Smooth Transitions:

Enhancing the Safety of Planned Out-of-Hospital Birth Transfers

A Quality Improvement Initiative of the Washington State Perinatal Collaborative

Project Manual

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This manual was developed by the MD/LM Workgroup, a subcommittee of the Washington State Perinatal Advisory Committee

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Smooth Transitions

A Quality Improvement Initiative to Enhance the Safety of Planned Out-of-Hospital Birth Transfers Project Manual

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Introduction

Thank you for your interest in Smooth Transitions, a quality improvement initiative to enhance the safety of planned out-of-hospital birth transfers. We hope that after reading this manual, you will want to become a participant in this important project.

The MD/LM Workgroup, a subcommittee of the Washington State Department of Health Perinatal Advisory Committee, has developed this voluntary quality improvement project to assist hospitals providing obstetrical services in developing their own program to facilitate seamless transfers of care when pregnant women, postpartum women, or newborns from planned home or birth center births need access to hospital services.

The goal of the quality improvement project is to promote the efficiency of transfers, improve communication between midwives and hospital-based providers, decrease liability, and ultimately enhance patient safety and satisfaction in these specific situations.

There is a growing call nationally for ready access to consultation as well as assurance of safe and timely transport to nearby hospitals in order to reduce perinatal mortality rates and achieve favorable outcomes for planned out-of-hospital births. The American Congress of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine have issued a consensus statement on levels of maternal care which recognizes licensed midwives as appropriate maternity care providers for low-risk women and calls for an established agreement between freestanding birth centers and receiving hospitals with policies and procedures for timely transfer of care when needed. Both ACOG and the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) have issued statements emphasizing the importance of inter-professional communication in the event of transfers, and the Home Birth Summit Collaboration Workgroup released Best Practice Guidelines in 2014**.** The Smooth Transitions quality improvement initiative in Washington State served as a template for the national guidelines and has now fully incorporated these best practice guidelines into the project.

Licensed midwives deliver approximately 2,800 babies per year in Washington in freestanding birth centers or in a home environment. Approximately 15 percent of the women who plan an out-of-hospital birth in Washington State develop intrapartum, or postpartum complications or their babies develop conditions that warrant transfer to an acute care hospital. The majority of these transfers are for non-emergent indications such as pain relief or augmentation. In some communities, these transfers are smooth and efficient, while in others there seem to be barriers that can lead to delays and less than optimal care.

The voluntary quality improvement project begins with a one-hour informational meeting with your obstetrical services team to explain the program. The Smooth Transitions Project Coordinator and a physician member of the MD/LM workgroup will present information about the project and will be available to provide consultation throughout the process. A similar meeting will be held with the licensed midwives who provide services in your area.

The expectation is that each participating hospital will develop its own transfer protocol that will then be shared with the local licensed midwives. This protocol would include clear information about:

- whom the licensed midwife should contact when a transfer is indicated
- where in the hospital the patient should be brought
- what records should accompany the patient
- what the role of the licensed midwife should be in the hospital
- how to contact the licensed midwife to return the mother to her care following hospital discharge, where appropriate

A sample hospital transfer protocol is included in the appendix and can be easily adapted by your institution.

In addition, a hospital's participation in Smooth Transitions involves the establishment of a Planned Out-of-Hospital Birth Transfer Committee, composed of obstetrical providers, nursing staff, EMS personnel, and local licensed midwives. It is recommended that this committee meet 2 – 3 times/year to discuss any issues or concerns regarding transfers and to share strategies about how to improve efficiency, safety, and satisfaction. Ideally, these meetings would be protected under CQIP, the Department of Health's Coordinated Quality Improvement Program.

Please share this material with your obstetrics leadership team, institutional quality improvement unit and hospital administration for review. If you would like to have a presentation of the Smooth Transitions Project or have any questions about the project, please contact the Project Coordinator at: smoothtransitions.pc@gmail.com.

MD/LM Workgroup

In 2005, the Washington State Department of Health Perinatal Advisory Committee (PAC) adopted new Level of Care Guidelines for hospitals. In response to concerns raised by the Midwives' Association of Washington State (MAWS) about difficulties with home to hospital transfers, Roger Rowles, MD, of Yakima, WA, and chair of the PAC, appointed a task force to study and improve the process of transferring women and their babies from a planned out-of-hospital birth location to an acute-care hospital when a higher level of medical care is necessary. This MD/LM Workgroup is a cooperative effort of obstetrician-gynecologist physician leaders and licensed midwifery leaders as well as those with expertise in public health and policy. The Midwives' Association of Washington State (MAWS) has developed a document titled "Indications for Discussion, Consultation, and Transfer of Care in a Home or Birth Center Midwifery Practice." These guidelines have been reviewed and approved by members of the Washington State Department of Health Perinatal Advisory Committee, the Midwives' Association of Washington State, and the MD/LM Workgroup.

Midwives in Washington State - Background

Midwives attend more than 10% of all births in Washington State and virtually all of the planned out-of-hospital births. There are three categories of midwives practicing in the state: licensed midwives, certified nurse-midwives, and unlicensed midwives. This manual provides a brief overview of each category and more detailed information about licensed midwives, who attend the majority of births taking place at home or in freestanding birth centers in Washington State.

Licensed Midwives

Licensed midwives provide care during the normal childbearing cycle. They are licensed to perform all of the procedures that may be necessary during the course of normal pregnancy, birth and the postpartum/newborn period, including the administration of selected medications. They consult with physicians when a case deviates from normal and refer clients if complications arise. In an emergency, a midwife is trained and equipped to carry out life-saving measures. Licensed midwives generally provide care to women planning to give birth at home or in a freestanding birth center. Nearly all of the licensed freestanding birth centers in Washington State are owned by licensed midwives.

Licensed midwives are regulated by the Washington State Department of Health and are disciplined under the Health Systems Quality Assurance (HSQA) program. A multi-disciplinary Midwifery Advisory Committee provides recommendations to the Department of Health regarding issues related to licensed midwives. Professional liability insurance is available in Washington State to licensed midwives through the Midwifery and Birthing Center Professional Liability Insurance Joint Underwriting Association and through an out-of-state liability carrier. Policies have $1,000,000/$3,000,000 limits. Licensed midwives are reimbursed for their services by most insurers, including Medicaid.

To qualify for licensure in Washington State, a midwife must complete a three-year program or the equivalent approved by the state; participate in a minimum of 100 births; provide primary care, under supervision, for a minimum of 30 women in the prenatal, intrapartum and postpartum periods; and

successfully pass the national examination administered by the North American Registry of Midwives as well as an additional state-specific test.

