West Virginia Perinatal Partnership – 2007, Updated 2008
Final Report and Recommendations

Central Advisory Council
Subcommittee on Guidelines and Recommendations for Perinatal Care

Perinatal Guidelines Committee Members

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DESCRIPTION OF PROBLEM:

Background and Work of the Committee

The 2007 West Virginia Perinatal Partnership evolved from the identified need 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 the partnership was identified by the 2006 West Virginia Perinatal Wellness Study[1] in which health care providers that were surveyed strongly recommended a more organized system of perinatal care in West Virginia.

As a result, a statewide Perinatal Advisory Council was formed by West Virginia Community Voices. The representatives on the council include rural perinatal care providers, chairs, directors, and deans of perinatal health care organizations, payers of perinatal care, and businesses in West Virginia. The council's directives include establishing, overseeing, directing, and approving the work of subcommittees appointed to study the problems identified in the Perinatal Wellness Study. The Central Advisory Council is charged with the job of developing a plan for institutionalizing the recommendations of the five subcommittees which include: Guidelines for Perinatal Care; Consultation, Transport, and Outreach Education; Telecommunications; Universal Perinatal Risk-Screening Tool and Data Collection; and Adequacy of NICU beds.

Guidelines for Perinatal Care Committee

The goal of the Perinatal Care Committee is implementation of a statewide system of perinatal guidelines and 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 standards of care. The need for a formal system of communication among perinatal health professionals on all levels, primary, secondary, and tertiary, cannot be overemphasized.

Originally named the *Perinatal Standards Committee,* this committee was divided into two groups:

Obstetrical Standards/Guidelines Committee
Neonatal Standards/Guidelines Committee

Each committee was given the following directives:

1. Research, identify, and approve perinatal standards and guidelines
2. Recommend components of a statewide medical consultation system for high risk pregnant women and infants including a coordinated referral and transport system
3. Post guidelines on website for statewide comment
4. Assure that all perinatal professionals have the opportunity to comment on the guidelines
5. Establish due date for comments on guidelines
6. Approve final guidelines for printing
7. Develop recommendations for institutionalizing recommendations into state government or other organizing entity
8. Develop plan for dissemination of guidelines statewide.

Preliminary Proceedings and Recommendations of Obstetric and Neonatal Guidelines Committees

[1] http://www.wvhealthykids.org/p_wellness/pw_home.htm

Committee Conclusions

Each committee met separately and came to several of the same conclusions:

1. Use of the term "standards" connotes an inflexibility of application that is not intended; therefore, the name of the committee should be changed to ***Guidelines*** **for Perinatal Care**.
2. A review of the work of other states is necessary.
3. It is unnecessary to create a whole new set of guidelines for WV since there are national perinatal guidelines that could easily be applied to WV.
4. These guidelines should be modified as needed for West Virginia.

Review of Other States

Both interpretation and application of levels of perinatal care as defined in the ***Guidelines for Perinatal Care*** vary widely within the United States, and no national definitive laws exist. According to the American Academy of Pediatrics (AAP), in 2003, 15 states and the District of Columbia had no formal definitions. An independent survey performed by the Section on Perinatal Pediatrics of the AAP found that 32 states had published definitions of levels of care. In states that have defined levels of care, the process for designating and enforcing regulations varies. NICU levels at specific hospitals may be designated by the state through the official process of licensing or granting a certificate of need or state-administered health care funding. By 2003, nine states had established formal definitions through programs either supported by or affiliated with maternal and child health programs of the state health department. More than one of these mechanisms is used in 12 states. Policies regarding monitoring of compliance also vary, but virtually all states adopting guidelines or standards utilize the AAP guidelines for perinatal care as a basis for their recommendations with varying degrees of modification. The West Virginia Health Care Authority has definitions of levels of care as they apply to certificate of need applications. (See Appendix A.) West Virginia has no process for monitoring compliance.

The Neonatal Guidelines Committee reviewed in-depth the policies of Maryland, Georgia, Tennessee, California, Washington, Ohio, Indiana, and Iowa. Each committee member reviewed a state and attempted to answer the following questions:

1. Are perinatal standards regulated by state laws or regulations?
2. Does the state require written agreements between facilities?
3. Are the needs of small facilities (< 750 deliveries) addressed?
4. How does the state fund the program?
5. How comprehensive is outreach education and does the state fund it? How?

The committee found that three states had programming that could be particularly pertinent to the establishment of a perinatal structure in West Virginia. Maryland, Iowa, and Washington all had very organized systems of care and their perinatal structures were organized and funded by a state perinatal office.

Primary Components of Three Perinatal Systems

Maryland

- State-driven with an office strictly devoted to perinatal health care system of care, consultation, and transport
- Originally voluntary, now regulated

- Succinctly written guidelines/check lists for every level of perinatal facility based on national perinatal guidelines with modification for state, includes staffing guidelines and educational requirements
- Transport fully funded with requirement for written transfer agreements, including back transport
- State-funded, originally funded by private foundation
- Data-driven, quality improvement, performance improvement:
    - State funding for data collection and analysis
    - Percent of infants born at <37 weeks
    - Survey of mothers
    - Hospital-specific neonatal mortality rates
    - Mortality rate of Very Low Birth-weight (VLBW) infants

Iowa

- State-regulated and state-funded services provided to all hospitals that perform deliveries:
    - Standards/guidelines of care specifically delineated for each level of hospital and based on national guidelines
    - Consultation to regional and primary providers
    - Professional training
    - Evaluation of the quality of care delivered to reduce the mortality and morbidity of infants.
- Permanent perinatal advisory committee in state code which specifies committee membership

Washington

- Permanent statewide perinatal advisory committee formed by the Department of Health, in place since 1985. Work of the committee is accomplished through quarterly meetings and subcommittee workgroups.
- Levels of care are defined by the state but strictly voluntary.
- Guidelines created to help hospitals with obstetric and newborn care services to assess the type of patient best suited to their facility's capabilities and scope of care.
- Uses state and federal funds to contract with geographically strategic healthcare institutions to coordinate and implement state and regional quality improvement projects

COMMITTEE RECOMMENDATIONS

1. The committee recommends that the State of West Virginia invest in a more **comprehensive statewide perinatal system** which includes:

    a. **A Permanent Perinatal Advisory Council (PAC) to periodically review the statewide system of perinatal care and data related to perinatal outcomes. Membership on this committee should include:**
        i. A representative from all professional perinatal organizations (AAP. ACOG, ACNM, AWHONN, NANN)
        ii. Representatives from Level I, Level II, Level III facilities, and birthing centers
        iii. Representatives from state government (OFMCH, Medicaid, PEIA)
        iv. Representatives of major insurance payers of obstetrical and newborn care
        v. A representative of the WV Hospital Association
        vi. A representative from the WV Medical Association

b. **Designation of levels of care and yearly review** for adherence to guidelines by all birthing hospital and providers. The guidelines committee produced a document that outlines guidelines for all levels of perinatal facilities**. See Appendix C and D for designations and compliance guidelines which include the following guidelines for perinatal care facilities:**

   i. Definition of Levels of Care
   ii. Functions and Capabilities
   iii. Physical Facilities
   iv. Medical Personnel
   v. Nursing Personnel
   vi. Outreach Education
   vii. Allied Health
   viii. Infection Control
   ix. Newborn Safety
   x. Performance Improvement

c. **An organized perinatal outreach educational program coordinated by each of the three Level III Perinatal facilities for 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. There should be a physician specific tracking and education component of outreach education. Special attention and support should be given to those hospitals that deliver less than 750 babies per year. 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 is 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.

d. **Collection and review of appropriate data for quality improvement** as determined by the **Perinatal Advisory Council** (PAC) in consultation with representative leaders of the Level I, II and III units. The committee recommends use of the Vermont-Oxford network data for Level III and modification of the birth score data system for this purpose.

e. **A Perinatal Office at the State level** to oversee and provide consultative support for the above activities.

f. **Maternal/neonatal transport coordination** should be overseen by the state perinatal office. A "one phone call transportation protocol" should be adopted by the statewide system.

