THE MARYLAND PERINATAL SYSTEM STANDARDS

Revised April 2019

Recommendations of the Perinatal Clinical Advisory Committee

MEMBERS OF THE PERINATAL CLINICAL ADVISORY COMMITTEE

Pablo Argeles, MD
Chair, Department of Obstetrics and Gynecology
University of Maryland Baltimore Washington Medical Center
Level II

Robert Atlas, MD
Chair, Department of Obstetrics and Gynecology
Mercy Medical Center
MedChi, The Maryland State Medical Society

Susan W. Aucott, MD
Associate Division Director, Neonatology
Medical Director, NICU
Johns Hopkins Children's Center
Level IV

Carla L. Bailey, PhD, RN
Director, Perinatal Programs
Maryland Institute for Emergency Medical Services Systems (MIEMSS)

Tuvia Blechman, MD
Chief, Division of Neonatology
Chairman, Department of Pediatrics
Howard County General Hospital
Level III

Ann B. Burke, MD, FACOG
Vice President, Medical Affairs
Holy Cross Hospital
American College of Obstetricians and Gynecologists - Maryland Section

Sherrie Burkholder, MSN, MHA, RNC-OB, C-EFM
Education Specialist, Perinatal Services
Adventist HealthCare Shady Grove Medical Center
Chair, AWHONN Maryland Section
Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)

Susan J. Dulkerian, MD, FAAP
Chair, Department of Pediatrics
Director of Newborn Services
Mercy Medical Center
American Academy of Pediatrics

Dina El-Metwally, MD, FAAP, PhD
Medical Director, NICU
Associate Professor, University of Maryland School of Medicine
Level IV

Eileen Fleck, MPP
Chief, Acute Care Policy and Planning
Maryland Health Care Commission

Ernest Graham, MD
Department of Gynecology and Obstetrics
Johns Hopkins Hospital
Level IV

Christopher R. Harman, MD
Chair, Department of Obstetrics, Gynecology and Reproductive Services
University of Maryland School of Medicine
Level IV

Lynn M. Harris, MSN, RN
Assistant Director of Nursing, Women and Infants
MedStar Harbor Hospital
Level II

Robert H. Imhoff III, MPP
President and CEO
Maryland Patient Safety Center

Desirée L. Israel, LMSW
Reproductive Psychotherapist
National Association of Social Workers, Maryland Chapter

Nia Jewell Leak, MD, FACOG
Director, Department of Obstetrics and Gynecology
Medical Director, Labor and Delivery
Howard County General Hospital
Level III

Jocelyn Leung, MD
Medical Director, Neonatology
University of Maryland Prince George's Hospital Center
Level III

Esther K. Liu, MD, FAAP
Chair, Pediatrics and Neonatal Care Unit
University of Maryland Baltimore Washington Medical Center
Level II

David A. Mann, MD, PhD
Epidemiologist
Maryland Department of Health
Office of Minority Health and Health Disparities

Fernando Mena, MD
Chief, Section of Neonatology
MedStar Franklin Square Medical Center
Level III

Russell W. Moy, MD, MPH
Health Officer
Harford County Health Department
Maryland Association of County Health Officers

Jeanne Murphy, PhD, CNM, FACNM
Assistant Professor, The George Washington University School of Nursing
Certified Nurse-Midwife, University of Maryland St. Joseph Medical Center
American College of Nurse-Midwives – Maryland Affiliate

Katherine M. Murray, MSN, RN, NEA-BC
Women's and Children's Service Line Director
Frederick Memorial Hospital
Level III

Teresa O'Sullivan, BSN, RNC-OB
Nurse Manager, Family Birthplace and Special Care Nursery
University of Maryland Upper Chesapeake Medical Center
Level II

Tabitha F. Perry, MD, FACOG
Vice-Chair, Department of Obstetrics and Gynecology
Adventist HealthCare Washington Adventist Hospital
Level II

Webra Price-Douglas, PhD, CRNP, IBCLC
Coordinator
Maryland Regional Neonatal Transport Program

Bharti Razdan, BSc., MD, FAAP
Vice-Chair, Department of Pediatrics
Medical Director, NICU
Frederick Memorial Hospital
Level III

Edina Veselovsky, MD
Director, Special Care Nursery
Adventist HealthCare Washington Adventist Hospital
Level II

Renee B. Webster, REHS
Assistant Deputy Director, Non Long Term Care Federal Programs
Office of Health Care Quality

Tiffany Wedlake, MD, MPH, FAAPM
Physician Adviser and Medical Director
Acute Care and HealthChoice Administration
Maryland Department of Health
Maryland Medicaid

S. Lee Woods, MD, PhD, FAAP
Medical Director, Maternal and Child Health Bureau
Director, Office of Surveillance and Quality Initiatives
Maryland Department of Health

Justin Ziombra, RN, MBA
Director, Policy and Data Analytics
Maryland Hospital Association