Licensed midwives are described as "direct-entry" midwives because their educational requirements do not include prior training in nursing. Nationally, direct-entry midwives are licensed in 26 states and are qualified for national certification by the North American Registry of Midwives as Certified Professional Midwives. The Midwifery Education Accreditation Council is recognized by the U.S. Secretary of Education as the national accrediting agency for direct-entry midwifery education.

The law regulating midwifery practice in Washington State dates to 1917 when professional midwives were first recognized by the state legislature. There were no in-state training programs at that time and most midwives were foreign-trained professionals who immigrated to Washington. The number of midwives in practice declined into the 1940s and only began to grow again after 1978 when the Seattle Midwifery School was founded and began training midwives to contemporary international standards.

The number of midwives and the percentage of midwife-attended births have grown steadily over the years. There are now approximately 150 licensed midwives in Washington State and in 2013 they attended 2,804 births or 3.2% of the total births in the state. According to national data, approximately 11% of women who begin the process of a planned out-of-hospital birth require transport to an acute-care hospital either during labor, or during the postpartum period. Most of these transports are for non-emergent conditions.[1] The percentage of transfers in Washington State is slightly higher (15%) than the national rate because midwifery is more integrated into the health care system here and there are fewer barriers to accessing medical care when needed.

In accordance with WAC 246-834-240, licensed midwives may start intravenous fluids, maintain saline locks, and may administer uterotonics, including oxytocin, misoprostol per rectum, methylergonovine maleate (oral or intramuscular), and prostaglandin 15-methyl F2 alpha (Hemabate) to control postpartum hemorrhage, prenatal and postpartum Rh-immune globulin, local anesthetic for repair of first and second degree lacerations, magnesium sulfate for prevention of maternal seizures pending transport, epinephrine for use in maternal anaphylaxis pending transport, terbutaline for non-reassuring fetal heart tones and/or cord prolapse pending transport, antibiotics for intrapartum prophylaxis of Group B streptococcus, and MMR vaccine to non-immune postpartum women. In addition, regulations allow licensed midwives to administer ophthalmic medication and vitamin K to newborns, as well as HBIG and HBV for neonates born to hepatitis B-positive mothers. Licensed midwives also carry oxygen and resuscitation equipment and are required to renew both provider-level CPR training and neonatal resuscitation certification (NRP) every two years.

Licensed midwives are required by RCW 18.50.010 to consult with a physician whenever there are "significant deviations from normal" in either the mother or the infant. The Midwives' Association of Washington State (MAWS) maintains a list of conditions, informed by the latest evidence, that warrant

[1] Cheyney, M. et al. Outcomes of Care for 16,924 Planned Home Births in the United States: The Midwives Alliance of North America Statistics Project, 2004 to 2009. Journal of Midwifery and Women's Health. 2014. http://onlinelibrary.wiley.com/store/10.1111/jmwh.12172/asset/jmwh12172.pdf?v=1&t=i3qgzdhu&s=423639acc562ad2a3968c08eef6231967b1eea70

physician consultation and may require referral and/or transfer of care. This document, "Indications for Discussion, Consultation, and Transfer of Care in a Home or Birth Center Midwifery Practice,"[2] is meant to be used in conjunction with clinical judgment and expertise.

Members of the Midwives' Association of Washington State (MAWS) must participate in the Quality Management Program,[3] a quality improvement program approved by the State of Washington in 2004. The program includes both peer review and incident review. The peer review process generally occurs at the regional level and provides for both routine retrospective educational review and prospective evaluation. Incident reviews are initiated when a midwife self-reports certain sentinel events or requests a review or when a complaint is received from another party. The Quality Management Program only reviews complaints citing professional MAWS members. In the event that a complaint is filed citing an unlicensed or non-member midwife the party filing the complaint will be notified and directed to file the complaint with the Department of Health.

Certified Nurse-Midwives

All certified nurse-midwives in Washington are licensed as Advanced Registered Nurse Practitioners (ARNPs). They may attend deliveries in hospitals, birth centers, and homes, but most of the CNMS in Washington State attend births exclusively in hospitals. Certified nurse-midwives can provide gynecological, family planning, and primary care. They have full prescribing authority for both legend and controlled drugs (Drug Enforcement Admission Schedules II—V).

Certified nurse-midwives receive training first as registered nurses and then obtain a graduate degree in the field of nurse-midwifery, focusing on women's health, pregnancy, birth, and postpartum care. In Washington State, certified nurse-midwives are independent health care providers who work in collaborative relationships with obstetricians should complications arise. Many hospitals, in the course of granting certified nurse-midwives hospital privileges, require some degree of formal physician supervision or back-up.

Certified nurse midwives carry professional liability insurance provided through a number of carriers. They are reimbursed for their services by all major public and private insurance companies. They are licensed by the State of Washington and regulated and disciplined by the Washington State Department of Health, Nursing Care Quality Assurance Commission.

Unlicensed Midwives

There are also a small number of unlicensed individuals who attend births in Washington State. The law regulating direct-entry midwifery practice exempts these individuals from the required licensure if they

[2] Midwives Association of Washington State. Indications for Discussion, Consultation, and Transfer of Care in a Home or Birth Center Midwifery Practice (revised 2014).
http://www.washingtonmidwives.org/documents/MAWSIndicationforConsultation-Transfer5.2.14.pdf

[3] Midwives Association of Washington State. Quality Management Program.
http://www.washingtonmidwives.org/about-maws/quality-mgmt.html

do not advertise or accept payment for their services, including cash, trade, or goods-in-kind. The term "lay midwife" is commonly used to designate an uncertified or unlicensed midwife. Other terms sometime used to describe uncertified or unlicensed midwives are traditional midwife, traditional birth attendant, granny midwife and independent midwife. Some lay midwives refer to themselves as Christian Birth Attendants, or "religious practitioners." Generally, state law exempts religious practitioners from governmental oversight or regulation in recognition of the principle that the state should not interfere with the practice of religion. Lay midwives, because they are not licensed by the state, are also not regulated by any state agency.

Persons injured by an unlicensed midwife have few options as to recourse. If the midwife advertised or billed for services, the injured party might appeal to the local county prosecuting attorney to file criminal charges relating to the unlicensed practice of midwifery.

