hearing loss prior to discharge from a hospital or birthing center.

West Virginia provided five newborn screening tests prior to 2007. At that time, the West Virginia Perinatal Partnership worked with the March of Dimes and the West Virginia Department of Health and Human Resources to expand the number of screenings provided to 29. This was the number recommended by the Centers for Disease Control. This expansion has saved the lives and the health of many children by enabling them to get appropriate treatment soon after birth. Without that treatment, many of those children would have died or suffered long-term consequences due to the lack of early diagnosis. The ability to intervene early and provide treatment also significantly reduces the cost of long-term care for these babies. This is another tremendous example of the value of partners coming together for a common cause.

In 2012, the American Heart Association and the American Academy of Pediatrics led an effort to add pulse oximetry testing for all newborns shortly after birth. The West Virginia Perinatal Partnership worked with the Legislature to make certain this effort was successful. With the widespread availability of this safe, noninvasive method of determining systemic oxygen saturation, the risks of over diagnosis have been outweighed by the importance of identifying critical congestive heart disease so that interventions can be made during the first year of

Committee on Vaginal Birth After Cesarean Section (VBAC)

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Joan C. Edwards School of Medicine

Luis Bracero, MD, Director of Maternal Fetal Medicine,
CAMC Women and Children's Hospital and Professor of
Obstetrics and Gynecology, WVU School of Medicine,
Charleston Division

Michael Stitely, MD, Ob/Gyn, West Virginian University
School of Medicine

Angelita Nixon, CNM, American College of Nurse-Midwives,
West Virginia Affiliate

David Jude, MD, Ob/Gyn, Marshall University Joan C.
Edwards School of Medicine

David Bringman, MD, MFM, West Virginia University School
of Medicine

Ann Dacey, RN

Nancy Tolliver, RN, MSIR

life and thereby reduce the risks associated with a lack of diagnosis. The cost of this intervention was estimated to be no more than 5-10 dollars per test.

Infant and Maternal Mortality Review Team

In 2008, there was a concerted effort on the part of the West Virginia Perinatal Partnership and its partners to pass legislation to create a Maternal Mortality Review Team, establish its members and the responsibilities of those members, and give the Bureau for Public Health rule-making authority for the team. After this success, in 2011, the initial legislation was amended to include infant mortality reviews and the team was renamed the West Virginia Infant and Maternal Mortality Review Team.

These policy initiatives offered to the Legislature would enable the study of the causes of infant and maternal deaths. Comprehensive studies indicate that these mortalities were more extensive than first appeared on death certificates. The Legislature believed that more extensive studies would enable development of a plan to reduce these deaths in the future.

The Infant and Maternal Mortality Review process is a method of understanding the diverse factors and issues that contribute to preventable deaths, and identifying and implementing interventions to address these problems. The knowledge gained from the reviews will be used to enhance services, influence public health policy and direct planning efforts intended to lower mortality rates.

The Infant and Maternal Mortality Review Team was directed to determine the cause of deaths of infants and mothers, to determine preventability, and to develop recommendations for consideration to reduce those deaths that could be prevented. This information is made available through an annual report to the Governor, the Legislature, and the public, to increase awareness and to encourage action steps to reduce the numbers of deaths. This is also an invaluable tool for the West Virginia Perinatal Partnership to plan its work in the future. An example of the review team findings follows: In 2010, there were 11 pregnancy-associated maternal deaths. Of these deaths, 7, or 64 percent, were considered not pregnancy-related; and 4, or 36 percent, were considered pregnancy-related. Eight deaths with medically-related causes were



chosen for review by the team. Of the 8 cases reviewed by the Infant and Maternal Mortality Review Team, 4, or 50 percent were determined not pregnancy-related or medically preventable. The remaining 4, or 50 percent, were determined to be pregnancy-related. Of these 4 pregnancy-related cases, 2 were determined to be preventable deaths and 2 were determined not preventable.