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STANDARD	TITLE	SUMMARY
I	Organization	Refers to the administration of a hospital perinatal program
II	Obstetrical Unit Capabilities	Refers to the resources of equipment, supplies, and personnel needed for the delivery unit within the hospital
III	Neonatal Unit Capabilities	Refers to the resources of equipment, supplies, and personnel needed for the neonatal units within the hospital
IV	Obstetrical Personnel	Describes the roles, responsibilities, and availability of obstetrical personnel in the perinatal program
V	Pediatric Personnel	Describes the roles, responsibilities, and availability of pediatric personnel in the perinatal program
VI	Other Personnel	Describes the roles, responsibilities, and availability of other personnel in the perinatal program
VII	Laboratory	Refers to the resources of equipment, supplies, and personnel needed for the laboratory unit within the hospital
VIII	Diagnostic Imaging Capabilities	Refers to the resources of equipment, supplies, and personnel needed for diagnostic imaging capabilities within the hospital
IX	Equipment	Refers to the availability of specific equipment needed for the perinatal program
X	Medications	Refers to the availability of specific medications needed for the perinatal program
XI	Education Programs	Refers to the need for education for all health care providers involved in providing perinatal care and to the roles and responsibilities of the hospitals in education
XII	Quality Improvement	Describes the quality improvement process that is required for hospital perinatal programs
XIII	Policies and Protocols	Identifies the administrative and medical policies and protocols that shall be in place for a perinatal program

LIST OF DEFINITIONS

I Level I hospitals have perinatal programs that provide basic care to pregnant women and infants, as described by these standards. These hospitals provide delivery room and well newborn nursery care for physiologically stable infants ≥ 35 weeks gestation. Other than emergency stabilization pending transport, the neonatal services do not provide positive pressure ventilatory support. Physicians board-certified in pediatrics, neonatal-perinatal medicine, or family medicine have programmatic responsibility for these services. These neonatal services do not provide pediatric subspecialty or emergent neonatal surgical specialty services. Maternal and fetal care is limited to gestations of ≥35 weeks. Level I facilities provide care to women who are low risk and are expected to have an uncomplicated birth. Level I facilities have the capability to perform routine intrapartum and postpartum care that it is anticipated to be uncomplicated. Level I facilities have the ability to detect, stabilize, and initiate management of unanticipated maternal-fetal or neonatal problems that occur during the antepartum, intrapartum, or postpartum period until the patient can be transferred to a facility at which specialty maternal care is available. Board-certified physicians or active candidates for board-certification in obstetrics/gynecology, or board-certified physicians in family medicine with advanced training and privileges for obstetrical care with a formal arrangement with a physician board-certified or an active candidate for board-certification in obstetrics/gynecology, have programmatic responsibility for obstetrical services. These hospitals do not receive primary infant or maternal transports.

II Level II hospitals have perinatal programs that provide specialty care to pregnant women and infants, as described by these standards. These hospitals provide delivery room and acute specialized care for moderately ill infants ≥ 1500 grams and ≥ 32 weeks gestation with problems that are expected to resolve rapidly and are not anticipated to need subspecialty services on an urgent basis. Board-certified neonatal-perinatal medicine subspecialists have programmatic responsibility for the neonatal services. Level II nurseries may provide mechanical ventilation for a brief duration (less than 24 hours) until the infant's condition soon improves or the infant can be transferred to a higher-level facility. A level II facility may provide continuous positive airway pressure as long as the infant is improving. The neonatal services may provide limited pediatric subspecialty services. They do not provide emergent neonatal surgical specialty services. Maternal and fetal care is limited to term and preterm gestations of ≥ 32 weeks that are maternal risk appropriate, as well as stabilization and transfer of high-risk women who exceed level II care capabilities. Board-certified obstetricians have responsibility for programmatic management of obstetrical services. These hospitals do not receive primary infant or maternal transports except under limited circumstances as described by these standards.

III Level III hospitals have perinatal programs that provide subspecialty care for pregnant women and infants, as described by these standards. These hospitals provide acute delivery room and neonatal intensive care unit (NICU) care for infants of all birth weights and gestational ages. Board-certified neonatal-perinatal medicine subspecialists have programmatic responsibility for neonatal services. These services offer continuous availability of neonatologists. The neonatal services provide sustained life support with multiple modes of neonatal ventilation that may include advanced respiratory support, such as high frequency ventilation. In addition, inhaled nitric oxide may or may not be used. A full range of pediatric medical subspecialists, pediatric

surgical specialists, pediatric anesthesiologists, and pediatric ophthalmologists are readily accessible on site or by prearranged consultative agreement at a closely related institution. Neonatal care capabilities include advanced imaging, with interpretation on an urgent basis, including computed tomography, magnetic resonance imaging, and echocardiography. Maternal and fetal care spans the range of normal term gestation care to the comprehensive management of severe maternal and fetal complications. Board-certified obstetricians have programmatic responsibility for obstetrical services. Board-certified maternal-fetal medicine specialists have programmatic responsibility for high-risk obstetrical services. Level III perinatal hospitals accept risk-appropriate maternal and neonatal transports.

IV Level IV hospitals have perinatal programs that provide comprehensive subspecialty obstetrical and neonatal care services, as described by these standards. These hospitals provide acute delivery room and NICU care for infants of all birth weights and gestational ages, including those with complex and critical illness. Board-certified neonatal-perinatal medicine subspecialists have programmatic responsibility for neonatal services. These services offer continuous availability of neonatologists. Advanced modes of neonatal ventilation and life-support are provided, including high frequency ventilation and nitric oxide, and extracorporeal membrane oxygenation (ECMO) may be provided. These neonatal services provide a full range of pediatric medical subspecialists, pediatric surgical specialists and subspecialists, pediatric anesthesiologists, and pediatric ophthalmologists continuously available. These neonatal services have the capability to provide surgical repair of complex congenital or acquired conditions. Maternal and fetal care spans the range of normal term gestation care to that of highly complex or critically ill pregnant and postpartum women. In addition, the obstetrical services include management of fetuses who are extremely premature or have complex problems that render significant risk of preterm delivery and postnatal complications. Level IV facilities have the capability to plan and facilitate care for women with the most high-risk complications of pregnancy. Board-certified maternal-fetal medicine subspecialists have programmatic responsibility for the services and are continuously available. Level IV perinatal hospitals accept maternal and neonatal transports. In collaboration with the Maryland Department of Health and the Maryland Institute for Emergency Medical Services Systems, the Level IV hospitals are expected to take leadership roles in organization and provision of maternal and neonatal issues including, but not limited to, patient transport, outreach education, and professional training.