2. The committee supports and promotes the adoption of the content of ***Guidelines for Perinatal Care***, 6th Edition, co-published and endorsed by the American Academy of Pediatrics and American College of Obstetricians and Gynecologists. 2007. Copies of this book should be available for reference in every birthing unit in the state.

3. In recognition that the numbers of late preterm infants are increasing, the committee recommends that all West Virginia perinatal facilities comply with the ***Guidelines for Perinatal Care*** in establishing a

gestational age of at least 39 completed weeks of pregnancy before elective delivery for non-medical reasons is undertaken. (See Appendix E.)

4. The 2007 guidelines committee supported the adoption of the content of *Levels of Neonatal Care* American Academy of Pediatrics, 2004[2]; however, the definitions of Level III units were adapted for West Virginia in the guidelines listed in Appendix A. Recent research has found that infant mortality is significantly higher among very low birthweight neonates (< 1500 grams) who are cared for in low volume neonatal units (units that care for less than 100 infants <1500 grams)[3]. The committee chairs have determined that the AAP definitions of Level III neonatal units are inappropriate for West Virginia because of low-volume neonatal facilities and therefore maintained onlyone classification of Level III perinatal centers.

5. The committee supports and promotes the adoption of the content of ACOG Guidelines Committee Opinions; Educational/Practice Bulletins **ACOG Compendium of Selected Publications**, updated and published every year by the American College of Obstetricians and Gynecologists. Copies of this book should be available for reference in every birthing unit in the state.

6. The Committee recommends that the definitions of levels of facilities by the WV Health Care Authority Certificate of Need office be updated to comply with the definitions outlined in Appendices C and D of this document.

The Question of Regulation

The committee recognizes that these recommendations do not necessarily mandate nor are they meant to rigidly limit the scope of services if appropriate resources are available. The committee recommends that the Central Advisory Council decide if these guidelines should be worked into state regulations. They are recommended so that all WV birthing hospitals and providers will come together to improve the pregnancy outcome of the state. Guidelines or standards that apply to major urban areas are not always practical in rural West Virginia. Unfortunately, when a bad outcome occurs and litigation ensues, the differences between urban and rural are frequently ignored. The recommended guidelines are not meant to hold West Virginia hospitals and West Virginia perinatal professionals to an impractical ideal, but to improve overall perinatal care and outcomes for our mothers and newborns using the best evidence currently available. In addition, it is recognized that modifications may be necessary so that both the objectives of this document and the unique goals of a hospital or region may be met.

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[2] ***Levels of Neonatal Care*** American Academy of Pediatrics. 2004. Levels of Neonatal Care. *Pediatrics* 114 (5), 1341-1347

[3] Phibbs CS, Baker LC, Caughey AB, Danielsen B, Schmitt SK, Phibbs RH. **Level and volume of neonatal intensive care and mortality in very-low-birth-weight infants.** New Engl Journal Med. 2007 May 24; 356(21):2165-75.

APPENDICES

Appendix A: Committee Recommendations of Guidelines for Perinatal Care in West Virginia and Designation and Definitions of Hospital Levels of Perinatal Care for:

- Level I Hospitals
- Level IIA Hospitals
- Level IIB Hospitals
- Level III Hospitals

Appendix B: Committee Recommendations of Guidelines for Birthing Centers
Appendix C: Removed because of recent research
Appendix D: Current WV Health Care Authority definitions of and addition of Acute Care Beds
Appendix E: Elective induction of labor or cesarean deliveries for non-medical reasons
Appendix F: Electronic Fetal Monitoring Nomenclature Update
Appendix G: Newborn Assessment
Appendix H: Recommended Registered Nurse/Patient Ratio for Perinatal Care Services

Appendix A

Committee Recommendations
Guidelines for Perinatal Care in West Virginia
Designation and Definitions of Hospital Levels of Perinatal Care

LEVEL I HOSPITALS

Definition
Level I Hospitals provide basic inpatient care for term pregnant women and newborns without complications; manage perinatal emergencies, including neonatal resuscitation; provide leadership in early risk identification before and after birth; seek consultation or referral for high-risk patients; and provide public and professional education.

Functions
Level I Hospitals have a family-centered philosophy regarding sibling visitation. Parents have access to their newborns 24-hours a day within all functional units and are encouraged to participate in the care of their newborns. Generally, parents can be with their newborns in the mother's room. Noninfectious siblings may visit in the mother's room or in a designated space. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.).

Level I Hospitals have the capability to:
- Provide support, care and education of all patients to assist in the successful breastfeeding of newborns, healthy, ill, and premature
- Provide surveillance and care of all patients admitted to the obstetric service with an established triage system for identifying high-risk patients who should be transferred to a facility that provides Level II or higher care, prior to delivery
- Provide proper detection and supportive care of unanticipated maternal-fetal problems that occur during labor and delivery
- Begin emergency cesarean sections within 30 minutes after the decision to do the operation has been made
- Provide transfusions of blood and fresh frozen plasma on a 24-hour basis
- Provide anesthesia, pharmacy, radiology, respiratory support, electronic fetal heart-rate monitoring, and laboratory services on a 24-hour basis
- Provide care of postpartum conditions
- Evaluate the condition of healthy neonates and their continuing care until discharge
- Resuscitate all neonates using the Neonatal Resuscitation Program guidelines. Stabilize all neonates including unexpectedly small or sick neonates before transfer to a Level III Perinatal Center
- Consult and arrange transfers in conjunction with the pediatrician or neonatologist at the referral center
- Have a defined relationship with a Level III Perinatal Center either in West Virginia or a contiguous state
- Maintain a nursery for normal term or near-term newborns; and
- Perform data collection and retrieval.

Physical Facilities
Physical facilities for perinatal care in hospitals should be conducive to care that meets the normal physiologic and psychosocial needs of mothers, neonates, fathers, and families. Special facilities should

be available when deviations from the norm require uninterrupted physiologic, biochemical, and clinical observations of patients throughout the perinatal period. Labor, delivery, and newborn care facilities should be located contiguously.

The following recommendations are intended as general guidelines and are meant to be flexible enough to meet local needs. It is recognized that individual limitations of physical facilities for perinatal care may impede strict adherence to the recommendations. Furthermore, not all hospitals will have all the functional units described. Provisions for individual units should be consistent within the framework of a regionalized perinatal care system and the state and local public health regulations. (*Guidelines for Perinatal Care,* Sixth Edition, 2007.)

Obstetric Functional Units

Labor

Areas used for women in labor are equipped with the following components:

- Adequate space for support persons, personnel, and equipment
- Adequate ventilation and temperature control
- A labor or birthing bed
- A storage area for the patient's clothing and personal belongings
- Adjustable lighting that is pleasant for the patient and adequate foe examinations
- An emergency signal and an intercommunication system
- A sphygmomanometer and stethoscope
- Mechanical infusion equipment
- Fetal monitoring equipment
- Oxygen and suction outlets
- Access to at least one shower for use of labor patients
- Storage facilities for supplies and equipment

Delivery

Delivery rooms should be close to the labor rooms in order to afford easy access and to provide privacy to women in labor. A waiting area for families should be adjacent to the delivery suite, and restrooms should be located nearby.

Traditional delivery rooms and cesarean birth rooms are similar in design to operating rooms. Vaginal deliveries can be performed in either room, whereas cesarean birth rooms are designed especially for that purpose and are thus larger. Each type of birthing room is well lighted and environmentally controlled to prevent chilling of the mother and neonate.