The estimated pregnancy-related maternal mortality rate for West Virginia in 2010 was 19 per 100,000 (calculated as 4 maternal deaths by 20,541 residence births according to 2010 Vital Statistics data). More specific information is made available in the annual reports and provides a significant picture of the maternal and infant deaths and any descriptors that are identified. This success highlights the value of all of the partners working together to create interventions that can be successful.

Vaginal Birth After Cesarean Section (VBAC)

The high rate of Cesarean section has many causes, one of which is repeat Cesarean sections without the attempt for a vaginal birth. The Central Advisory Council determined this to be an important area of study and established a committee to address the concern. Committee members are listed on the sidebar.

The committee reviewed a great deal of the current literature and research on vaginal births after a c-section. Next the committee reviewed a collaborative document by the Northern New England Quality Improvement Network that established guidelines for vaginal births after cesarean sections for hospitals in Vermont and New Hampshire. The committee analyzed the guidelines and made necessary adjustments to be specifically applicable to hospitals in West Virginia. The new document incorporates American Congress of Obstetricians and Gynecologists guidelines and presents a regional definition of provider's "immediate availability" based upon patient risk status. The goal of the committee is to encourage the availability of VBAC services in the state, while at the same time, ensuring patient and provider safety. The guidelines establish that each hospital have a system in place for competency review and protocol verification. Recommendations for



how to accomplish these goals can be found in the guidelines document. Not only is it better for mother and baby to deliver vaginally, the reduction in cost is tremendous and, therefore, will reduce health care costs to the system.



CHAPTER 8: WORKSITE WELLNESS AND BREASTFEEDING

Nearly three-quarters of all mothers in United States hold jobs. In the past 20 years, the percentage of new mothers in the workforce has increased by more than 80 percent. Women of childbearing age comprise one-third of the nation's workforce.

Eight out of ten women will become pregnant in their working lives, and most continue to work through the pregnancy and return to work shortly after the baby is born. One-third of mothers return to work within three months of giving birth and two-thirds return within six months.

Prenatal worksite wellness programs have been shown to: improve pregnancy outcomes, reduce the rates of preterm births, smoking, and cesarean sections, and therefore, significantly reduce health care costs to employers. However, very few companies in West Virginia have perinatal wellness programs.

The West Virginia Perinatal Partnership is working to educate West Virginia businesses on the value of planning for perinatal health and identifying incentives to encourage businesses to put programs in place. In response to this recognized need, a committee on perinatal worksite wellness was created. Membership is listed on the sidebar.

Although there is an identified need to improve workforce wellness especially in the area of perinatal health, most efforts to work with employers have been made in the area of improved breastfeeding knowledge and creating a more hospitable work environment for the working mother.

According to a recent published article by the American Academy of Pediatrics, breastfeeding should be considered a public health issue and not only a lifestyle choice. Breastfeeding provides short-term and long-term benefits to both mothers and babies. Because of the strong evidence, the American Academy of Pediatrics has recommended exclusive breastfeeding for six months, followed by continued breastfeeding

Committee on Perinatal Worksite Wellness

Sue Binder, RN, BS, March of Dimes – West Virginia Chapter
Scott Rotruck, Business Executive
Tom Heywood, Attorney
Nidia Henderson – Public Employees Insurance Agency

Staff:

Ann Dacey, RN, BS, Nurse Coordinator, West Virginia Perinatal Partnership
Cinny Kittle, MS, Director of Health Improvement Initiatives, West Virginia Hospital Association and Director, West Virginia Breastfeeding Alliance

West Virginia Breastfeeding Alliance Steering Committee

Jane Barber, IBCLC
Stephanie Whitney, CLS
Janice Wilkes, IBCLC
Yvonne Snyder, FNP, IBCLC
Christine Compton, CLC, Manager
Cinny Kittle, Director

as complimentary foods are introduced for one year or longer as mutually desired by the infant and mother.

According to the National Immunization Survey, Centers for Disease Control and Prevention, Department of Health and Human Resources, the percentage of children born in West Virginia who were breastfed in 2007 placed West Virginia in the bottom eight states in the nation. Several factors have been identified as possible reasons for the lower than average breastfeeding rates in West Virginia, including: cultural and professional bias against breastfeeding; significant marketing of infant formula; lack of breastfeeding education and support services; lack of support at the worksite for breastfeeding mothers; and concerns related to social acceptability of breastfeeding in public.