Board-certified: a physician certified by an American Board of Medical Specialties Member Board, or the equivalent, and maintaining current board certification.

Capability: Having the necessary equipment and supplies as well as staff with skill and experience in its use.

Continuously available: a resource available at all times.

Dedicated: a resource assigned to or for the exclusive use by a unit and not shared with any other unit.

Immediately available: a resource available as soon as it is requested.

In-house: physically present in the hospital.

Programmatic responsibility: the writing, review and maintenance of practice guidelines, policies and procedures; development of operating budget (in collaboration with hospital administration and other program directors); evaluation and guiding of the purchase of equipment; planning, development and coordinating of educational programs (in-hospital and/or outreach as applicable); participation in the evaluation of perinatal care; and participation in perinatal quality improvement and patient safety activities.

Readily available: a resource available for use a short time after it is requested.

Telemedicine: the use of interactive audio, video, or other telecommunications or electronic technology by a licensed health care provider to deliver a health care service within the scope of practice of the health care provider at a site other than the site at which the patient is located. Telemedicine must include at least two forms of communication and be in compliance with COMAR 10.32.05.

30 minutes: in-house within thirty (30) minutes under normal driving conditions which include, but are not limited to, weather, traffic, and other circumstances that may be beyond the individual's control.

E Essential requirement for level of perinatal center

O Optional requirement for level of perinatal center

NA Not Applicable

NOTE: More details regarding the content of care for each perinatal level of care are contained in the *Guidelines for Perinatal Care, 8th Edition*, American Academy of Pediatrics and American College of Obstetricians and Gynecologists, 2017.

Revision April 2019:

The Maryland Perinatal System Standards were updated in September, 2018. In April, 2019, minor changes were made to the definitions of level I and level II hospitals; Standard 13.5 was modified; and current Standards 13.6, 13.7, 13.8, and 13.9 were added, with renumbering of subsequent Standards.

THE MARYLAND PERINATAL SYSTEM STANDARDS
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		I	II	III	IV
STANDARD I. ORGANIZATION					
1.1	The hospital's Board of Directors, administration, and medical and nursing staff shall demonstrate commitment to its specific level of perinatal center designation and to the care of perinatal patients. This commitment shall be demonstrated by: a) a Board resolution that the hospital agrees to meet the current Maryland Perinatal System Standards for its specific level of designation and assures that all perinatal patients shall receive medical care commensurate with that designation; b) submission of patient care data to the Maryland Department of Health and the Maryland Institute for Emergency Medical Services Systems for system and quality management; and c) a Board resolution, bylaws, contracts, and budgets, indicating the hospital's commitment to the financial, human, and physical resources and to the infrastructure that are necessary to support the hospital's level of designation.	E	E	E	E
1.2	The hospital shall be licensed by the Maryland Department of Health as an acute care hospital.	E	E	E	E
1.3	The hospital shall be accredited by The Joint Commission.	E	E	E	E
1.4	The hospital shall have an agreement with the Health Services Cost Review Commission that addresses how the cost of neonatal intensive care services will be incorporated into the hospital's population health budget, and the hospital shall have a Certificate of Need (CON) from the Maryland Health Care Commission in order to provide neonatal intensive care services, defined as a level III or IV perinatal program, unless establishment of the hospital's neonatal intensive care services preceded this requirement. A hospital shall obtain a CON in order to establish a Level III or IV perinatal program or to expand a Level III perinatal program to Level IV.	NA	NA	E	E

		I	II	III	IV
1.5	The hospital shall obtain and maintain current equipment and technology, as described in these standards, to support optimal perinatal care for the level of the hospital's perinatal center designation.	E	E	E	E
1.6	If maternal or neonatal air transports are accepted, the hospital shall have a heliport, helipad, or access to a helicopter landing site near the hospital.	NA	NA	E	E
1.7	The hospital shall provide specialized maternal and neonatal transport capability and have extensive statewide perinatal educational outreach programs in both specialties in collaboration with MIEMSS and MDH.	NA	NA	O	E
STANDARD II.	**OBSTETRICAL UNIT CAPABILITIES**				
2.1	The hospital shall demonstrate its capability of providing obstetrical care through written standards, protocols, or guidelines, including those for the following: a) management of uncomplicated pregnancy; b) detection, stabilization, and initiation of management of unanticipated maternal-fetal problems; c) fetal monitoring, including internal scalp electrode monitoring; d) ability to begin emergency cesarean delivery within a time interval that best incorporates maternal and fetal risks and benefits with the provision of emergency care; and e) selection and management of obstetrical patients at a maternal risk level appropriate to its capability.	E	E	E	E
2.2	The hospital shall have an onsite intensive care unit that accepts obstetrical patients and has critical care providers onsite to actively collaborate with obstetricians or maternal-fetal medicine specialists at all times.	NA	O	E	E