Liability Issues

Hospitals and physicians will want to consult their legal counsel; however, it is our understanding that the professional liability carriers who provide obstetricians and gynecologists with professional liability insurance discourage their insureds from having formal, written consultation agreements with licensed midwives, which might be interpreted as the "loaning" of the physician's liability policy limits to the licensed midwife. However, it is also our understanding that these companies ***do*** cover their insureds when their insureds are OB hospitalists or are assigned to emergency obstetrical call as a condition of hospital privileges, and are then asked to care for any woman brought into the hospital for obstetrical care, including those women being transferred who have been under the care of a licensed midwife.

How to Incorporate the Smooth Transitions Quality Improvement Project in Your Hospital

1. Review the materials you have received with your obstetrical leadership team, quality improvement staff and your hospital administration.

2. Contact the Project Coordinator at: smoothtransitions.pc@gmail.com to indicate your hospital's interest in the project and request a presentation about Smooth Transitions for your obstetrical leadership team and hospital administration. The Project Coordinator will conduct brief pre-project interviews with designated obstetrical providers and nursing leaders as well with local licensed midwives.

3. Schedule a presentation about Smooth Transitions with the Project Coordinator. The meeting should include obstetricians, family physicians who practice obstetrics, and any certified nurse midwives with hospital privileges, obstetrical nursing leaders, quality improvement/risk management staff, hospital administration representatives, EMS personnel and the director of the emergency department. The 45-minute Smooth Transitions powerpoint presentation will be given by the Project Coordinator and a physician member of the MD/LM Workgroup. Please plan for a full hour so there is ample time for questions and discussion.

4. Decide if your hospital wishes to participate in the project. If you decide to participate, please notify the Project Coordinator at: smoothtransitions.pc@gmail.com.

5. Designate a lead for this group, who will set up and facilitate the meetings. If available, a hospital quality improvement staff member would be an ideal choice for group leader.

6. Develop a protocol for planned out-of-hospital birth transfers.

7. With the Smooth Transitions Project Coordinator, identify the licensed midwives who provide out-of-hospital births in your hospital's service area. Schedule a meeting with your obstetrical physician and nursing leadership team, your local licensed midwives, and a representative of the local emergency medical services. The purpose of this initial meeting is to get to know each other, describe your interest in participating in this project, and review the notification procedure that you would like your staff and the licensed midwives to follow in case of a planned out-of-hospital birth transfer.

8. Form a Planned Out-of-Hospital Birth Transfer Committee. This committee should include physician, nursing, and quality improvement staff, licensed midwives, and a representative of

local emergency medical services. The committee should meet 2-3 times a year to discuss what is working and what needs improvement in terms of the efficiency and safety of these transfers.

9. At the end of a full year of participation, we ask that the Planned Out-of-Hospital Birth Transfer Committee send a brief summary report to the Smooth Transitions Project Coordinator at smoothtransitions.pc@gmail.com. In addition, the Project Coordinator will conduct brief post-project interviews with designated hospital staff and local licensed midwives to determine the project's usefulness and success. The summary reports of participating hospitals and the de-identified qualitative data from the interviews will be reviewed by the MD/LM Workgroup in order to evaluate and improve the project. Then aggregated feedback about the Smooth Transitions quality improvement project will be presented to the Department of Health's Perinatal Advisory Committee.

ACOG/SMFM OBSTETRIC CARE CONSENSUS

Levels of maternal care

This document was developed jointly by the American College of Obstetricians and Gynecologists and the Society for Maternal–Fetal Medicine with the assistance of M. Kathryn Menard, MD, MPH; Sarah Kilpatrick, MD, PhD; George Saade, MD; Lisa M. Hollier, MD, MPH; Gerald F. Joseph Jr, MD; Wanda Barfield, MD; William Callaghan, MD; John Jennings, MD; and Jeanne Conry, MD, PhD

Objectives

- To introduce uniform designations for levels of maternal care that are complementary but distinct from levels of neonatal care and that address maternal health needs, thereby reducing maternal morbidity and mortality in the United States
- To develop standardized definitions and nomenclature for facilities that provide each level of maternal care
- To provide consistent guidelines according to level of maternal care for use in quality improvement and health promotion
- To foster the development and equitable geographic distribution of full-service maternal care facilities and systems that promote proactive integration of risk-appropriate antepartum, intrapartum, and postpartum services

In the 1970s, studies demonstrated that timely access to risk-appropriate neonatal and obstetric care could reduce perinatal mortality. Since the publication of the *Toward Improving the Outcome of Pregnancy* report, more than 3 decades ago, the conceptual framework of regionalization of care of the woman and the newborn has been gradually separated with recent focus almost entirely on the newborn. In this current document, maternal care refers to all aspects of antepartum, intrapartum, and postpartum care of the pregnant woman. The proposed classification system for levels of maternal care pertains to birth centers, basic care (level I), specialty care (level II), subspecialty care (level III), and regional perinatal health care centers (level IV). The goal of regionalized maternal care is for pregnant women at high risk to receive care in facilities that are prepared to provide the required level of specialized care, thereby reducing maternal morbidity and mortality in the United States.

Background

In the 1970s, studies demonstrated that timely access to risk-appropriate neonatal and obstetric care could reduce perinatal mortality. In 1976, the March of Dimes and its partners first articulated the concept of an integrated system for regionalized perinatal care in a report titled *Toward Improving the Outcome of Pregnancy*.[1] This report included criteria that stratified maternal and neonatal care into 3 levels of complexity, and recommended referral of high-risk patients to higher-level centers with the appropriate resources and personnel needed to address their increased complexity of care.

After the publication of the March of Dimes report,[1] most states developed coordinated regional systems for perinatal care. The designated regional or tertiary care centers provided the highest levels of obstetric and neonatal care, while serving smaller facilities' needs through education and transport services. Numerous studies have validated the concept that improved neonatal outcomes were achieved through application of risk-appropriate maternal transport systems.[2,3] A comprehensive metaanalysis has shown increased odds of neonatal mortality for very low birthweight (very LBW, also commonly known as VLBW) infants (<1500 g) born outside of a level III hospital (38% vs 23%; adjusted odds ratio, 1.62; 95% confidence interval, 1.44–1.83).[4] Data indicate higher neonatal mortality for very low birthweight infants born in hospitals that are staffed by neonatologists in the absence of a more complete multidisciplinary team (level II), compared with those born in level III centers.[5]

Since the March of Dimes report[1] was published, the conceptual framework of regionalization of care of the woman and the newborn has changed to focus almost entirely on the newborn.[6,7] The American College of Obstetricians and Gynecologists (ACOG) and the

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American Academy of Pediatrics (AAP) outline the capabilities of health care providers in hospitals delivering basic, specialty, subspecialty, and regional obstetric care in *Guidelines for Perinatal Care*, seventh edition.[6] With 39% of hospital births in the United States occurring at hospitals that deliver less than 500 newborns each year and an additional 20% occurring at hospitals that deliver between 501 newborns and 1000 newborns each year,[8] it likely is that the majority of maternal care in the United States is provided at basic-care and specialty-care hospitals. However, a recent commentary noted the need to readdress "perinatal levels of care" to focus specifically on maternal health conditions that warrant designation as high risk, and to define specific clinical and systems criteria to manage such conditions.[9] This document is a call for an integrated, regionalized framework to identify when transfer of care may be necessary to provide risk-appropriate maternal care.