The importance of breastfeeding cannot be ignored. In 2012, the American Academy of Pediatrics reviewed a significant amount of research on breastfeeding and determined that breastfed babies are:

- At a 4 percent lower risk of obesity for each month breastfeeding occurs
- At a 72 percent lower risk of hospitalizations for bronchitis and pneumonia

Breastfeeding Support and Promotion Committee

Mary Boyd, MD, Breastfeeding Coordinator American Academy of Pediatrics, West Virginia Chapter (Chair)

Kathy Bailey, RN, IBCLC, Raleigh General Hospital

Mary Caldwell, IBCLC, Valley Health, Inc., West Virginia WIC

Paula Darby, RN, First Care Services, Right From The Start

Kathy Dittmar, RN, Maternity/Newborn Nursing Director, Reynolds Memorial Hospital

Brenda Johnson, RN, First Care Services, RCC Right From the Start

Barbara Lott, RN, Children's Home Society, RCC Right from the Start

Jenny Morris, IBCLC, RLC, Valley Health, Inc., West Virginia WIC

Jamie Peden, RN, IBCLC, CAMC Women and Children's Hospital

Molly Scarborough, RN, BSN, IBCLC, RNC, CCE, CPST, Greenbrier Valley Medical Center

Stephanie Whitney, CLC, Breastfeeding Coordinator West Virginia DHHR WIC Committee

Staff:

Cinny Kittle, MS, Director of Health Improvement Initiatives, West Virginia Hospital Association and Director, West Virginia Breastfeeding Alliance

- At a 72 percent lower risk of hospitalizations for respiratory tract infections
- At a 36 percent lower risk of sudden infant death syndrome
- At a 30 percent lower risk of Type 1 diabetes
- At a 50 percent lower risk of ear infections
- At a 64 percent lower risk of gastrointestinal infections

The previous list is a portion of a much longer list of benefits cited in the report. This data shows not only the health value of breastfeeding for an infant but also indicates the cost savings that are estimated in the billions if a reduction in these conditions were to occur.

The benefits and cost savings related to breastfeeding were identified by the West Virginia Perinatal Partnership and developed into a series of recommendations that were laid out in their *Report on The Blueprint to Improve West Virginia Perinatal Health - Accomplishments - 2007: Final Report and Recommendations*. Members of this Breastfeeding Support and Promotion Committee are listed on the sidebar.

The West Virginia Perinatal Partnership is actively working to effect policy changes that will encourage breastfeeding. Several recommendations were made by this committee and progress has been made on the following recommendations:

1. The West Virginia Legislature should establish a state Child's Right to Nurse law that would guarantee a mother the right to breastfeed her child in any West Virginia location – public or private – where that child/mother pair otherwise has the right to be. The West Virginia State Medical Association, along with the West Virginia Breastfeeding Alliance and several other organizations have worked with members of the Legislature to educate them about issues related to breastfeeding. The West Virginia Legislature passed legislation, HB 2498, which ensures that breastfeeding is not considered indecent exposure. Although this legislation did not meet the goal of the committee, it was a step in the right direction. Continued efforts for more significant legislation are ongoing.
2. The West Virginia Legislature should consider offering a tax credit to employers who support breastfeeding employees. An initial survey was distributed to business members of the Wellness Council of West Virginia, to assess the level of support for breastfeeding at the worksite. There were no responses to the survey, and there is very little evidence that worksites provide such support in an organized, documented way. Worksite perinatal health issues were addressed at the 2007 Governor's Conference on Worksite Wellness in a general session focusing on a March of Dimes worksite program and in a break-out session focusing specifically on worksite support of breastfeeding mothers.
3. Every hospital that routinely delivers babies should offer lactation consulting and monthly breastfeeding education classes for expectant parents.
4. Healthcare professionals who provide care for mothers and babies should be trained on the basics of lactation, breastfeeding counseling, and lactation management during coursework, clinical and in-service training and continuing education.
5. Ensure that breastfeeding mothers have access to comprehensive, up-to-date, and culturally-tailored lactation services provided