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STANDARD III. NEONATAL UNIT CAPABILITIES				
3.1 The hospital shall demonstrate its capability of providing neonatal care through written standards, protocols, or guidelines, including those for the following:				
a) resuscitation and stabilization of the neonate according to the current American Academy of Pediatrics/American Heart Association *Neonatal Resuscitation Program* (NRP) guidelines at every delivery;	E	E	E	E
b) detection, stabilization, and initiation of management of unanticipated neonatal problems;	E	E	E	E
c) evaluation and care of stable term newborn infants;	E	E	E	E
d) care for infants convalescing after intensive care; and	NA	E	E	E
e) selection and management of neonatal patients at a neonatal risk level appropriate to its capability as outlined in the definitions of level of care.	E	E	E	E
STANDARD IV. OBSTETRICAL PERSONNEL				
LEADERSHIP				
4.1 A physician board-certified or an active candidate for board-certification in obstetrics/gynecology, or a physician board-certified in family medicine with advanced training and privileges for obstetrical care with a formal arrangement with a physician board-certified or an active candidate for board-certification in obstetrics/gynecology, shall be a member of the medical staff and have programmatic responsibility for obstetrical services.	E	NA	NA	NA
4.2 A physician board-certified in obstetrics/gynecology shall be a member of the medical staff and have programmatic responsibility for obstetrical services.	O	E	E	NA

		I	II	III	IV
4.3	A physician board-certified in maternal-fetal-medicine shall be a member of the medical staff and have programmatic responsibility for obstetrical services.	O	O	O	E
4.4	A physician board-certified in maternal-fetal medicine shall be a member of the medical staff and have programmatic responsibility for high-risk obstetrical services.	NA	O	E	E
4.5	A physician board-certified in anesthesiology shall be a member of the medical staff and have programmatic responsibility for obstetrical anesthesia services.	E	E	E	E
COVERAGE FOR URGENT OBSTETRICAL ISSUES					
4.6	A hospital without a physician board-certified in maternal-fetal medicine on the hospital staff shall have a written agreement that provides for a consultant who is board certified or an active candidate for board-certification in maternal-fetal medicine to be available 24 hours a day onsite, by telephone, or by telemedicine.	E	E	NA	NA
4.7	The hospital shall have a physician board-certified or an active candidate for board certification in maternal-fetal medicine on the medical staff, in active practice, available at all times, and if needed, in-house within 30 minutes.	O	O	E	E
4.8	A physician with obstetrical privileges or a certified nurse-midwife with obstetrical privileges shall be readily available to the delivery area when a patient is in active labor.	E	NA	NA	NA
4.9	A physician board-certified or an active candidate for board-certification in obstetrics/gynecology or a physician board-certified or an active candidate for board certification in family medicine with obstetrical privileges shall be readily available to the delivery area when a patient is in active labor.	O	E	NA	NA

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4.10	A physician board-certified or an active candidate for board-certification in obstetrics/gynecology shall be present in-house 24 hours a day and immediately available to the delivery area when a patient is in active labor.	O	O	E	E
4.11	A physician with obstetrical privileges or a certified nurse-midwife with obstetrical privileges shall be present at all deliveries.	E	E	E	E
OBSTETRICAL SUBSPECIALTY CARE					
4.12	The hospital shall have a full complement of subspecialists, including subspecialists in critical care, general surgery, infectious disease, hematology, cardiology, nephrology, and neurology available at all times.	NA	O	E	E
4.13	The hospital shall have adult medical and surgical specialty and subspecialty consultants available at all times and onsite if needed to collaborate with the maternal-fetal medicine care team.	NA	O	O	E
STANDARD V.	**PEDIATRIC PERSONNEL**				
LEADERSHIP					
5.1	A physician board-certified in pediatrics, neonatal-perinatal medicine, or family medicine shall be a member of the medical staff, have privileges for neonatal care, and have programmatic responsibility for neonatal services in the newborn nursery and/or the mother-baby unit.	E	E	E	E
5.2	A physician board-certified in neonatal-perinatal medicine shall be a member of the medical staff and have programmatic responsibility for neonatal services in the special care nursery or NICU.	NA	E	E	E
COVERAGE FOR URGENT NEONATAL ISSUES					
5.3	There shall be a written agreement which provides consultation with physicians board-certified in neonatal-perinatal medicine 24 hours a day.	E	E	NA	NA

		I	II	III	IV
5.4	NRP trained professional(s) with experience in acute care of the depressed newborn and skilled in neonatal endotracheal intubation and resuscitation shall be immediately available to the delivery and neonatal units.	E	E	E	E
5.5	A physician who has completed postgraduate pediatric training, a nurse practitioner or physician assistant with privileges for neonatal care shall be immediately available at all times.	NA	E	NA	NA
5.6	If an infant requires positive pressure respiratory support for greater than 48 hours, a neonatology consultation with a level III or IV NICU shall be obtained.	NA	E	NA	NA
5.7	A physician who has completed postgraduate pediatric training, a nurse practitioner or physician assistant with privileges for neonatal care appropriate to the level of the neonatal services shall be present in-house 24 hours a day, assigned to the delivery area and neonatal unit, and not shared with other units in the hospital.	NA	O	E	E
5.8	A physician board-certified or an active candidate for board-certification in neonatal-perinatal medicine, shall be on the medical staff, in active practice, available at all times, and if needed, in-house within 30 minutes.	NA	O	E	E
NEONATAL SUBSPECIALTY CARE					
5.9	The hospital shall have written consultation and referral agreements in place with pediatric cardiology and general pediatric surgery. Additionally, if back-transports requiring ophthalmology follow-up are accepted, the hospital shall have a written consultation and referral agreement with ophthalmology and an organized program for the monitoring, treatment, and follow-up of retinopathy of prematurity.	O	E	NA	NA
5.10	The hospital shall have on staff an ophthalmologist with experience in neonatal retinal examination and an organized program for the monitoring, treatment, and follow-up of retinopathy of prematurity.	NA	O	E	E