Although maternal mortality in high resource countries improved substantially during the 20th century, maternal mortality rates in the United States have worsened in the past 14 years.[10] Currently, the United States is ranked 60th in the world for maternal mortality.[11] According to a Centers for Disease Control and Prevention study,[12] the leading causes of maternal mortality are associated with chronic conditions that affect women of reproductive age, and common obstetric complications such as hemorrhage. Moreover, maternal mortality in the United States represents a small component of the larger emerging problem of maternal severe morbidities and near-miss mortality that increased by 75% between 1998–99 and 2008–09.[13] National increases in obesity, hypertensive disorders, and diabetes among women of reproductive age increase the risk of maternal morbidity and mortality, as does the increasing cesarean delivery rate.[14,15] Although specific modifications in the clinical management of these conditions have been instituted (eg, the use of thromboembolism prophylaxis and bariatric beds in obstetrics), more can be done to improve the system of care for high-risk women at facility and population levels.

Although there is strong evidence of more favorable neonatal outcomes with regionalized perinatal care, evidence of a beneficial effect on maternal outcome is limited. Maternal mortality is an uncommon event, and methods for tracking severe morbidity only have been proposed recently.[13] Data indicate that obstetric complications are significantly more frequent in hospitals with low delivery volume,[16] and that obstetric providers with the lowest patient volume have significantly increased rates of obstetric complications compared with high-volume providers.[17] Hospital clinical volume likely is a proxy measure for institutional and individual experience that may not be available at hospitals with lower volumes.[18] Also, data indicate that outcomes are better if certain conditions, such as placenta previa or placenta accreta, are managed in a high-volume hospital.[19,20] It also has been noted that maternal mortality is inversely related to the population density of maternal–fetal medicine subspecialists at the state level,[21] although other factors, such as the presence of obstetrician–gynecologists, nurses, and anesthesiologists who have experience in high-risk maternity care, also may contribute to this trend. Although these findings provide support for an association between availability of resources and favorable maternal outcomes, they do not prove a direct cause and effect relationship between levels of care and outcomes.

A number of states have incorporated maternal care criteria into perinatal guidelines. Indiana, Arizona, and Maryland emphasize the need for stratification of facilities based on levels of maternal care that are distinct from neonatal needs, but use inconsistent definitions and nomenclature: the Indiana Perinatal Networks guideline is modeled after the March of Dimes report and uses levels I, II, and III;[22] the Arizona system defines levels I, II, IIE, and III of maternal care;[23] and the Maryland Perinatal System uses levels I, II, III, and IV.[24] Despite their differences, an essential component of each of these guidelines is the concept of an integrated system in which, just as with neonatal care, level III and level IV maternal centers serve level I and level II centers by providing educational resources, consultation services, and streamlined systems for maternal and neonatal transport when necessary.

This document has 4 objectives: (1) introduce uniform designations for levels of maternal care that are complementary but distinct from levels of neonatal care and that address maternal health needs, thereby preventing further increases in maternal morbidity and mortality in the United States; (2) develop standardized definitions and nomenclature for facilities that provide each level of maternal care, including birth centers; (3) provide consistent guidelines of service according to level of maternal care for use in quality improvement and health promotion; and (4) foster the development and equitable geographic distribution of full-service maternal care facilities and systems that promote proactive integration of risk-appropriate antepartum, intrapartum, and postpartum services. This document focuses on maternal care and does not include an in-depth discussion about high-risk neonatal care capability based on gestational age or birthweight. Nevertheless, optimal perinatal care requires synergy in institutional capabilities for the woman and the fetus or neonate.

Definitions of levels of maternal care

In this document, maternal care refers to all aspects of antepartum, intrapartum, and postpartum care of the pregnant woman. In order to standardize a complete and integrated system of perinatal regionalization and risk-appropriate maternal care, a classification system should be established for levels of maternal care that pertain to birth centers (as defined in the Birth Centers section of this document), basic care (level I), specialty care (level II), subspecialty care (level III), and regional perinatal health care centers (level IV) (Tables 1 and 2). This system is in concert with ACOG and AAP *Guidelines for Perinatal Care*, seventh edition.[6] Although data on which to base these distinctions in resources and

TABLE 1
Levels of maternal care: definitions, capabilities, and types of health care providers[a]

BIRTH CENTER	
Definition	Peripartum care of low-risk women with uncomplicated singleton term pregnancies with a vertex presentation who are expected to have an uncomplicated birth.
Capabilities	• Capability and equipment to provide low-risk maternal care and a readiness at all times to initiate emergency procedures to meet unexpected needs of the woman and newborn within the center, and to facilitate transport to an acute care setting when necessary. • An established agreement with a receiving hospital with policies and procedures for timely transport. • Data collection, storage, and retrieval. • Ability to initiate quality improvement programs that include efforts to maximize patient safety. • Medical consultation available at all times.
Types of health care providers	Every birth attended by at least 2 professionals: • Primary maternal care providers. This includes CNMs, CMs, CPMs, and licensed midwives who are legally recognized to practice within the jurisdiction of the birth center; family physicians; and ob-gyns. • Availability of adequate numbers of qualified professionals with competence in level I care criteria and ability to stabilize and transfer high-risk women and newborns.
Examples of appropriate patients (not requirements)	• Term, singleton, vertex presentation
LEVEL I (BASIC CARE)	
Definition	Care of uncomplicated pregnancies with 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 patient can be transferred to a facility at which specialty maternal care is available.
Capabilities	Birth center capabilities plus: • 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. • Available support services, including access to obstetric ultrasonography, laboratory testing, and blood bank supplies at all times. • Protocols and capabilities for massive transfusion, emergency release of blood products, and management of multiple component therapy. • Ability to establish formal transfer plans in partnership with a higher-level receiving facility. • Ability to initiate education and quality improvement programs to maximize patient safety, and/or collaborate with higher-level facilities to do so.
Types of health care providers	Birthing center providers plus: • Continuous availability of adequate number of RNs with competence in level I care criteria and ability to stabilize and transfer high-risk women and newborns. • Nursing leadership has expertise in perinatal nursing care. • Obstetric provider with privileges to perform emergency cesarean available to attend all deliveries. • Anesthesia services available to provide labor analgesia and surgical anesthesia.
Examples of appropriate patients (not requirements)	Any patient appropriate for a birth center, plus capable of managing higher-risk conditions such as: • Term twin gestation • Trial of labor after cesarean delivery • Uncomplicated cesarean delivery • Preeclampsia without severe features at term
LEVEL II (SPECIALTY CARE)	
Definition	Level I facility plus care of appropriate high-risk antepartum, intrapartum, or postpartum conditions, both directly admitted and transferred from another facility.
Capabilities	Level I facility capabilities plus: • Computed tomography scan and ideally magnetic resonance imaging with interpretation available. • Basic ultrasonographic imaging services for maternal and fetal assessment. • Special equipment needed to accommodate the care and services needed for obese women.