by trained physicians, nurses, lactation consultants, and nutritionists/dieticians during the perinatal period. The Senate Health Committee developed a plan to fund training in lactation education for hospital nurses and others. The plan was designed in collaboration with the West Virginia Perinatal Partnership Committee to Promote and Support Breastfeeding. As a result, \$20,000 was directed to the WIC budget to fund this training and a contract was established with the West Virginia Hospital Association to implement the plan. The first training was held in 2007, in Charleston with 76 hospital nurses, WIC counselors and other healthcare providers successfully completing the course. All of these participants received 45 hours of continuing education and had the option of receiving certification as Certified Lactation Specialists upon passage of an exam. This training also fulfilled the didactic requirements to become certified by the International Board of Lactation Consultant Examiners and meets continuing education requirements for those currently certified by IBCLE. Funding has been made available through the state budget each year since its initial funding in 2007. More than 150 professionals have completed this training course since 2007.

The West Virginia Perinatal Partnership initially began a breastfeeding coalition in 2007. Funding was provided to establish an organization whose sole purpose was to educate the public and expand the number of breastfeeding mothers in West Virginia. In 2008 the group evolved into the West Virginia Breastfeeding Alliance through the Healthcare Education Foundation, a subsidiary of the West Virginia Hospital Association. The West Virginia Perinatal Partnership has continued to provide a small portion of the funding and the Alliance has been successful in securing funding from several other sources. The West Virginia DHHR/Office of Healthy Lifestyles, the USDHHS/Office on Women's Health and the United States Breastfeeding Committee all provide funding. These additional funds have allowed the West Virginia Breastfeeding Alliance to develop a four hour training course "Pathways to Improve Maternity Practices in Infant Nutrition and Care" that has been offered to a total of 10 hospitals. This course was developed based on best practices and built on the foundation of the Maternity Practices



in Infant Nutrition and Care (mPINC) survey conducted bi-annually with maternity facilities across the country by the Centers for Disease Control to assess practices and policies related to maternity care/breastfeeding.

The purpose of the Breastfeeding Alliance is to improve the health of West Virginians by working collaboratively to protect, promote, and educate the community about breastfeeding. This mission has been honored by the collaborative work of this organization to promote breastfeeding. The West Virginia Breastfeeding Alliance has provided educational opportunities throughout the state on the importance of breastfeeding, has provided training to lactation specialists, has honored businesses that support breastfeeding by their employees and is planning to honor hospitals who are working to improve breastfeeding rates. The West Virginia Breastfeeding Alliance secured funding and presented a conference in May 2012 - "Obesity, Diabetes and Breastfeeding: The Prevention Link" with an attendance of 150 individuals. The Breastfeeding Alliance is an active member of the interstate "Ten Steps" Collaborative spearheaded by the University of North Carolina, Carolina Global Breastfeeding Institute and the USDHHS Department of Maternal and Child Health.

According to the Centers for Disease Control and Prevention, the number of breastfeeding mothers in West Virginia has slightly increased in the past four years. However, West Virginia still ranks in the bottom 4-5 states in rate of breastfeeding mothers, demonstrating that West Virginia has a great deal of work yet to do.



CHAPTER 9: IN-HOME VISITATION PROGRAMS

Research has been done over the years that clearly establishes that early intervention programs for pregnant woman and babies are one of the most cost-effective opportunities a state can provide. Early childhood experiences have a long term effect on development, can be linked to problems with future adult health and may affect illness, work problems and premature death. A report from Harvard's Center on the Developing Child is one of the most complete and scientific reports (*Center on the Developing Child at Harvard University, 2007*) and shares the following 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 which policymakers and civic leaders with diverse political values can design a common, effective and viable agenda (*Center on the Developing Child at Harvard University, 2007*).