It is desirable that cesarean deliveries be performed in the obstetric unit; however, if this is not possible due to cost and space, equipment for neonatal stabilization and resuscitation, (as described under "Neonatal " in this document), is available during delivery.

Each delivery room is maintained as a separate unit with the following equipment and supplies necessary for normal delivery and for the management of complications:

- Delivery/operating table that allows variation in position for delivery
- Instrument table and solution basin stand
- Instruments and equipment for vaginal delivery, repair of laceration, cesarean delivery, and the management of obstetric emergencies
- Solutions and equipment for the intravenous administration of fluids

- Equipment for administration of all types of anesthesia, including equipment for emergency resuscitation of the mother
- Individual oxygen, air, and suction outlets for mother and neonate
- An emergency call system
- Mirrors for patients to observe the birth
- Wall clock with a second hand
- Equipment for fetal heart rate monitoring
- Scrub sinks
- Obstetric ultrasound equipment available to the labor and delivery rooms

Trays containing drugs and equipment necessary for emergency treatment of both mother and neonate are kept in the delivery room area. Equipment necessary for the treatment of cardiac or respiratory arrest is easily accessible. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.).

Postpartum Care

The postpartum unit is flexible enough to permit comfortable accommodation of patients when the patient census is at its peak and use of beds for alternate functions when the patient census is low. Ideally, single-occupancy rooms should be provided; however, not more than two patients should share one room. If possible, each room in the postpartum unit should have its own toilet and handwashing facilities. When this is not possible and it is necessary for patients to use common facilities, patients should be able to reach them without entering a general corridor. When the newborn rooms-in with the mother, the room should have handwashing facilities, a mobile bassinet unit, and supplies necessary for the care of the newborn. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.)

Combined Units

(Labor/Delivery/Recovery or Labor/Delivery/Recovery/Postpartum room)
Comprehensive obstetric and neonatal care can be provided to the low-risk and the high-risk mother, infant and the family in a single room. A homelike, family-centered environment with the capability for providing high-risk care is a key design criterion for both the labor/delivery/recovery (LDR) and labor/delivery/recovery/postpartum (LDRP) rooms. Each room is equipped for all types of delivery except cesarean deliveries or those that may require general anesthesia.

During the labor, delivery, and recovery phases, care can be provided in an LDR room or can be extended to include the postpartum period in an LDRP room.

Nurses providing care in combined units are knowledgeable in antepartum care, labor and delivery, postpartum care, and neonatal care, making the use of staff cost-effective and increasing the continuity and quality of care. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.).

Level I Neonatal Functional Units

Resuscitation/Stabilization

A resuscitation and stabilization bed should be available in the immediate area of delivery for those neonates who require it. Contingent upon their condition, neonates are moved from this area to the nursery for admission and stabilization and/or transfer to a Level III Perinatal Center.

The resuscitation area contains the following items:

- Overhead source of radiant heat that can be regulated based on the infant's temperature - radiant warmers with accommodations for X-ray capabilities are recommended
- Thin resuscitation/examination mattress that allows access on three sides
- Wall clock (Apgar timer is beneficial)
- Equipment and medications as recommended by the Neonatal Resuscitation Program. This includes a laryngoscope with infant-sized blades, endotracheal tubes, and resuscitation bags with masks for full-term and preterm neonates
- Humidified oxygen, compressed air and suction sources that are separate from those for the mother
- Equipment for examination, immediate care, and identification of the neonate
- Umbilical vessel catheter and insertion tray
- Cardiac monitor, pulse oximeter, phototherapy unit, Doppler blood pressure for neonates, blood glucose monitor, gavage feeding equipment

The resuscitation area is usually within the delivery room, although it may be in a designated, contiguous, separate room. If resuscitation takes place in the delivery room, the area is large enough to ensure that the resuscitation of the neonate can be achieved without interference of the ongoing care of the mother. Following stabilization of the neonate, the newborn's vital signs must be maintained (e.g., by using pre-warmed blankets). The room temperature is kept at a level higher than that customary for patient rooms or operating suites. Qualified nursing staff is available to assess the newborn during this period. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.)

Admission/Observation (Transitional Care Stabilization)

The admission/observation area is for careful assessment of the neonate's condition during the first 24 hours after birth (i.e., during the period of physiologic adjustment to extrauterine life). This assessment may take place within one or more functional areas (e.g., the room in which the mother is recovering, the LDRP room, the newborn nursery, or a separate admission/observation area). In some hospitals, the newborn nursery is the primary area for transitional care, both for neonates born within the hospital and for those born outside the hospital.

The admission/observation area should be near the delivery/cesarean birth room. If it is part of the maternal recovery area, which is preferable, physical separation of the mother and newborn during this period can be avoided.

The capacity of the admission/observation area depends on the size of the delivery service and the duration of close observation. The admission/observation area is well lighted, has a wall clock, and contains emergency resuscitation equipment similar to that in the designated resuscitation area.

The physicians' and registered nurses' assessments of the neonate's condition determine the subsequent level of care. Most neonates are transferred from the admission/observation area to the newborn nursery or to the postpartum area for rooming-in. Some neonates may require transfer to another facility. Consultation with a pediatrician or neonatologist and/or referral to a hospital offering a higher level of care should be initiated for infants with respiratory distress or those infants requiring oxygen therapy for more than two hours.

Respiratory distress is defined as tachypnea (respiratory rate of 60 or more per minute), grunting, tugging, retracting, nasal flaring, or cyanosis. Any or all of these may constitute respiratory distress. (*Guidelines for Perinatal Care*, Sixth Edition, 2007).

Newborn Nursery

Routine care of apparently normal full-term neonates who have demonstrated successful adaptation to extrauterine life may be provided either in the newborn nursery or in the area where the mother is receiving postpartum care. The nursery should be relatively close to the postpartum area. The newborn nursery is well lighted, has a large wall clock, and is equipped for emergency resuscitation. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.).

Medical Personnel

The obstetric/newborn care area is under the supervision and/or direction of an American Board of Obstetrics and Gynecology (ABOG) certified obstetrician-gynecologist, a board-eligible or board-certified pediatrician, or a physician with special interest and experience in obstetrics or pediatrics.

Adequate anesthesia coverage under the supervision of a licensed physician is available in a timely fashion for emergency situations on a 24-hour-a-day, 7-day-a-week basis.

For cesarean sections or if neonatal problems are anticipated during vaginal delivery, a second physician or attendant who is skilled in resuscitation and care of the neonate should be in attendance.

Nursing Personnel

Nurses assigned to the obstetrical/neonatal service demonstrate competency in the care of the mother and infant, with training, knowledge, skill and ability to provide emotional and physical support to the laboring woman, both for natural unmedicated birth and for medicated assisted births.

Staffing

Registered nurses assigned to the obstetrical/neonatal service must be licensed to practice in West Virginia, complete an obstetrical and/or neonatal orientation and demonstrate obstetrical and/or neonatal competencies as defined by each hospital. At least one of these registered nurses must be available at all times. His/her primary responsibility is the delivery of nursing care. Nurse/patient staffing ratios as outlined in Guidelines for Perinatal Care, Sixth Edition, 2007. (See Appendix H for description.)

Labor/Delivery/Immediate Postpartum/Newborn

A registered nurse is responsible for the admission assessment of the gravida in labor, as well as continuing assessment and support of the mother and fetus during labor, delivery and the early postpartum period.

A registered nurse is responsible for the admission assessment of the newborn, as well as continuing assessment during the stabilization period.

Licensed practical nurses, nursing assistants and other appropriate technical personnel may assist in the care of the gravida in labor, but should be under the direct supervision of the registered nurse.

Staff is educated in providing assessment and support to breastfeeding women.

Later Postpartum Period/Newborn Care

Nursing care of the mother and newborn is directed and supervised by a registered nurse. A licensed practical nurse may provide care for patients without complications.