ACOG. Levels of maternal care. Am J Obstet Gynecol 2015. *(continued)*

TABLE 1
Levels of maternal care: definitions, capabilities, and types of health care providers[a] *(continued)*

LEVEL II (SPECIALTY CARE) *(continued)*	
Types of health care providers	Level I facility health care providers plus: • Continuous availability of adequate numbers of RNs with competence in level II care criteria and ability to stabilize and transfer high-risk women and newborns who exceed level II care criteria. • Nursing leadership and staff have formal training and experience in the provision of perinatal nursing care and should coordinate with respective neonatal care services. • Ob-gyn available at all times. • Director of obstetric service is a board-certified ob-gyn with special interest and experience in obstetric care. • MFM available for consultation onsite, by phone, or by telemedicine, as needed. • Anesthesia services available at all times to provide labor analgesia and surgical anesthesia. • Board-certified anesthesiologist with special training or experience in obstetric anesthesia available for consultation. • Medical and surgical consultants available to stabilize obstetric patients who have been admitted to the facility or transferred from other facilities.
Examples of appropriate patients (not requirements)	Any patient appropriate for level I care, plus higher-risk conditions such as: • Severe preeclampsia • Placenta previa with no prior uterine surgery
LEVEL III (SUBSPECIALTY CARE)	
Definition	Level II facility plus care of more complex maternal medical conditions, obstetric complications, and fetal conditions
Capabilities	Level II facility capabilities plus: • Advanced imaging services available at all times. • Ability to assist level I and level II centers with quality improvement and safety programs. • Provide perinatal system leadership if acting as a regional center in areas where level IV facilities are not available (refer to level IV). • Medical and surgical ICUs accept pregnant women and have critical care providers onsite to actively collaborate with MFMs at all times. • Appropriate equipment and personnel available onsite to ventilate and monitor women in labor and delivery until they can be safely transferred to the ICU.
Types of health care providers	Level II health care providers plus: • Continuous availability of adequate numbers of nursing leaders and RNs with competence in level III care criteria and ability to transfer and stabilize high-risk women and newborns who exceed level III care criteria, and with special training and experience in the management of women with complex maternal illnesses and obstetric complications. • Ob-gyn available onsite at all times. • MFM with inpatient privileges available at all times, either onsite, by phone, or by telemedicine. • Director of MFM service is a board-certified MFM. • Director of obstetric service is a board-certified ob-gyn with special interest and experience in obstetric care. • Anesthesia services available at all times onsite. • Board-certified anesthesiologist with special training or experience in obstetric anesthesia in charge of obstetric anesthesia services. • Full complement of subspecialists available for inpatient consultations.
Examples of appropriate patients (not requirements)	Any patient appropriate for level II care, plus higher-risk conditions such as: • Suspected placenta accreta or placenta previa with prior uterine surgery • Suspected placenta percreta • Adult respiratory syndrome • Expectant management of early severe preeclampsia at less than 34 weeks of gestation
LEVEL IV (REGIONAL PERINATAL HEALTH CARE CENTERS)	
Definition	Level III facility plus onsite medical and surgical care of the most complex maternal conditions and critically ill pregnant women and fetuses throughout antepartum, intrapartum, and postpartum care
Capabilities	Level III facility capabilities plus: • Onsite ICU care for obstetric patients. • Onsite medical and surgical care of complex maternal conditions with the availability of critical care unit or ICU beds. • Perinatal system leadership, including facilitation of maternal referral and transport, outreach education for facilities and health care providers in the region, and analysis and evaluation of regional data, including perinatal complications and outcomes and quality improvement.

ACOG. Levels of maternal care. Am J Obstet Gynecol 2015. *(continued)*

TABLE 1
Levels of maternal care: definitions, capabilities, and types of health care providers[a] *(continued)*

LEVEL IV (REGIONAL PERINATAL HEALTH CARE CENTERS) *(continued)*	
Types of health care providers	Level III health care providers plus: • MFM care team with expertise to assume responsibility for pregnant women and women in the postpartum period who are in critical condition or have complex medical conditions. This includes comanagement of ICU-admitted obstetric patients. MFM team member with full privileges is available at all times for onsite consultation and management. The team is led by a board-certified MFM with expertise in critical care obstetrics. • Physician and nursing leaders with expertise in maternal critical care. • Continuous availability of adequate numbers of RNs who have experience in the care of women with complex medical illnesses and obstetric complications; this includes competence in level IV care criteria. • Director of obstetric service is a board-certified MFM, or board-certified ob-gyn with expertise in critical care obstetrics. • Anesthesia services are available at all times onsite. • Board-certified anesthesiologist with special training or experience in obstetric anesthesia in charge of obstetric anesthesia services. • Adult medical and surgical specialty and subspecialty consultants available onsite at all times to collaborate with an MFM care team.
Examples of appropriate patients (not requirements)	Any patient appropriate for level III care, plus higher-risk conditions such as: • Severe maternal cardiac conditions • Severe pulmonary hypertension or liver failure • Pregnant women requiring neurosurgery or cardiac surgery • Pregnant women in unstable condition and in need of an organ transplant

CMs, certified midwives; *CNMs*, certified nurse—midwives; *CPMs*, certified professional midwives; *ICU*, intensive care unit; *MFM*, maternal—fetal medicine subspecialists; *ob-gyns*, obstetrician—gynecologists; *RNs*, registered nurses.

[a] These guidelines are limited to maternal needs. Consideration of perinatal needs and the appropriate level of care should occur following existing guidelines. In fact, levels of maternal care and levels of neonatal care may not match within facilities. Additionally, these are guidelines, and local issues will affect systems of implementation for regionalized maternal care, perinatal care, or both.