Significant research shows that the period between birth and three is the time of the most significant development of cognitive, social emotional development and must be considered. The 2006 *Key Informant Survey* which was described in detail in a previous chapter, reported the opinions of 38 pediatricians and 3 neonatologists. One of the reported contributors to the number of high risk infants born in West Virginia was the lack of prenatal care and the lack of parenting education for pregnant women. The West Virginia Perinatal Partnership recognized the massive amount of research in this area and determined to support in-home visitation programs from the very beginning, in its initial report entitled *The Blueprint to*

Improve West Virginia Perinatal Health. There are now a number of successful programs in West Virginia, but the oldest and largest care management program in the state is the Right from the Start program which began in 1989 as a partnership between Medicaid and the Office of Maternal, Child and Family Health. This program provides comprehensive perinatal services to approximately 30 percent of the populations who needs it. These services are available to women up to 60 days postpartum and to infants up to 1 year. The program employs 200 care coordinators through 76 community agencies as of 2010. All high-risk Medicaid covered infants are eligible for this program along with women in families whose income is no greater than 185 percent of the Federal Poverty Level. Although in-home visitation programs are typically targeted to serve families who are at higher risk for poor outcomes, there is no question that many other women would benefit from this program but resources are limited. Some of the most important functions of this program are:

- Instituting standards for care
- Contracting with providers for obstetrical care, care coordination and patient education for low-income women with a high risk of adverse pregnancy outcome or for those low-income families with infants at risk of poor health or death



- Offering technical assistance to those providers
- Facilitating cooperation among programs and providers with the potential to serve the target population
- Monitoring service providers for quality assurance

For the Right from the Start program, the state is divided into regions and in each region there is a Regional Care Coordinator (RCC) who works to ensure women and children receive all of the services they need. The primary providers of services are nurses and social workers who work directly with the pregnant women and the newborns if they qualify based on their income. The Prenatal Risk Screening Instrument (PRSI) is completed on each prenatal client and identifies risk factors. The risk factors for the project include, but are not limited to: potential medical complications, nutritional needs, and psychosocial factors. Infants are assessed for risk through a birth scoring system that is done at the time of delivery at all birthing facilities in the state.

Each pregnant woman or infant, who is eligible for the program and chooses to participate, works with program staff to develop a service care plan to ensure continuity of care and receipt of all the support services required. The other major component of Right from the Start program is health education, which includes preventive self care such as the signs of pregnancy complication, smoking cessation, childbirth education, parenting education and nutrition counseling. These information areas are of critical importance to better ensure a positive birth outcome. Many pregnant women have benefited from knowledge shared during home visitations and have improved birth outcomes. A critical role of the community-based workforce of care coordinators for RFTS is that of linkage to the medical community. Care coordinators collaborate with the patient's medical provider in order to exchange important information regarding patient issues and concerns that impact pregnancy outcomes. They also enhance the physician's plan of care for each patient through various types of individualized educational components.

The West Virginia Perinatal Partnership recognizes the extreme importance of programs such as Right from the Start and other in home visiting programs for pregnant women and new parents. The Partnership has supported efforts to increase

funding for these programs. Although Right from the Start is the only program in the state that is organized as it is and is staffed by nurses and social workers, there are other programs that have proven successful in working with new families. One of these programs is Healthy Families of America that is part of the Team for West Virginia Children. This program also provides home visits for new families and works to make information available to new parents, to provide emotional support for new families and also makes many referrals for needed services. These programs are extremely important and are one of the most important and cost-effective programs to help very young children have the chance to succeed in life. The value of these programs and all similar programs that have not been specifically mentioned cannot be overemphasized. These programs significantly reduce the risk of child abuse and contribute to positive, healthy, child-rearing practices. Families receiving this type of intensive home visitor services also show other positive changes such as consistent use of preventive health services, increased high school completion rates (for teen parents), higher employment rates, lower welfare use and fewer pregnancies. The value of early intervention is without question much greater than the value of programs that exist for adolescents and adults who have not developed into good citizens such as prison systems, adolescent treatment centers and others.