Nurses have a supporting and teaching role in assisting mothers to care for their infants. This should be recognized and fostered.

Staff is educated in providing assessment and support to breastfeeding women.

Allied Health Personnel and Services

Level I Hospitals have available, but are not limited to, the following allied health personnel and services:

- Registered Dietitian with knowledge of maternal and neonatal nutrition management
- Social Worker
- Bioengineer-Safety and Environmental Control
- Pharmacy
- Radiology
- Laboratory
- Pathology

Infection Control

Each hospital establishes written policies and procedures for assessing the health of personnel assigned to the perinatal care services and those who have significant contact with the newborn. This includes restricting their contact with patients when necessary. These policies and procedures include screening for tuberculosis and rubella. Routine culturing of specimens obtained from personnel is not useful, although selective culturing may be of value when a pattern of infection is suspected.

No special or separate isolation facilities are required for neonates born at home or in transit to the hospital. Detailed descriptions of the isolation categories and requirements should be available in each hospital's infection control manual.

For more detailed information, refer to *Guidelines for Perinatal Care*, Sixth Edition, 2007, Chapter 10, Infection Control.

Newborn Safety

The protection of infants is the responsibility of all personnel in a facility. Infants are to be transported in a bassinet or stroller rather than be carried. Infants are transported one at a time, and should not be kept in the hallway or nurses station without direct supervision. Infants should always be within the sight and supervision of staff, the mother, or other family members/friends designated by the mother. Each hospital has a policy established that addresses strategies to promote infant safety.

Outreach Education

Level I Hospitals should assume an active role in the development and coordination of wellness and preventive programs concerning maternal/child health at the community level (e.g., programs on family planning, family-life education, parenting, breastfeeding, cessation of smoking, etc.), and are encouraged to communicate with the local board of health.

Performance Improvement

Hospitals must have multi-disciplinary continuous quality improvement programs for improving maternal and neonatal health outcomes.

Hospitals should conduct internal perinatal case reviews which include all maternal, fetal, and neonatal deaths, as well as all maternal and neonatal transports.

Hospitals, at appropriate multi-disciplinary forums, periodically review the performance of the perinatal program, including trends, all deaths, all transfers, all very low birth weight infants, problem identification and solution, issues identified from the quality management process, and systems issues.

Hospitals will participate in the collaborative collection and assessment of data for the West Virginia Bureau for Public Health for the purpose of improving perinatal health outcomes.

LEVEL IIA HOSPITALS

Definition

Level IIA Hospitals provide the same care and services as Level I Hospitals plus they provide management of certain high-risk pregnancies and services for newborns with selected complications. These hospitals deliver approximately 500 or more babies annually and have obstetricians and pediatricians on staff. Although the obstetric service in a Level IIA Hospital provides services for maternity patients at higher risk than those in Level I Hospitals, reasonable efforts should be expended to transfer those patients whose newborns are likely to require a higher intensity of care as offered in a Level IIB or III Perinatal Center. Consultation with a pediatrician or neonatologist at a Level III Perinatal Center and referral to a higher level perinatal center should be initiated for infants requiring oxygen therapy for more than six hours and/or ventilatory care for more than two hours. Consultation with an obstetrician-gynecologist or a maternal fetal medicine subspecialist at a Level III Perinatal Center should be obtained for patients who meet the criteria stated in Appendices B and C of the *Guidelines for Perinatal Care*, 6th edition American Academy of Pediatrics, American College of Obstetricians and Gynecologists: 2007.

The perinatal unit is under the co-direction of a pediatrician and an obstetrician.

Functions

In addition to the functions of Level I Hospitals, Level IIA Hospitals have the capability to:

- Manage selected high-risk pregnancies >32 weeks
- Maintain a special area designated for the care of sick neonates
- Resuscitate and stabilize preterm and/or ill infants before transfer to a facility at which newborn intensive care is provided
- Provide care for infants born at >32 weeks' gestation and weighing $\geq$1500 g who have
    1. physiologic immaturity such as apnea of prematurity, inability to maintain body temperature, or inability to take oral feedings, or who are
    2. moderately ill with problems that are anticipated to resolve rapidly and are not anticipated to need subspecialty services on an urgent basis
- Manage mildly ill newborns with problems which are expected to resolve rapidly
- Provide care for infants who are convalescing after intensive care
- Manage recovering neonates who can be appropriately transferred from the referral center
- Maintain nursing personnel with training in the care of sick neonates
- Maintain nursing personnel with training in the care of high risk mothers
- Maintain specially trained nursing personnel in the care of high risk neonates
- Maintain specially trained nursing personnel for the neonatal intensive care unit

- Develop and maintain a defined relationship with a Level III Perinatal Center either in West Virginia or a contiguous state.

Physical Facilities
Level IIA Hospitals have the same physical facilities as Level I; however, they have more equipment and staffing to facilitate the prolonged care of their neonatal patients.

Medical Personnel
Level IIA Hospitals have the same medical personnel as Level I Hospitals. In addition, the perinatal units in Level II Hospitals are under the co-direction/supervision of a board-eligible or board-certified obstetrician/gynecologist and a board-certified pediatrician for their respective areas. Allied medical specialists in various disciplines are on staff, including specialists in internal medicine, radiology, and pathology. Psychiatric services are available.

Nursing Personnel
Level IIA Hospitals have the same minimal requirements for nursing personnel as Level I Hospitals. Nursing orientation and competencies in a Level II Hospital are specific to the patient population they serve. A registered nurse with advanced training and experience in routine and high-risk obstetric and/or neonatal care should be assigned to the labor and delivery area and a separate such nurse with advanced training and experience in neonatal care assigned to the nursery at all times.

Allied Health Personnel and Services
Level IIA Hospitals have the same allied health personnel and services available as a Level I Hospital, with the addition of the following:
- Ultrasound
- A respiratory therapist, certified lab technician/blood gas technician and an X-ray technologist should be in-house on a 24-hour basis when a neonate is being managed on oxygen therapy.
- Allied personnel should have special training and an interest in high-risk mothers and infants

Infection Control
Infection control guidelines are the same as for Level I Hospitals.

Newborn Safety
Level IIA Hospitals have the same requirements for newborn safety as Level I Hospitals.

Outreach Education
Level IIA Hospitals have the same responsibility for outreach education as Level I Hospitals.

Performance Improvement
Level IIA Hospitals have the same requirements as Level I.

LEVEL IIB HOSPITALS

Definition:
Level IIB hospitals have developed special care nurseries. The sizes of the units vary because of the differing demands in the various regions in West Virginia. The obstetric service in a Level IIB provides services for maternity patients at higher risk than those in Level IIA Hospitals because of the presence of

a special care nursery. However, reasonable efforts should be expended to transfer those patients whose newborns are likely to require a higher intensity of care as offered in a Level III Perinatal Center.

Functions

Level IIB hospitals have all the capabilities of level IIA Hospitals along with the additional capabilities:

- Ability to provide mechanical ventilation for brief durations (<24 hours) or continuous positive airway pressure. If an infant is placed on mechanical ventilation, a physician, nurse practitioner, physician's assistant, or appropriate person capable of airway management and experienced in diagnosis is available in-house on a 24-hour basis.
- Neonatology care available on a continuous (24/7) basis;
- Neonatal diagnostic imaging and laboratory capabilities available 24 hours a day
- Consultation with an obstetrician-gynecologist or a maternal fetal medicine sub-specialist should be obtained for patients who meet the criteria stated in Appendices B and C of the Guidelines for Perinatal Care, 6th edition American Academy of Pediatrics, American College of Obstetricians and Gynecologists: 2007.

Physical Facilities

Level IIB Hospitals have the same physical facilities as Level IIA Hospitals; however, they have more equipment and staffing to facilitate the prolonged care and ventilation of their neonatal patients.