Data adapted from American Academy of Pediatrics Committee on Fetus and Newborn.[7]

ACOG. Levels of maternal care. Am J Obstet Gynecol 2015.

capacity for maternal care are limited, the definitions were created from the characteristics of successful regionalized perinatal systems in a number of states (Background section). In this context, regionalized perinatal systems represent a combination of maternal and neonatal services. Establishing clear, uniform criteria for designation of maternal centers that are integrated with emergency response systems will help ensure that the appropriate personnel, physical space, equipment, and technology are available to achieve optimal outcomes, as well as to facilitate subsequent data collection regarding risk-appropriate care. Trauma is not integrated into the levels of maternal care because trauma levels are already established. Pregnant women should receive the same level of trauma care as nonpregnant patients. This document addresses the care provided at birth centers and hospitals, but home birth is not included.

Once levels of maternal care are established, analysis of data collected from all facilities and regional systems will inform future updates to the levels of maternal care. Consistent with the levels of neonatal care published by the AAP,[7] each level reflects required minimal capabilities, physical facilities, and medical and support personnel. Note that each higher level of care includes and builds on the capabilities of the lower levels. As with the AAP-defined levels of neonatal care, the system will be modified as analysis is completed.

The goal of regionalized maternal care is for pregnant women at high risk to receive care in facilities that are prepared to provide the required level of specialized care. Each facility should have a clear understanding of its capability to handle increasingly complex levels of maternal care, and should have a well-defined threshold for transferring women to health care facilities that offer a higher level of care. These proposed categories of maternal care are meant to facilitate this process. These guidelines also are intended to foster the development of equitably distributed resources throughout the country. These are guidelines, not mandates, and geographic and local issues will affect systems of implementation for regionalized perinatal care. In fact, levels of maternal and neonatal care may not match within facilities. However, a pregnant woman should be cared for at the facility that best meets her needs as well as her neonate's needs. Because all facilities cannot maintain the breadth of resources available at subspecialty centers, interfacility transport of pregnant women or women in the postpartum period is an essential component of a regionalized perinatal health care system. To ensure optimal care of all pregnant women, all birth centers, hospitals, and higher-level facilities should collaborate to develop and maintain maternal and neonatal transport plans

TABLE 2
Levels of maternal care by services

	Level of maternal care				
Required service	**Birth centers**	**Level I**	**Level II**	**Level III**	**Level IV**
Nursing	Adequate numbers of qualified professionals with competence in level I care criteria	Continuously available RNs with competence in level I care criteria Nursing leadership has expertise in perinatal nursing care	Continuously available RNs with competence in level II care criteria Nursing leadership has formal training and experience in perinatal nursing care and coordinates with respective neonatal care services	Continuously available nursing leaders and RNs with competence in level III care criteria and have special training and experience in the management of women with complex maternal illnesses and obstetric complications	Continuously available RNs with competence in level IV care criteria Nursing leadership has expertise in maternal intensive and critical care
Minimum primary delivery provider to be available	CNMs, CMs, CPMs, and licensed midwives	Obstetric provider with privileges to perform emergency cesarean delivery	Ob-gyns or MFMs	Ob-gyns or MFMs	Ob-gyns or MFMs
Obstetrics surgeon		Available for emergency cesarean delivery	Ob-gyn available at all times	Ob-gyn onsite at all times	Ob-gyn onsite at all times
MFMs			Available for consultation onsite, by phone, or by telemedicine, as needed	Available at all times onsite, by phone, or by telemedicine with inpatient privileges	Available at all times for onsite consultation and management
Director of obstetric services			Board-certified ob-gyn with experience and interest in obstetrics	Board-certified ob-gyn with experience and interest in obstetrics	Board-certified MFM or board-certified ob-gyn with expertise in critical care obstetrics
Anesthesia		Anesthesia services available	Anesthesia services available at all times Board-certified anesthesiologist with special training or experience in obstetrics, available for consultation	Anesthesia services available at all times Board-certified anesthesiologist with special training or experience in obstetrics is in charge of obstetric anesthesia services	Anesthesia services available at all times Board-certified anesthesiologist with special training or experience in obstetrics is in charge of obstetric anesthesia services
Consultants	Established agreement with a receiving hospital for timely transport, including determination of conditions necessitating consultation and referral	Established agreement with a higher-level receiving hospital for timely transport, including determination of conditions necessitating consultation and referral	Medical and surgical consultants available to stabilize	Full complement of subspecialists available for inpatient consultation, including critical care, general surgery, infectious disease, hematology, cardiology, nephrology, neurology, and neonatology	Adult medical and surgical specialty and subspecialty consultants available onsite at all times, including those indicated in level III and advanced neurosurgery, transplant, or cardiac surgery

ACOG. Levels of maternal care. Am J Obstet Gynecol 2015.

(continued)

TABLE 2
Levels of maternal care by services *(continued)*

Required service	Level of maternal care				
	Birth centers	Level I	Level II	Level III	Level IV
ICU				Appropriate equipment and personnel available onsite to ventilate and monitor women in labor and delivery until safely transferred to ICU Accepts pregnant women	Collaborates actively with the MFM care team in the management of all pregnant women and women in the postpartum period who are in critical condition or have complex medical conditions Comanages ICU-admitted obstetric patients with MFM team

CMs, certified midwives; *CNMs*, certified nurse—midwives; *CPMs*, certified professional midwives; *ICU*, intensive care unit; *MFMs*, maternal—fetal medicine specialists; *ob-gyns*, obstetrician—gynecologists; *RNs*, registered nurses.

ACOG. Levels of maternal care. Am J Obstet Gynecol 2015.

and cooperative agreements capable of managing the health care needs of women who develop complications; receiving hospitals should openly accept transfers. The appropriate care level for patients should be driven by their medical need for that care and not limited by financial constraint. Because of the importance of accurate data for the assessment of outcomes, all facilities should have requirements for data collection, storage, and retrieval.

An important goal of regionalized maternal care is for higher-level facilities to provide training for quality improvement initiatives, educational support, and severe morbidity and mortality case review for lower-level hospitals. In those regions that do not have a facility that qualifies as a level IV center, any level III facilities in the region should provide the educational and consultation function (Table 3 and Appendix).