In a 2011 study by the Marshall University Center for Business and Economics Research on the Right from the Start program, the following benefits were found:

- The research indicates that a minimum reduction in costs from lower incidents of low birth weight and premature delivery is between 2 and 5 percent of the hospital expenses experienced from these conditions.
- The same minimal levels of reduction from incidents of child abuse, neglect and maltreatment are also to be expected. In practice these reductions may be much higher.
- These cost savings for the reduction in hospital costs for mothers and their infants due to LBW infants and preterm delivery was between \$715,825 if a two (2) percent reduction in incidence was assumed and \$1,789,971 if the reduction was five percent due to RFTS. This estimate is highly



conservative as it does not include expenses for doctors or anesthesia.

- The cost savings for the reduction in costs to the State from problems associated with child abuse, neglect and maltreatment ranged between \$1,132,780 if a two (2) percent reduction was assumed and \$2,821,652 if a five (5) percent reduction was the result. Again this estimate is conservative as it only includes the direct or immediate costs and does not incorporate the lifetime costs of crime, unemployment, family abuse and illness which are the result of these maladies.
- The benefit/cost ratio to the State from state expenditures only is 2.46:1 the two (2) percent reduction level and 6.15:1 at the five (5) percent reduction level.
- Adding in the federal expenditures still provides for a positive benefit to cost ratio for the five (5) percent reduction scenario at 1.67:1.

Additional conclusions noted in the study are:

- The effectiveness of RFTS would be enhanced if enrollment of those eligible was increased from the current 30 percent of

those eligible. While not inconsistent with other programs, the reasons for this level of enrollment and how to increase it are worthy of investigation.

- The program is underfunded. The level of support is only 62 percent of the national average for each low income child.
- RFTS should develop a more robust system for data collection and analysis. The current effort makes evaluation and the verification of results difficult.

The West Virginia Perinatal Partnership will continue to advocate for in-home visitation programs based on the value that has been established. In addition, it will continue to collaborate with these programs to ensure that the most recent information on perinatal health is made available to all of these families.

CHAPTER 10: CONCLUSION

Through the dedication, expertise and hard work of a large number of healthcare professionals and individuals representing various public and private organizations, the West Virginia Perinatal Partnership has accomplished a great deal in its first six years. Through the strong leadership of the Central Advisory Council, the dedicated work of the Perinatal Steering Committee members and project committee members, the Partnership has been effective in identifying important issues and finding workable solutions to solve them. By staying focused on a single goal – to improve the health of mothers and babies in West Virginia – the participating partners have been able to overcome many barriers, implement policy changes and recommend the development of new programs.

This partnership model is effective for a number of reasons.

- It brings together health care professionals to share their experiences and their expertise;
- It provides a table at which everyone is equal and committed to the same goal;
- It provides the most current research on perinatal health to all of the participants;
- It allows health care professionals to use this information to strategize and implement new solutions;
- It serves as a forum in which the Partnership communicates with the State legislative body and other policy makers, and together, works effectively to improve policies regarding mother and baby health.