		I	II	III	IV
5.11	The hospital shall have the following pediatric subspecialists on staff, in active practice, and if needed, readily available in house or via telemedicine: cardiology, neurology, and general pediatric surgery.	NA	O	E	NA
5.12	The hospital shall have on staff, in active practice, available at all times, and if needed, in-house within 30 minutes, the following pediatric subspecialties: cardiology, endocrinology, gastroenterology, genetics, hematology, nephrology, neurology, and pulmonology.	NA	O	O	E
5.13	The hospital shall have on staff, in active practice, available at all times, and if needed, in-house within 30 minutes: general pediatric surgery and pediatric surgical subspecialties including cardiothoracic surgery, neurosurgery, ophthalmology, orthopedic surgery, and plastic surgery.	NA	O	O	E
STANDARD VI.	**OTHER PERSONNEL**				
6.1	A physician board-certified or an active candidate for board-certification in anesthesiology or a nurse-anesthetist shall be available at all times to provide labor analgesia and surgical anesthesia so that cesarean delivery may be initiated per hospital protocol as stated in Standard 2.1d.	E	E	E	E
6.2	A physician board-certified or an active candidate for board-certification in anesthesiology shall be present in-house 24 hours a day, readily available to the delivery area.	O	O	E	E
6.3	If the hospital performs neonatal surgery, a physician board-certified or an active candidate for board-certification in anesthesiology with experience in neonatal anesthesia shall be present for the surgery.	NA	NA	E	E
6.4	The hospital shall have a physician on the medical staff, in active practice, with privileges for providing critical interventional radiology services for:				
	a) obstetrical patients, and	O	O	E	E
	b) neonatal patients.	NA	NA	O	E

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6.5	The hospital shall have on staff a licensed registered dietician with knowledge of and experience in the management of obstetrical and neonatal parenteral/enteral nutrition.	O	O	E	NA
6.6	The hospital shall have on staff licensed registered dietitians with knowledge of and experience in the management of obstetrical and neonatal parenteral/enteral nutrition, with one dietitian dedicated to the NICU.	NA	O	O	E
6.7	The hospital shall have at least one full-time equivalent International Board Certified Lactation Consultant who shall have programmatic responsibility for lactation support services which shall include education and training of additional hospital staff members in order to ensure availability of lactation support seven days per week.	E	E	E	E
6.8	The hospital shall have a written plan to address lactation consultant/patient ratios recommended in the current Association of Women's Health, Obstetric, and Neonatal Nurses Guidelines.	E	E	E	E
6.9	The hospital shall have a licensed social worker with a master's degree (either an LMSW, Licensed Master Social Worker, or an LCSW, Licensed Certified Social Worker) and experience in psychosocial assessment and intervention with women and their families readily available to the perinatal service.	E	E	NA	NA
6.10	The hospital shall have at least one licensed social worker with a master's degree (either an LMSW, Licensed Master Social Worker, or an LCSW, Licensed Certified Social Worker) and experience in psychosocial assessment and intervention with women and their families dedicated to the perinatal service.	O	O	E	E
6.11	The hospital shall have at least one licensed social worker with a master's degree (either an LMSW, Licensed Master Social Worker, or an LCSW, Licensed Certified Social Worker) and experience in psychosocial assessment and intervention with women and their families dedicated to the NICU.	NA	NA	E	E

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6.12 The hospital shall have respiratory therapists skilled in neonatal ventilator management:				
a) readily available when an infant is receiving or anticipated to need positive pressure respiratory support or assisted ventilation,	NA	E	NA	NA
b) present in-house 24 hours a day, and	NA	O	E	NA
c) dedicated to the NICU 24 hours a day.	NA	NA	O	E
6.13 The hospital shall have at least one occupational or physical therapist with neonatal expertise.	NA	O	E	E
6.14 The hospital shall have at least one individual skilled in evaluation and management of neonatal feeding and swallowing disorders such as a speech-language pathologist.	NA	O	E	E
6.15 The hospital shall have genetic diagnostic and counseling services or written consultation and referral agreement(s) for these services in place.	E	E	E	E
6.16 The hospital shall have a pediatric neurodevelopmental follow-up program or written referral agreement(s) for neurodevelopmental follow-up.	O	O	E	E
6.17 The hospital shall have pharmacy personnel with knowledge of and experience in pediatric pharmacy.	O	E	E	E
6.18 The hospital perinatal program shall have on its administrative staff at least one registered nurse with a master's or higher degree in nursing or a health-related field and experience in high-risk obstetrical and/or neonatal nursing who shall have programmatic responsibility for the obstetrical and neonatal nursing services.	E	E	E	E