Birth centers

In 1995, the American Association of Birth Centers (www.birthcenters.org) defined *birth centers* as "a homelike facility existing within a healthcare system with a program of care designed in the wellness model of pregnancy and birth. Birth centers provide family-centered care for healthy women before, during and after normal pregnancy, labor and birth." This common definition is used in this document and includes birth centers regardless of their location. Birth centers provide peripartum care to low-risk women with uncomplicated singleton term pregnancies with a vertex presentation who are expected to have an uncomplicated birth. Cesarean delivery or operative vaginal delivery are not offered at birth centers.

In a freestanding birth center, every birth should be attended by at least 2 professionals. The primary maternity care provider that attends each birth is educated and licensed to provide birthing services. Primary maternity care providers include certified nurse—midwives (CNMs), certified midwives, certified professional midwives, and licensed midwives who are legally recognized to practice within the jurisdiction of the birth center; family physicians; and obstetrician—gynecologists. In addition, there should be adequate numbers of qualified professionals available who have completed orientation and demonstrated competence in the care of obstetric patients (women and fetuses) consistent with level I care criteria and are able to stabilize and transfer high-risk women and newborns. Medical consultation should be available at all times. These facilities should be ready to initiate emergency procedures (including cardiopulmonary and newborn resuscitation and stabilization) at all times,[7] to meet unexpected needs of the woman and newborn within the center, and to facilitate transport to an acute care setting when necessary. To ensure optimal care of all women, a birth center should have a clear understanding of its capability to provide maternal and neonatal care and the threshold at which it should transfer women to a facility with a higher level of care. A birth center should have an established agreement with a receiving hospital and have policies and procedures in place for timely transport. These transfer plans should include risk identification; determination of conditions necessitating consultation; referral and transfer; and a reliable, accurate, and comprehensive communication system between participating facilities and transport teams. All facilities should have quality improvement programs that include efforts to maximize patient safety.

Birth center facility licenses currently are available in more than 80% of states in the United States and state requirements for accreditation for birth centers vary. Three national agencies (Accreditation Association for Ambulatory Health Care [www.aaahc.org], The JointCommission [www.jointcommission.org], and The Commission for the Accreditation of Birth Centers [www.birthcenteraccreditation.org/]) provide accreditation of birth centers. The Commission for the Accreditation of Birth Centers is the only accrediting agency that chooses to use the national

American Association of Birth Centers Standards for Birth Centers in its accreditation process.

Level I facilities (basic care)

Level I facilities (basic care) provide care to women who are low risk and are expected to have an uncomplicated birth (Table 1). Level I facilities have the capability to perform routine intrapartum and postpartum care that is anticipated to be uncomplicated.[6] As in birth centers, maternity care providers, midwives, family physicians, or obstetrician–gynecologists should be available to attend all births. Adequate numbers of registered nurses (RNs) are available who have completed orientation, demonstrated competence in the care of obstetric patients (women and fetuses) consistent with level I care criteria, and are able to stabilize and transfer high-risk women and newborns. Nursing leadership should have expertise in perinatal nursing care. An obstetric provider with privileges to perform an emergency cesarean delivery should be available to attend deliveries. Anesthesia services should be available to provide labor analgesia and surgical anesthesia. Level I facilities have the capability to begin an emergency cesarean delivery within a time interval that best incorporates maternal and fetal risks and benefits with the provision of emergency care.[6,25] Support services include access to obstetric ultrasonography, laboratory testing, and blood bank supplies at all times. All hospitals with obstetric services should have protocols and capabilities in place for massive transfusion, emergency release of blood products (before full compatibility testing is complete), and for management of multiple component therapy. These facilities and health care providers can appropriately 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. To ensure optimal care of all pregnant women, formal transfer plans should be established in partnership with a higher-level receiving facility. These plans should include risk identification; determination of conditions necessitating consultation; referral and transfer; and a reliable, accurate, and comprehensive communication system between participating hospitals and transport teams.[6] All facilities should have education and quality improvement programs to maximize patient safety, provide such programs through collaboration with facilities with higher levels of care that receive transfers, or both. Examples of women who need at least level I care include women with term twin gestation; women attempting trial of labor after cesarean delivery; women expecting an uncomplicated cesarean delivery; and women with preeclampsia without severe features at term.

Level II facilities (specialty care)

Level II facilities (specialty care) provide care to appropriate high-risk pregnant women, both admitted and transferred to the facility. In addition to the capabilities of a level I (basic care) facility, level II facilities should have the infrastructure for continuous availability of adequate numbers of RNs who have demonstrated competence in the care of obstetric patients (women and fetuses). Orientation and demonstrated competence should be consistent with level II care criteria and include stabilization and transfer of high-risk women and newborns who exceed level II care criteria. The nursing leaders and staff at a level II facility should have formal training and experience in the provision of perinatal nursing care and should coordinate with respective neonatal care services. Although midwives and family physicians may practice in level II facilities, an attending obstetrician–gynecologist should be available at all times. A board-certified obstetrician–gynecologist with special interest and experience in obstetric care should be the director of obstetric services. Access to a maternal–fetal medicine subspecialist for consultation should be available onsite, by phone, or by telemedicine as needed. Anesthesia services should be available at all times to provide labor analgesia and surgical anesthesia. A board-certified anesthesiologist with special training or experience in obstetric anesthesia should be available for consultation. Support services include level I capabilities plus computed tomography scan and, ideally, magnetic resonance imaging with interpretation available; basic ultrasonographic imaging services for maternal and fetal assessment; and special equipment needed to accommodate the care and services needed for obese women.[6] Medical and surgical consultants should be available to stabilize obstetric patients who have been admitted to the facility or transferred from other facilities. Examples of women who need at least level II care include women with severe preeclampsia and women with placenta previa with no prior uterine surgery.

Level III facilities (subspecialty care)

Level III facilities (subspecialty care) provide all level I (basic care) and level II (specialty care) services, and have subspecialists available onsite, by phone, or by telemedicine to assist in providing care for more complex maternal and fetal conditions. Level III facilities will function as the regional perinatal health care centers for some areas of the United States if there are no level IV facilities available. In these areas, the level III facilities will be responsible for the leadership, facilitation of transport and referral, educational outreach, and data collection and analysis outlined in the Regionalization section discussed later in this document.