Obstetric Functional Units

Labor/Delivery

Patients who have significant medical or obstetric complications are cared for in a room especially equipped with cardiopulmonary resuscitation equipment and other monitoring equipment necessary for observation and special care. It is preferable that this room be located in the labor and delivery area and meet the physical requirements of any other intensive care room in the hospital. When patients with significant medical or obstetric complications are cared for in the labor and delivery area, the unit has the same capabilities as an intensive care unit. (Guidelines for Perinatal Care, Sixth Edition, 2007.).

Postpartum

Larger services may have a specific recovery room for postpartum patients with a separate area for high-risk patients. Required equipment is similar to that needed in any surgical recovery room and includes equipment for monitoring vital signs, suctioning, administering oxygen, and infusing fluids intravenously. Cardiopulmonary resuscitation equipment must be immediately available. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.).

Neonatal Functional Units

Continuous cardiopulmonary monitoring and constant nursing care and other support for severely ill infants are provided in the intensive care area. Because emergency care is provided in this area, laboratory and radiologic services are readily available 24-hours a day. The results of blood gas analysis are available soon after blood sample collection.

The neonatal intensive care area should be near the delivery/cesarean birth room and should be easily accessible from the hospital's ambulance entrance. It should be away from routine hospital traffic.

The amount and complexity of equipment is considerably greater than that required in Level I and Level IIA nurseries. Equipment and supplies in the intensive care area include the same items as needed in the resuscitation and intermediate care areas. Immediate availability of emergency oxygen is essential.

Continuous monitoring of delivered oxygen concentrations, patient oxygenation, body temperature, ECG, respirations and blood pressure should be available. Supplies should be kept close to the patient station so that nurses are not away from the neonate unnecessarily and may use their time and skills efficiently.

Medical Personnel

Level IIB Hospitals have the same medical personnel as Level IIA Hospitals with the addition of a board-certified neonatologist serving as director of the special care nursery. This physician maintains a consultative relationship with Level III Perinatal Center physicians. Additionally, Level IIB Hospitals have neonatology care available on a continuous (24/7) basis.

Nursing Personnel

Level IIB Hospitals have the same minimal requirements for nursing personnel as Level IIA Hospitals. Additionally, Level IIB registered nurses in the newborn special care unit should have specialty certification or advanced training and experience in the nursing management of high-risk neonates and their families.

Allied Health Personnel and Services

Level IIB Hospitals have the same allied health personnel and services available as Level IIA Hospitals with the addition of the following:

- X-ray technologists and ultrasound technicians with neonatal/perinatal experience, available on a 24-hour basis.
- Social work services with social workers assigned specifically to the maternal and neonatal units.

Infection Control

Infection control guidelines are the same as for Level II Hospitals.

Newborn Safety

Level IIB Hospitals have the same requirements as Level I.

Outreach Education

Level IIB Hospitals have the same responsibility for outreach education as Level I Hospitals.

Performance Improvement

Level IIB Hospitals have the same requirements as Level I. In addition, Level IIB hospitals that routinely provide care to infants less than 34 weeks gestation or less than 1500 grams birth weight will maintain a report of all NICU admissions that includes an accounting of patient mortality and morbidities for the benchmarking of results against other centers (national or statewide) and for the purpose of continuous review and quality improvement.

Level III Perinatal Referral Centers

Definition and Functions

Level III Centers provide the same care and services as Level I and Level II, plus they manage the all high-risk pregnancies, and high-risk neonates. Level III nursery services within the state of West Virginia are provided at the academic centers for WVU School of Medicine and Marshall University School of Medicine, Ruby Memorial, CAMC and Cabell Huntington, and will fall into the Level III B and C categories of the AAP Levels of Care. They will have the above capabilities, plus:

- Maintain specially trained nursing personnel in the care of high risk mothers

- Maintain a defined neonatal intensive care unit
- Maintain specially trained nursing personnel for the neonatal intensive care unit
- Provide care for infants requiring basic and advanced ventilatory support and nitric oxide
- Provide a full range of pediatric subspecialists including pediatric surgical specialties and anesthesiologists.
- Maintain a functioning neonatal transport team for the regional area served
- Provide for follow-up care of high-risk newborns

Level III Centers maintain a Perinatal Care Committee with additional representation by surgical specialties. Responsibilities of the Perinatal Care Committee include the following:

- Develop policies for the unit including provisions to ensure adequate patient care by qualified providers
- Conduct meetings at least semi-annually to resolve problems related to the unit
- Review educational activities conducted by the unit
- Serve as a general liaison between the various groups represented on the committee.

Physical Facilities

Level III Centers have the same physical facilities as Level II hospitals however; they have more equipment and serve a more complicated patient population with the addition of the following.

Obstetric Functional Units

Labor/Delivery

Patients who have significant medical or obstetric complications are cared for in a room especially equipped with cardiopulmonary resuscitation equipment and other monitoring equipment necessary for observation and special care. It is preferable that this room be located in the labor and delivery area and meet the physical requirements of any other intensive care room in the hospital. When patients with significant medical or obstetric complications are cared for in the labor and delivery area, the unit has the same capabilities as an intensive care unit. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.).

Postpartum

Larger services may have a specific recovery room for postpartum patients with a separate area for high-risk patients. Required equipment is similar to that needed in any surgical recovery room and includes equipment for monitoring vital signs, suctioning, administering oxygen, and infusing fluids intravenously. Cardiopulmonary resuscitation equipment must be immediately available. (*Guidelines for Perinatal Care*, Sixth Edition, 2007.).

Neonatal Functional Units

Continuous cardiopulmonary monitoring and constant nursing care and other support for severely ill infants are provided in the intensive care area. Because emergency care is provided in this area, laboratory and radiologic services are readily available 24-hours a day. The results of blood gas analysis are available soon after blood sample collection.

The neonatal intensive care area should be near the delivery/cesarean birth room and should be easily accessible from the hospital's ambulance entrance. It should be away from routine hospital traffic.

The amount and complexity of equipment is considerably greater than that required in Level I and Level II nurseries. Equipment and supplies in the intensive care area include the same items as needed in the resuscitation and intermediate care areas. Immediate availability of emergency oxygen is essential.

Continuous monitoring of delivered oxygen concentrations, patient oxygenation, body temperature, ECG, respirations and blood pressure should be available. Supplies should be kept close to the patient station so that nurses are not away from the neonate unnecessarily and may use their time and skills efficiently. The Level III nursery accepts transports from referring hospitals and provides consultation to them.

Medical Personnel

- The medical director of the maternal/fetal intensive care unit is a full-time, American Board of Obstetrics and Gynecology (ABOG) certified obstetrician and board eligible or board certified in Maternal Fetal Medicine
- The medical director of the neonatal intensive care unit is a full-time, board certified neonatologist. The attending staff shall consist of board certified or eligible neonatologists
- Anesthesiologists on staff have special training or experience in obstetric and pediatric anesthesia, and are available in the hospital 24 hours a day
- A pediatric surgeon is active on staff
- A pediatric cardiologist is active on staff as well as a full complement of pediatric subspecialists
- Obstetric and neonatal diagnostic imaging should be available 24 hours a day
- All surgical patients in the intensive care nursery will be on the medical service of a neonatologist
- An ophthalmologist experienced in neonatal retinal examinations shall be on staff with access to laser coagulation for retinopathy of prematurity

These physicians must be immediately available to the Level III Center and reside in the same metropolitan area as the hospital. A physician with pediatric training beyond post graduate year 2, an NNP, or PA with privileges for neonatal care shall be present in-house 24 hours a day and assigned to the delivery room and neonatal units.