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6.19	The hospital perinatal program shall have on its staff at least one registered nurse with a master's or higher degree in nursing or a health or education-related field and experience in high-risk obstetrical and/or neonatal nursing responsible for staff education.	E	E	E	E
6.20	The hospital obstetrical service shall have continuous availability of adequate numbers of registered nurses with competence in assessment and care of obstetrical patients as well as the recognition and nursing management of obstetrical complications.	E	E	E	E
6.21	The hospital neonatal service shall have continuous availability of adequate numbers of registered nurses with competence in assessment and care or neonatal patients appropriate to the designated level of care.	E	E	E	E
6.22	A hospital neonatal service that performs neonatal surgery shall have nurses on staff with knowledge of and experience in perioperative management of neonates.	NA	NA	E	E
6.23	The hospital shall have a written plan to address registered nurse/patient ratios recommended in the current Association of Women's Health, Obstetric, and Neonatal Nurses Guidelines.	E	E	E	E
STANDARD VII.	**LABORATORY**				
7.1	The programmatic leaders of the perinatal service and the hospital laboratory shall establish laboratory processing and reporting times that are appropriate for samples drawn from obstetrical and neonatal patients with specific consideration for the acuity of the patient and the integrity of the samples.	E	E	E	E
7.2	The hospital laboratory shall demonstrate the capability to immediately receive, process, and report urgent/emergent obstetrical and neonatal laboratory requests.	E	E	E	E

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7.3	The hospital laboratory shall have a process in place to report critical values to the obstetrical and neonatal services.	E	E	E	E
7.4	Laboratory results from standard maternal antepartum testing shall be available to the providers caring for the mother and the neonate prior to discharge. If test results are not available or if testing was not performed prior to admission, such testing shall be performed during the hospitalization of the mother and results shall be available prior to discharge of the newborn.	E	E	E	E
7.5	The hospital shall have the capacity to conduct rapid HIV testing 24 hours a day.	E	E	E	E
7.6	The hospital shall have available the equipment and trained personnel to perform newborn hearing screening prior to discharge on all infants born at or transferred to the institution and report screening results as required by COMAR 10.11.02.	E	E	E	E
7.7	The hospital shall:				
	a) have available the equipment and trained personnel to perform critical congenital heart disease screening between 24 and 48 hours of age on all well infants born at or transferred to the institution and report screening results as required by COMAR 10.52.15, and	E	E	E	E
	b) have a protocol to perform critical congenital heart disease screening on all infants in the special care nursery or neonatal intensive care unit born at or transferred to the institution and to report screening results as required by COMAR 10.52.15.	NA	E	E	E
7.8	The hospital shall have available the equipment and trained personnel to collect newborn blood-spot screening on all infants born at or transferred to the institution at the appropriate time/intervals and to transport blood-spot specimens to the Maryland State Newborn Screening Laboratory as required by COMAR 10.52.12 and 10.10.13.14.	E	E	E	E

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7.9 Blood bank technicians shall be present in-house 24 hours a day.	E	E	E	E
7.10 The hospital shall have access to molecular, cytogenetic, and biochemical genetic testing.	E	E	E	E
STANDARD VIII. DIAGNOSTIC IMAGING CAPABILITIES				
8.1 The hospital shall have the capability of providing emergency ultrasound imaging with interpretation for obstetrical patients 24 hours a day.	E	E	E	E
8.2 The hospital shall have the capability of providing detailed ultrasonography and fetal assessment, including Doppler studies, with interpretation for obstetrical patients 24 hours a day.	NA	O	E	E
8.3 The hospital shall have the capability of providing maternal echocardiography with interpretation for obstetrical patients 24 hours a day.	NA	O	E	E
8.4 The hospital shall have the capability of providing portable x-ray imaging with interpretation for neonatal patients 24 hours a day.	E	E	E	E
8.5 The hospital shall have the capability of providing portable head ultrasound with interpretation for neonatal patients.	O	E	E	E
8.6 The hospital shall have the capability on campus of providing computerized tomography (CT) and magnetic resonance imaging (MRI) with interpretation.	O	O	E	E

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8.7 Neonatal echocardiography equipment and an experienced technician shall be available on campus as needed with interpretation by a pediatric cardiologist.	O	O	E	E
8.8 The hospital shall have a pediatric cardiac catheterization laboratory and appropriate staff.	NA	NA	O	E
8.9 The hospital shall have the capability of providing interventional radiology services for:				
a) obstetrical patients, and	O	O	E	E
b) neonatal patients.	NA	NA	O	E
STANDARD IX. EQUIPMENT				
9.1 The hospital shall have all of the following equipment and supplies immediately available for existing patients and for the next potential patient:	E	E	E	E
a) O2 analyzer, stethoscope, intravenous infusion pumps;				
b) radiant heated bed in delivery room and available in the neonatal units;				
c) oxygen hood with humidity;				
d) bag and masks and/or T-piece resuscitator capable of delivering a controlled concentration of oxygen to the infant;				
e) orotracheal tubes;				
f) CO_2 detector;				
g) aspiration equipment;				
h) laryngoscope;				
i) bowel bags;				
j) umbilical vessel catheters and insertion tray;				
k) cardiac monitor;				
l) pulse oximeter;				