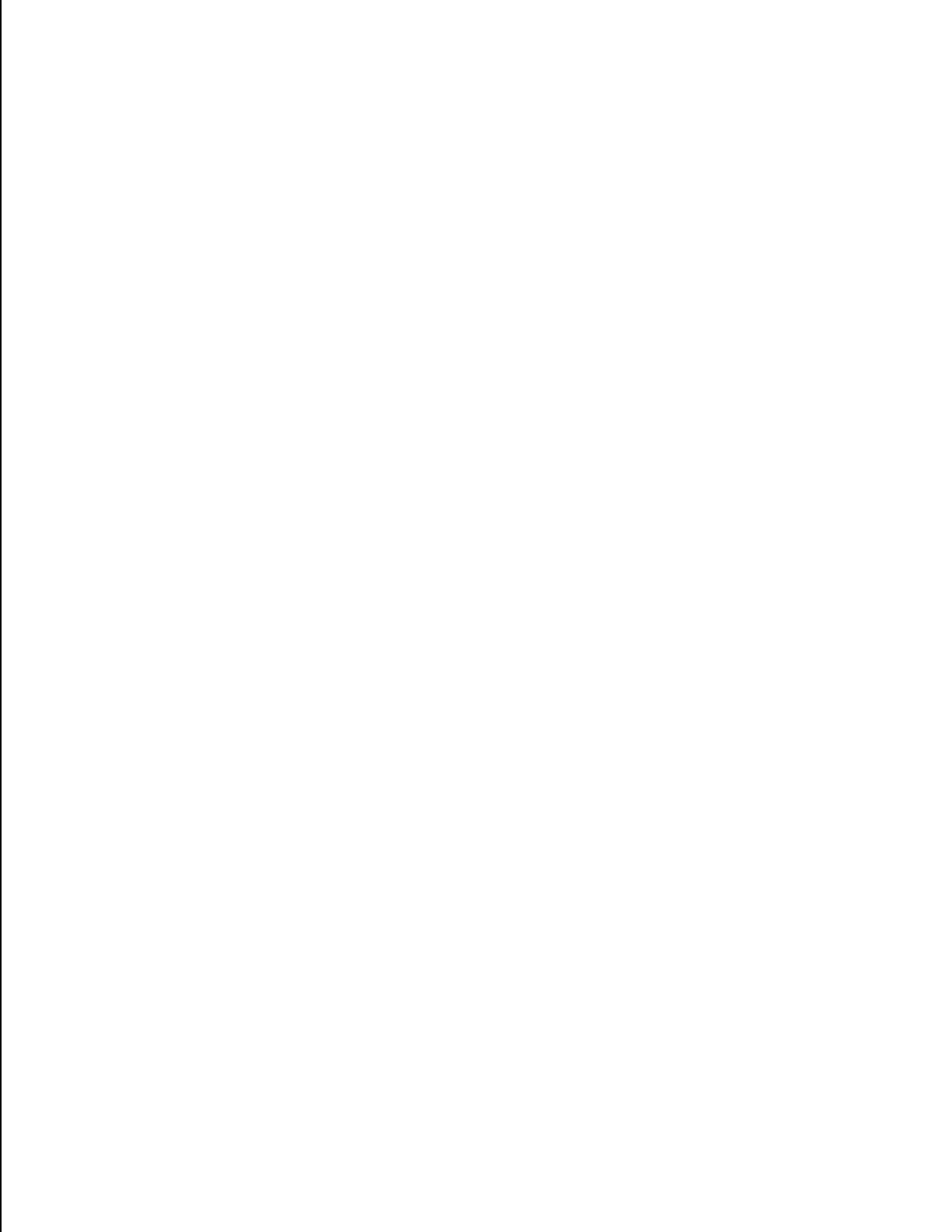
As we knew when the Perinatal Partnership established the first Perinatal Workplan, the barriers we face are not just medical but cultural and organizational barriers to improving mother and baby outcomes. Then, and now, we knew that improving outcomes would require the commitment of the entire West Virginia “Perinatal Village” and would take many years to accomplish. Still, after six years of Partnership work, too many babies are born at low birthweight. The state’s rate of teen and unplanned pregnancies is still alarmingly high, and too many unnecessary caesarean sections

occur, especially for first time mothers. Too few infants are given the advantages of breastmilk, too many pregnant women expose their fetus to harmful tobacco, and too many infants are born having been exposed in utero to other harmful addictive substances. There are many areas in the state where women have limited or no access to maternity care. These and other factors continue to compromise the health of our mothers and babies, resulting in significant health, social, and economic costs to the state of West Virginia.

The accomplishments detailed in this report show that the West Virginia Perinatal Partnership embraces its mission and will move forward with great collaboration and resolve to continue focusing on improving health policy for mothers and babies.

In 2013, the Perinatal Partnership will began focusing on a second phase. Based on the 2006 process, the 2012-13 *Key Informant Survey* was developed and is being circulated widely across the state to perinatal health care professionals. The goal is to revisit established projects, identify new or changing challenges that pose barriers, and based on new information, to set the Perinatal Partnership Work Plan for the upcoming years.







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