Nursing Personnel

Level III Centers have the same minimal requirements for nursing personnel as Level II Regional Centers except the nurse managers of the perinatal units in Level III Centers are RNs who have prior experience in high-risk obstetrics and/or neonatal care nursing. Registered nurses in the NICU should have specialty certification or advanced training and experience in the nursing management of high-risk neonates and their families. Nurse/patient ratios must be consistent with those for intensive, intermediate and continuing care infants as outlined in the *Guidelines for Perinatal Care*, Sixth Edition, 2007.

Outreach Education

Outreach education is provided to each hospital in the referral area at least once per year. Education will be targeted to established programs such as the NRP and STABLE programs and to areas identified by review of QI/PI data. This can be achieved by two or more of the following:

a. Sponsoring an annual conference.
b. Visiting Level I and Level II Hospitals for educational programs and clinical case/transport review.
c. Providing educational programs at the Regional Center for the staff members of the Level I and Level II Hospitals such as the NRP and STABLE programs.

Allied Health Personnel and Services

Level III Centers have the same allied health personnel and services as Level II Centers. Additionally, Level III Centers have respiratory therapists, certified lab technicians/blood gas technicians, x-ray technologists and ultrasound technicians with neonatal/perinatal experience, available on a 24-hour basis. Level III Centers also have social work services with social workers experienced in perinatal care assigned specifically to the maternal and neonatal units.

Infection Control
Infection control guidelines are the same as for Level II Centers.

Newborn Safety
Level III Centers have at least the same requirements for newborn safety as Level II Regional Centers.

Performance Improvement
Same as for Level I and Level II. In addition, Level III centers will maintain a patient database of all NICU admissions that includes an accounting of patient mortality and morbidities for the benchmarking of results against other centers (national or statewide) and for the purpose of continuous review and quality improvement.

Appendix B
Committee Recommendations
Guidelines for Perinatal Care in West Virginia
Guidelines for Birthing Centers

West Virginia currently has a licensing law which covers birthing centers[1]. In addition, birthing centers are exempt from applying for a Certificate of Need if they meet the following criteria:

- The applicant must be an eligible primary care center or an eligible hospital.
- The proposed birthing center shall be located in an underserved service area.
- The applicant must meet all state licensure requirements prior to the provision of services.

For the purposes of this report, recommendations have been written in the same format as for Level I, Level II, and Level II perinatal hospital facilities.

Definition
A Birth Center is a type of facility which is a building, house or the equivalent organized to provide facilities and staff to support a birthing service for pregnant clients. A birth center may be an adaptation of a home-like environment for triage, intrapartum, postpartum, and newborn care admissions, and where stable clients are eligible for early discharge 12 hours after birth. A birth center is an ambulatory health care facility where low risk births are planned to occur away from the mother's usual residence following normal, uncomplicated pregnancy[2].

Functions
Birth Centers offer women anticipating low risk birth a family-centered option for birth that is not a hospital or the patient's home. Family members are encouraged to participate in welcoming the new family member in the mother's room or in a designated space.

Birthing Centers have the capability to:
- Provide surveillance and care during prenatal visits
- Provide prenatal education and counseling services
- Provide surveillance and care to all clients admitted to the birth center. The Birth Center should have an established triage system to identify clients prenatally, intrapartum and postpartum who should be transferred to a facility that provides higher level care (I-II-III)
- Contract with or provide a transport system established to facilitate moving mothers and/or babies (or mother/baby units) to a higher level care center as soon as (within 30 minutes) the decision to do so has been made
- Provide pain relief options, including local anesthetics and pudendal blocks and analgesics, excluding other anesthetics; respiratory support, fetal monitoring (Doppler/handheld intermittent and continuous fetal monitoring if indicated); and availability of off-site laboratory services on a 24 hour basis[3]
- Provide care of postpartum conditions including short stay options (patient usually go home 4 hours after birth, with follow up visit within the next 1-3 days)
- Evaluate the care of healthy neonates and their continuing care until discharge

[1] TITLE 64, LEGISLATIVE RULES, WV DEPARTMENT OF HEALTH, SERIES 31 - BIRTHING CENTER LICENSURE, §64-31-1-15
[2] IBID 64-31-4.2
[3] IBID 64-31-10

- Resuscitate all neonates using the Neonatal Resuscitation Program (NRP) Guidelines. Stabilize all neonates including unexpectedly small or sick neonates before transport to a facility that provides higher level care.
- Consult and arrange transfers in conjunction with a physician at the receiving hospital. The transferring CNM/MD may consider obtaining privileges to provide continuity of care to an intrapartum patient requesting or requiring transfer to the hospital a higher level of care.
- Maintain a written agreement with a hospital for emergency services and admissions. A hospital policy statement concerning emergency procedures and admissions may be accepted as satisfying this requirement.
- Perform data collection and retrieval.[4]

Physical facilities

Physical facilities for perinatal care in birth centers should be conducive to meeting the normal physiologic, psychological, and psychosocial needs of mothers, infants, fathers and families. Special facilities may be available for educational needs and alternative health care providers (therapists - physical therapy/acupuncture/ exercise, yoga)

The following recommendations are intended as general guidelines and are meant to be flexible. Limitations of a physical facility may impede strict adherence to the recommendations. Birth Centers should strive to meet state and local health regulations.

Functional Areas

Peri-partum, Gyn Clients

- Adequate space for personnel and equipment, including provision for the education and training of clients, families, and support persons in pregnancy, childbirth, and newborn care[5]
- Adequate ventilation, temperature control, etc.
- Exam table with needed supplies
- Adjustable lighting pleasant for patient, adequate for examinations
- Intercommunication system
- Sphygmomanometer, stethoscope, scale, otoscope, ophthalmoscope
- Sink
- Rest rooms
- Storage rooms

Intrapartum Birth Rooms

- Adequate space for support persons, personnel, equipment
- Adequate ventilation and temperature control
- Labor or birthing bed
- Storage area for patients' belongings and personal items
- Adjustable lighting that is pleasant for patient and adequate for exam
- Intercommunication system
- Sphygmomanometer, stethoscope, thermometer
- Fetal monitor or Doppler
- Oxygen and supplies
- Access to shower or tub for patient
- Sink

[4] IBID 64-31-11
[5] IBID 64-31-9.7

- Storage for supplies and equipment, delivery instruments
- Clock
- Bassinet and supplies for infant
- Emergency bassinet or radiant warmer for emergency care/transfers of infant
- Phone

Personnel

Medical Personnel[6]

8.1. There shall be sufficient, qualified staff available to perform the services offered by the birthing center. In evaluating the numbers and qualifications of staff, the director shall consider the following criteria: (a) the number and type of clients of the center; (b) the type of services provided by the center; (c) the education, training and experience of the staff as it relates to their job responsibilities; (d) any specific requirements of these regulations; (e) professional credentials; and (f) state professional licensure requirements. All staff and any consultants or volunteers providing services under the auspices of the birthing center who are required by state law to be licensed, registered or certified shall have valid licenses, registrations or certificates, copies of which licenses, registrations or certificates shall be on file with the facility.

8.2. A physician certified by the American Board of Obstetrics and Gynecology or one who is otherwise qualified and authorized by training and experience as a practitioner in obstetrics shall participate in the development of and the review of clinical policies and procedures of the birthing center.

8.3. All policies and procedures relating to client care shall be approved and reviewed on a yearly basis by a physician meeting the requirements of Section 8.2 of these rules and regulations.

8.4. A physician certified by the American Board of Obstetrics and Gynecology or a physician who is otherwise qualified and authorized by training and experience and who is recognized by peers in the community as an experienced, competent practitioner in obstetrics shall be immediately available by telephone twenty-four hours a day. The birthing center shall provide written evidence of physician availability.

8.5. A physician or nurse midwife shall be present at each birth. A second person, who is an employee or member of the clinical staff with resuscitation skills, should be immediately available during each birth.