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	m) transilluminator; n) phototherapy unit; o) doppler blood pressure for neonates; p) cardioversion/defibrillation capability for obstetrical patients and neonates; q) resuscitation equipment for obstetrical patients; r) resuscitation equipment for neonates including equipment outlined in the current NRP; s) individual oxygen, air, and suction outlets for obstetrical patients and neonates; and t) emergency call system for both obstetrical and neonatal units as well as an emergency communication system between units.				
9.2	The hospital shall have special equipment and facilities needed to accommodate the care and services needed for obese women.	O	E	E	E
9.3	The hospital shall have a neonatal stabilization bed set up and equipment available at all times for an emergency admission.	E	E	E	E
9.4	The hospital shall have fetal diagnostic testing and monitoring equipment for:				
	a) fetal heart rate monitoring,	E	E	E	E
	b) ultrasound examinations, and	E	E	E	E
	c) amniocentesis.	O	O	E	E
9.5	The hospital shall have the capability to monitor neonatal intra-arterial pressure.	NA	O	E	E
9.6	The hospital shall have the capability on campus of providing laser coagulation for retinopathy of prematurity.	NA	O	E	E

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9.7	The hospital shall have the capability on campus of providing a full range of invasive maternal monitoring including central venous pressure and arterial pressure monitoring.	NA	O	E	E
9.8	The hospital shall have appropriate equipment (including back-up equipment) for neonatal respiratory care as well as protocols for the use and maintenance of the equipment as required by its level of neonatal care.	E	E	E	E
9.9	The hospital shall have the capability of providing advanced ventilatory support (beyond conventional mechanical ventilation) for neonates of all birth weights.	NA	NA	O	E
9.10	The hospital shall have the capability of providing continuing therapeutic hypothermia.	NA	NA	O	E
STANDARD X.	MEDICATIONS				
10.1	Emergency medications, as listed in the current NRP guidelines, shall be immediately available in the delivery area and neonatal units.	E	E	E	E
10.2	The following medications shall be immediately available to the neonatal units: a) antibiotics, b) anticonvulsants, c) surfactant, d) prostaglandin E1, and e) emergency cardiovascular drugs.	E	E	E	E
10.3	All emergency resuscitation medications to initiate and maintain resuscitation, in accordance with current Advanced Cardiac Life Support (ACLS) guidelines of the American Heart Association, shall be immediately available in the delivery area.	E	E	E	E

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10.4	The following medications shall be immediately available for management of obstetrical hemorrhage in the delivery area and postpartum floor: a) oxytocin (Pitocin), b) methylergonovine (Methergine), c) misoprostol (Cytotec), d) carboprost tromethamine (Hemabate), and e) tranexamic acid (TXA).	E	E	E	E
10.5	The following medications shall be immediately available for management of hypertensive crisis in all obstetrical care areas: a) hydralazine, b) labetalol, and c) nifedipine.	E	E	E	E
STANDARD XI.	EDUCATION PROGRAMS				
11.1	The hospital shall have identified minimum competencies for obstetrical and neonatal clinical staff, not otherwise credentialed, that are assessed prior to independent practice and on a regular basis thereafter.	E	E	E	E
11.2	The hospital shall provide continuing education programs available to all obstetrical and neonatal clinical staff concerning the treatment and care of obstetrical and neonatal patients.	E	E	E	E
11.3	The hospital shall conduct multidisciplinary clinical drills or simulations including post-drill debriefs to help prepare obstetrical and neonatal staff for high risk, high complexity, low frequency events.	E	E	E	E

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11.4 The hospital shall provide evidence-based education every two years to all staff caring for newborns (nurses, respiratory therapists, technicians, etc.) that includes at a minimum stabilization after immediate resuscitation to address glucose metabolism, thermoregulation, respiratory support, hemodynamic monitoring and stability, risk and treatment of infection, and support for the family.	E	E	E	E
11.5 A hospital that accepts maternal or neonatal primary transports shall provide the following to the referring hospital/providers: a) guidance on indications for consultation and referral of patients at high risk, b) information about the accepting hospital's response times and clinical capabilities, c) information about alternative sources for specialized care not provided by the accepting hospital, d) guidance on the pre-transport stabilization of patients, and e) feedback on the pre-transport and post-transport care of patients.	NA	NA	E	E
STANDARD XII. QUALITY IMPROVEMENT				
12.1 The hospital shall have a multidisciplinary Perinatal Quality Improvement Program which meets at least quarterly to evaluate maternal and neonatal health outcomes and to identify process changes to improve patient safety and perinatal outcomes.	E	E	E	E
12.2 The Perinatal Quality Improvement Program shall conduct internal case reviews, collect and analyze perinatal program data, conduct trend analyses, set quality improvement goals annually, and use data to assess progress toward those goals.	E	E	E	E
12.3 The Perinatal Quality Improvement Program shall conduct reviews of all cases of the following as well as cases related to other patient safety and systems issues identified:				
a) maternal, intrapartum fetal, and neonatal deaths;	E	E	E	E
b) transports to a higher or comparable level of care;	E	E	E	E

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c) elective delivery at less than 39 weeks gestation; and	E	E	E	E
d) delivery of an infant at less than 1500 grams or less than 32 weeks gestation.	E	E	NA	NA
12.4 The hospital shall participate with the Maryland Department of Health and local health department Fetal and Infant Mortality Review program.	E	E	E	E
12.5 The hospital shall participate in the collaborative collection and assessment of data with the Maryland Department of Health and/or the Maryland Institute for Emergency Medical Services Systems for the purpose of improving perinatal health outcomes.	E	E	E	E
12.6 The hospital shall maintain membership in the Vermont Oxford Network.	O	O	E	E
STANDARD XIII. POLICIES AND PROTOCOLS				
13.1 The hospital shall have written policies and protocols for the initial stabilization and continuing care of all obstetrical and neonatal patients appropriate to the designated level of care.	E	E	E	E
13.2 The hospital shall have maternal and neonatal resuscitation protocols.	E	E	E	E
13.3 The hospital medical staff credentialing process shall include documentation of competency to perform obstetrical and neonatal invasive procedures appropriate to the designated level of care.	E	E	E	E
13.4 The hospital shall have a written protocol for initiating maternal and neonatal transports to an appropriate level of care.	E	E	E	E

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13.5 The hospital shall have a written protocol for the acceptance of maternal and neonatal transports.	NA	O	E	E
13.6 A level II hospital may accept primary maternal transports of any gestational age only if all of the following circumstances are met: a) The transporting hospital does not provide obstetrical services. b) There is no level III or IV hospital within a comparable distance or travel time from the transporting hospital. c) There is a written agreement between one or more obstetrical practice(s) and the accepting level II hospital which provides that an obstetrician shall be available at all times to consult on and accept a transported obstetrical patient, including a patient not previously known to or under the care of the accepting physician or practice. d) Consultation between the transporting hospital and the accepting obstetrician as well as the neonatal unit at the level II hospital shall occur prior to transport. e) The accepting obstetrician shall be readily available to the delivery area at the accepting level II hospital when a transported patient arrives.	NA	E	NA	NA
13.7 A level II hospital that accepts primary maternal transports shall: a) have a written protocol for the acceptance of maternal transports; b) provide obstetrical evaluation, stabilization, and assessment of risk for all transported patients; c) provide continued care to patients that are maternal risk appropriate as outlined in the definitions of level of care; and d) provide for the secondary transfer to a higher level of care of high-risk women who exceed level II care capabilities.	NA	E	NA	NA
13.8 A level II hospital may accept primary neonatal transports of any gestational age only if all of the following circumstances are met: a) The transporting hospital does not provide pediatric services.	NA	E	NA	NA

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b) There is no level III or IV hospital within a comparable distance or travel time from the transporting hospital. c) There is a written agreement between one or more pediatric practice(s) and the accepting level II hospital which provides that a pediatrician shall be available at all times to consult on and accept a transported neonatal patient. d) Consultation between the transporting hospital and the accepting pediatrician as well as the neonatal unit at the level II hospital shall occur prior to transport. e) The accepting pediatrician shall be readily available to the neonatal unit at the accepting level II hospital when a transported patient arrives.				
13.9 A level II hospital that accepts primary neonatal transports shall: a) have a written protocol for the acceptance of neonatal transports; b) provide pediatric evaluation, stabilization, and assessment of risk for all transported patients; c) provide continued care to patients that are neonatal risk appropriate as outlined in the definitions of level of care; and d) provide for the secondary transfer to a higher level of care of high-risk neonates who exceed level II care capabilities.	NA	E	NA	NA
13.10 The hospital shall have written protocols for accepting or transferring obstetrical patients or neonates as "back transports."	E	E	E	E
13.11 The hospital shall have a licensed neonatal transport service or written agreement with a licensed neonatal transport service.	E	E	E	E
13.12 The hospital shall have policies that allow families (including siblings) to be together in the hospital following the birth of an infant and that promote parental involvement in the care of the neonate including those in the NICU.	E	E	E	E

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13.13 The hospital shall have a policy to eliminate deliveries by induction of labor or by cesarean section prior to 39 weeks gestation without a medical indication. The hospital shall have a systematic internal review process to evaluate any occurrences and a plan for corrective action.	E	E	E	E
13.14 The hospital shall have written protocols and capabilities in place for the following: a) assessment of risk for obstetrical hemorrhage, b) maximizing accuracy in determining obstetrical blood loss, c) massive transfusion, d) emergency release of blood products before full compatibility testing is complete, and e) management of multiple component therapy.	E	E	E	E
13.15 The hospital shall have a written protocol to evaluate all infants born at or transferred to the institution for birth defects and to report findings to the Birth Defects Reporting and Information System as required by Health-General Article, §18-206, Annotated Code of Maryland.	E	E	E	E
13.16 The hospital shall have a written policy for the management of obstetrical patients with opioid use and opioid use disorder that addresses the following and other relevant issues: a) universal screening of obstetrical patients for opioid use; b) pharmacotherapy of the pregnant, laboring and postpartum woman; c) breastfeeding; d) linkages to appropriate postpartum psychosocial support services including substance use treatment and relapse prevention programs; and e) reproductive health planning.	E	E	E	E
13.17 The hospital shall have a written policy for the identification and management of neonatal abstinence syndrome.	E	E	E	E

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13.18 The hospital shall have a written policy for optimizing post-delivery care of obstetrical patients that addresses the following and other relevant issues: a) identification of postpartum women at risk for poor health outcomes, b) breastfeeding support, c) linkages to appropriate medical and psychosocial services, and d) reproductive health planning.	E	E	E	E
13.19 The hospital shall have a written policy to address infant safety issues including safe sleep, abusive head trauma (shaken baby), and car seat safety.	E	E	E	E