Allied Personnel and services

Birthing centers may contract to provide services which may include, but are not limited to, the following allied health personnel and services:

- Dieticians
- Social workers
- Physical therapists
- Sex counselor/therapists
- Lactation consultant/counselors
- Certified instructors of childbirth education, yoga, dance, exercise

[6] IBID §64-31-8

- Other professionals such as instructors of programs of family education, parenting, breastfeeding, smoking cessation, weight loss, wellness, family planning

Infection Control

Infection control guidelines are the same as for Level I Hospitals.

Newborn Safety

Birthing Centers have the same requirements for newborn safety as Level I Hospitals.

Outreach Education

Birthing Centers have the same responsibility for outreach education as Level I Hospitals.

Performance Improvement

Birthing Centers have the same requirements as Level I Hospitals.

Appendix D

WV Health Care Authority Addition of Acute Care Beds[1]
(Excerpts from Document)

Certificate of Need Standards

West Virginia Code §16-2D-5(l) (1) states that the state agency (the Authority) shall coordinate the collection of information needed to allow the state agency to develop recommended modifications to the CON standards, and file with the Secretary of State, for publication in the State Register, a notice of proposed action, including the text of all proposed amendments and modifications, and a date, time and place for receipt of general public comment. The Authority may hold a public hearing or schedule a public comment period for the receipt of written statements or documents.

WV Code §16-2D-5(l)(2) requires all proposed amendments and modifications, including a record of the public hearing or written statements and documents received pursuant to a public comment period, be presented to the Governor. Within thirty days of receiving the proposed amendments or modifications, the Governor shall either approve or disapprove all or part of the amendments and modifications. The services selected for review/change of CON standards are those health services recommended by the CON study conducted pursuant to WV Code §16-29B-19(a) set forth in WV C.S.R. §65-7-28.1

Definitions Relevant to Perinatal Care:

Level I Obstetrical Unit:	A hospital obstetric unit, the function of which is to provide services primarily for uncomplicated maternity and newborn patients.
Level II Obstetrical Unit:	A hospital obstetric and neonatal unit, the function of which is to provide a full range of maternal and newborn services for uncomplicated births and for the majority of complicated obstetrical problems and certain neonatal illnesses.
Level III Obstetrical Unit:	A hospital obstetric and neonatal unit, the function of which is to provide care for normal births but especially for all the serious types of maternal-fetal and neonatal illnesses and abnormalities.
Levels of Care:	A system of categorizing services according to complexity and sophistication. Normally, acute care is divided into three levels: primary, secondary, and tertiary, with the primary level being comprised of the most basic services and the tertiary level being comprised of the most complex services.
Neonatal:	Referring to an infant less than 29 days old.
Neonatal Intensive Care Unit:	A special unit of the hospital set up to provide extraordinary surveillance and support of vital functions and definitive therapy for infants having acute or potentially reversible life threatening impairment of a vital system(s).

[1] West Virginia Health Care Authority Certificate of Need Standards approved by West Virginia Governor 10/9/2002, http://www.hcawv.org/

Obstetric: Referring to the branch of medicine which deals with the care of women before, during, and directly after childbirth.

Application for Additional Beds

Specialized Acute Care

An applicant which proposes to develop or expand specialized acute care beds will not be considered for approval by the Authority if the resulting number of licensed acute care beds for the hospital is equal to or exceeds 160% of the average daily census of the hospital's licensed acute care beds for the last twelve (12) month period.

Notwithstanding this requirement, a hospital may change its bed complement, within its approved licensed beds, among specialized units for services that are currently offered by the hospital and which do not constitute the addition of a new institutional health service, or the deletion of an existing health service.

In addition to the criteria set forth elsewhere for the addition of acute care beds, proposals involving specialized acute care units must comply with the following.

Neonatal Intensive Care Units: An application for the addition of beds to expand or create a neonatal intensive care unit (NICU) shall be in substantial compliance with the following guidelines.

1. The number of NICU beds shall not exceed four beds per 1000 live births in the study area.

2. Level II* NICU services shall be centralized at West Virginia University Hospitals, Inc., Charleston Area Medical Center and Cabell-Huntington Hospital.

3. Level II* NICU services shall be considered for approval only at hospitals performing at least 1,100 deliveries per year.

*According to the Director of Certificate of Need this is a typographical error in the current Health Care Authority Standards. It should have said Level III NICU, and for our purposes, it may be corrected to say Level III NICU.

Obstetric Units: An application for the addition of beds to expand or create an obstetric unit shall be in substantial compliance with the following guidelines.

1. Level II and Level III obstetric units shall perform at least 1,100 deliveries per year.

2. Level I obstetric units shall perform at least 750 deliveries per year.

3. New Level I obstetric units may be considered for approval based upon less than 750 deliveries per year if the absence of the service would result in a population of at least 5,000 being more than 30 minutes normal driving time from another obstetric unit.

4. Level I and Level II units shall have policies defining the level of birth risk and newborn complications that they will attempt to serve, as opposed to patients they will refer to higher level facilities.

Appendix E

Elective Induction of Labor or Cesarean Deliveries for Non-Medical Reasons

The labor induction rate is at an all-time high in the United States. Although induction of labor is recommended as a therapeutic option only when the benefits of expeditious birth outweigh the risks of continuing the pregnancy, a "psychosocial indication" has become a common rationale for elective induction in the United States. Although at first glance elective labor induction may seem more convenient, an appreciation of the inconvenience of the greater rates of interventions, the longer labor and overall hospital stay, the higher costs, the additional attention required by the primary health care provider when complications occur, and the risk of an adverse outcome for a mother or baby after an elective procedure with subsequent litigation should cause everyone to exercise caution and reevaluate current practice. Professional organizations should take proactive steps to advocate for pregnant women so they are fully aware of the risks and benefits. A public campaign to discourage elective labor induction for nulliparous women is worth serious consideration[1].

The percent of cesarean births rose to an all-time high in West Virginia of 34.2% in 2005. At the same time the percent of labor inductions continued to rise. In the 2005 over 38 % of first time mothers were induced and 31% of induced-first-time mothers ended up with cesarean sections. In addition, a growing numbers of babies resulting from induced labors were transferred to NICUs for respiratory distress resulting from immature lungs.

All West Virginia perinatal facilities should comply with the *Guidelines for Perinatal Care*[2] in establishing a gestational age of at least 39 completed weeks of pregnancy before elective delivery for <u>non-medical reasons</u> is undertaken. Fetal pulmonary lung maturity should always be taken in consideration when delivering a fetus electively or preterm in high-risk deliveries. In the absence of laboratory confirmation of fetal lung maturity, at least one of the following criteria should be documented prior to induction of labor or elective cesarean section.

- Fetal heart tones have been documented for 20 weeks by nonelectronic fetoscope or for 30 weeks by Doppler.
- It has been 36 weeks since a positive serum or urine human chorionic gonadotropin pregnancy test was performed by a reliable laboratory.
- An ultrasound measurement of the crown rump length, obtained at 6-12 weeks, supports a gestational age of at least 39 weeks.
- An ultrasound obtained at 13-20 weeks confirms the gestational age of at least 39 weeks determined by clinical history and physical examination.

[1] Kathleen Rice Simpson, Jana Atterbury (2003), Trends and Issues in Labor Induction in the United States: Implications for Clinical Practice, Journal of Obstetric, Gynecologic, & Neonatal Nursing 32 (6), 767–779. doi:10.1177/0884217503258528

[2] *Guidelines for Perinatal Care*, 6th edition American Academy of Pediatrics, American College of Obstetricians and Gynecologists: 2007.

Appendix F
Electronic Fetal Monitoring Nomenclature Update

The National Institute of Child Health and Human Development (NICHD) held workshops in 1997 and proposed definitions for intrapartum Fetal Heart Rate (FHR) tracing. The specific purpose was to develop standardized and clear-cut definitions for fetal monitoring terminology. The definitions that came from these workshops have now been adopted by the American College of Obstetricians and Gynecologists (ACOG) and the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN). The Joint Commission on Accreditation of Health care Organizations (JCAHO) also recommended standardized terminology or fetal monitoring in the July 2004 Sentinel Event Alert #30. **The purpose for this adoption is to have all care providers using the same terminology for interpretation of fetal monitor strips to ensure safe and consistent patient care.** The new definitions are listed in the table below.

Table 1. Definitions of Fetal Heart Rate Patterns

Pattern	Definition
Baseline	• The mean FHR rounded to increments of 5 beats per min during a 10 min segment, excluding: – Periodic or episodic changes – Periods of marked FHR variability – Segments of baseline that differ by more than 25 beats per min • The baseline must be for a minimum of 2 min in any 10 min segment
Baseline variability	• Fluctuations in the FHR of two cycles per min or greater • Variability is visually quantitated as the amplitude of peak-to-trough in beats per min – Absent–amplitude range undetectable – Minimal–amplitude range detectable but 5 beats per min or fewer – Moderate (normal)–amplitude range 6-25 beats per min – Marked–amplitude range greater than 25 beats per min
Acceleration	• A visually apparent increase (onset to peak in less than 30 sec) in the FHR from the most recently calculated baseline • The duration of an acceleration is defined as the time from the initial change in FHR from the baseline to the return of the FHR to the baseline • At 32 weeks of gestation and beyond, an acceleration has an acme of 15 beats per min or more above baseline, with a duration of 15 sec or more but less than 2 min • Before 32 weeks of gestation, an acceleration has an acme of 10 beats per min or more above baseline, with a duration of 10 sec or more but less than 2 min • Prolonged acceleration lasts 2 min or more but less than 10 min • If an acceleration lasts 10 min or longer, it is a baseline change
Bradycardia	• Baseline FHR less than 110 beats per min

Early deceleration	• In association with a uterine contraction, a visually apparent, gradual (onset to nadir 30 sec or more) decrease in FHR with return to baseline • Nadir of the deceleration occurs at the same time as the peak of the contraction
Late deceleration	• In association with a uterine contraction, a visually apparent, gradual (onset to nadir 30 sec or more) decrease in FHR with return to baseline • Onset, nadir, and recovery of the deceleration occur after the beginning, peak, and end of the contraction, respectively
Tachycardia	• Baseline FHR greater than 160 beats per min
Variable deceleration	• An abrupt (onset to nadir less than 30 sec), visually apparent decrease in the FHR below the baseline • The decrease n FHR is 15 beats per min or more, with a duration of 15 sec or more but less than 2 min
Prolonged deceleration	• Visually apparent decrease in the FHR below the baseline • Deceleration is 15 beats per min or more, lasting 2 min or more but less than 10 min from onset to return to baseline

When interpreting the FHR pattern consider the gestational age, prior fetal assessment, medications and obstetric and medical conditions.

References

1. *Guidelines for Perinatal Care*, Fifth Edition, 2002, pp. 130-142.
2. Intrapartum Fetal Heart Rate Monitoring, *ACOG Practice Bulletin,* Number 62, May 2005.

Appendix G
Newborn Assessment

During the stabilization period, temperature, heart and respiratory rates, skin color, adequacy of peripheral circulation, including blood pressure on one extremity, type of respiration, level of consciousness, tone and activity should be monitored and recorded at least once every 30 minutes until the neonate's condition has remained stable for two hours. Once the infant is determined clinically stable, and remains clinically stable, observations should be made and recorded according to the routine of the hospital nursery or at least every eight hours until discharge.

If the five-minute Apgar score is less than seven, additional scores should be assigned every five minutes for up to 20 minutes. Any conditions that require special attention, such as vacuum-assisted delivery, respiratory distress, hypoglycemia, temperature instability, change in activity (including poor feeding), unusual skin color, abnormal cardiac and respiratory findings, including abnormal blood pressure, delayed/abnormal voiding or stooling, or any degree of neonatal depression should be noted; actions taken to correct the problem should be documented in the infant's record.

It is advisable to develop nursery guidelines to delineate those conditions that are associated with increased risk for neonatal illness and warrant close observation and frequent assessment. These include delivery prior to 37 weeks gestation, low birth weight, small for gestational age (SGA), large for gestational age (LGA), maternal drug abuse, maternal fever or infection, low Apgar scores, vacuum-assisted delivery, or any questionable clinical status.

Gestational Age Classification

Data from each neonate should be plotted on a birth weight-gestational age chart that indicates whether the neonate is small, appropriate, or large for gestational age. The determination of gestational age and its relationship to weight can be used in the identification of neonates at risk for illness. For example, neonates who are either large or small for gestational age are at relatively increased risk for hypoglycemia and polycythemia, and appropriate tests are indicated. Newborn exam to determine gestation age should be done as soon as possible.

Risk for Hypoglycemia

Neonatal hypoglycemia, a common metabolic disorder, may result in significant neurologic sequelae, especially in the symptomatic infant, if left untreated. In certain groups of high-risk infants who have a higher incidence of hypoglycemia than the normal population, neonatal glucose screening is highly recommended. These groups include preterm infants, infants of diabetic mothers, small for gestational age (SGA), large for gestation age (LGA), history of substance abuse, limited or no prenatal care, infants with a five-minute Apgar score of six or less, meconium staining or other symptoms of fetal distress, infants with polycythemia, severe erythroblastosis fetalis, or a family history of hypoglycemia. It also includes infants who have clinical signs suggestive of hypoglycemia, such as irritability, jittery, lethargy, periodic cyanosis and apnea, poor feeding, unexplained respiratory distress, and abnormal cry.

It is highly recommended that each hospital establish a written policy for the screening of hypoglycemia in newborn infants including indications, timing, methods, and procedures.
(Guidelines for Perinatal Care, Sixth Edition, 2007.).

Appendix H
Recommended Registered Nurse/Patient Ratio for Perinatal Care Services[1]

Staffing parameters should be clearly delineated in a policy that reflects (a) staff mix and ability levels; (b) patient census, intensity, and acuity; and (c) plans for delegation of selected, clearly defined tasks to competent assistive personnel. It is an expectation that allocation of personnel provides for safe care of all patients in a setting where census and acuity are dynamic.

Intrapartum:
- 1:2 patients in labor
- 1:1 patients in second stage labor
- 1:1 patients with medical or obstetric complications
- 1:2 induction or augmentation of labor
- 1:1 coverage for initiating epidural anesthesia
- 1:1 circulation for cesarean delivery

Antepartum/postpartum
- 1:6 patients without complications
- 1:2 patients in post-op recovery
- 1:3 antepartum/postpartum patients with complications but in stable condition
- 1:4 newborns less than four hours old and those requiring close observation and neonates
- 1:3-4 normal mother-baby couplet care

Newborns
- 1:6-8 neonates requiring only routine care*
- 1:4 recently born neonates and those requiring close observation
- 1:3-4 neonates requiring continuing care
- 1:2-3 neonates requiring intermediate care
- 1:1-2 neonates requiring intensive care
- 1:1 neonates requiring multisystem support
- 1:1 or greater unstable neonates requiring complex critical care

*****Reflects traditional newborn nursery care. A nurse should be available at all times, but only one may be necessary, as most healthy neonates will not be physically present in the nursery. Direct care of neonates in the nursery may be provided by ancillary personnel under the nurse's direct supervision. Adequate staff is needed to respond to acute and emergency situations. The use of assistive personnel is not considered in the nurse-to-patient ratios noted here.

[1] *Guidelines for Perinatal Care*, Sixth Edition, 2007, p.29