Designation of level III should be based on the demonstrated experience and capability of the facility to provide comprehensive management of severe maternal and fetal complications. An obstetrician–gynecologist is available onsite at all times and a maternal–fetal medicine subspecialist is available at all times, either onsite, by phone, or by telemedicine, and should have inpatient privileges. The director of the maternal–fetal medicine service should be a board-certified maternal–fetal medicine subspecialist. A board-certified obstetrician–gynecologist with special

TABLE 3
Summary and recommendations for levels of maternal care

Summary and recommendations	Grade of recommendations
In order to standardize a complete and integrated system of perinatal regionalization and risk-appropriate maternal care, a classification system should be established for levels of maternal care that pertain to birth centers (as defined in the Birth Centers section of this document), basic care (level I), specialty care (level II), subspecialty care (level III), and regional perinatal health care centers (level IV).	1C Strong recommendation, low quality evidence
Introduce uniform designations for levels of maternal care that are complementary but distinct from levels of neonatal care.	1C Strong recommendation, low quality evidence
Establishing clear, uniform criteria for designation of maternal centers that are integrated with emergency response systems will help ensure that the appropriate personnel, physical space, equipment, and technology are available to achieve optimal outcomes, as well as to facilitate subsequent data collection regarding risk-appropriate care.	1C Strong recommendation, low quality evidence
Each facility should have a clear understanding of its capability to handle increasingly complex levels of maternal care, and should have a well-defined threshold for transferring women to health care facilities that offer a higher level of care. To ensure optimal care of all pregnant women, all birth centers, hospitals, and higher-level facilities should collaborate to develop and maintain maternal and neonatal transport plans and cooperative agreements capable of managing the health care needs of women who develop complications; receiving hospitals should openly accept transfers.	1C Strong recommendation, low quality evidence
Higher-level facilities should provide training for quality improvement initiatives, educational support, and severe morbidity and mortality case review for lower-level hospitals. In those regions that do not have a facility that qualifies as a level IV center, any level III facilities in the region should provide the educational and consultation function.	1C Strong recommendation, low quality evidence
Facilities and regional systems should develop methods to track severe maternal morbidity and mortality to assess the efficacy of utilizing maternal levels of care.	1C Strong recommendation, low quality evidence
Analysis of data collected from all facilities and regional systems will inform future updates to the levels of maternal care.	1C Strong recommendation, low quality evidence
Follow-up interdisciplinary work groups are needed to further explore the implementation needs to adopt the proposed classification system for levels of maternal care in all facilities that provide maternal care.	1C Strong recommendation, low quality evidence

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interest and experience in obstetric care should direct obstetric services. Anesthesia services should be available at all times onsite. A board-certified anesthesiologist with special training or experience in obstetric anesthesia should be in charge of obstetric anesthesia services. A full complement of subspecialists, including subspecialists in critical care, general surgery, infectious disease, hematology, cardiology, nephrology, neurology, and neonatology should be available for inpatient consultations. An onsite intensive care unit (ICU) should accept pregnant women and have critical care providers onsite to actively collaborate with maternal–fetal specialists at all times. Equipment and personnel with expertise must be available onsite to ventilate and monitor women in the labor and delivery unit until they can be safely transferred to the ICU.

Level III facilities have nursing leaders and adequate numbers of RNs who have completed orientation and demonstrated competence in the care of obstetric patients (women and fetuses) consistent with level III care criteria, including transfer of high-risk women and newborns who exceed level III care criteria, and who have special training and experience in the management of women with complex maternal illnesses and obstetric complications. These nursing personnel continuously are available. Level III facilities should be able to provide imaging services including basic interventional radiology, maternal echocardiography, computed tomography, magnetic resonance imaging, and nuclear medicine imaging with interpretation should be available at all times. Level III facilities should have the ability to perform detailed obstetric ultrasonography and fetal assessment, including Doppler studies. These facilities also should provide evaluation of new technologies and therapies. Examples of women who need at least level III care include those women with extreme risk of massive hemorrhage at delivery, such as those with suspected placenta accreta or placenta previa with prior uterine surgery; women with suspected placenta percreta; women with adult respiratory distress syndrome; and women with rapidly evolving disease, such as planned expectant management of severe preeclampsia at less than 34 weeks of gestation.

Level IV facilities (regional perinatal health care centers)

Level IV facilities (regional perinatal health care centers) include the capabilities of level I, level II, and level III facilities with additional capabilities and considerable experience in the care of the most complex and critically ill pregnant women throughout antepartum, intrapartum, and postpartum care. Although level III and level IV may seem to overlap, a level IV facility is distinct from a level III facility in the approach to the care of pregnant women and women in the postpartum period with complex and critical illnesses. In addition to having ICU care onsite for obstetric patients, a level IV facility must have evidence of a maternal–fetal medicine care team that has the expertise to assume responsibility for pregnant women and women in the postpartum period who are in critical condition or have complex medical conditions. The maternal–fetal medicine team collaborates actively in the comanagement of all obstetric patients who require critical care and ICU services. This includes comanagement of ICU-admitted obstetric patients. A maternal–fetal medicine team member with full privileges is available at all times for onsite consultation and management. The team should be led by a board-certified maternal–fetal medicine subspecialist with expertise in critical care obstetrics. The maternal–fetal medicine team must have expertise in critical care at the physician level, nursing level, and ancillary services level. A key principle of caring for critically ill pregnant and peripartum women is the facility's recognition of the need for seamless communication between maternal–fetal medicine subspecialists and other subspecialists in the planning and facilitation of care for women with the most high-risk complications of pregnancy. There should be institutional support for the routine involvement of a maternal–fetal medicine care team with the critical care units and specialists. There also should be a commitment to having physician and nursing leaders with expertise in maternal intensive and critical care, as well as adequate numbers of available RNs in level IV facilities who have experience in the care of women with complex medical illnesses and obstetric complications; this includes completed orientation, demonstrated competence in the care of obstetric patients (women and fetuses) consistent with level IV care criteria. The director of obstetric services is a board-certified maternal–fetal medicine subspecialist or a board-certified obstetrician–gynecologist with expertise in critical care obstetrics. As in level III facilities, anesthesia services are available onsite at all times. A board-certified anesthesiologist with special training or experience in obstetric anesthesia should be in charge of obstetric anesthesia services. Level IV facilities should include the capability for onsite medical and surgical care of complex maternal conditions (eg, congenital maternal cardiac lesions, vascular injuries, neurosurgical emergencies, and transplants) with the availability of critical (or intensive) care unit beds. There should be adult medical and surgical specialty and subspecialty consultants (a minimum of those listed in level III) available onsite at all times to collaborate with the maternal–fetal medicine care team. The designation of level IV also may pertain only to a particular specialty in that advanced neurosurgery, transplant, and cardiovascular capabilities may not all be available in the same regional facility. Examples of women who would need level IV care (at least at the time of delivery) include pregnant women with severe maternal cardiac conditions, severe pulmonary hypertension, or liver failure; pregnant women in need of neurosurgery or cardiac surgery; or pregnant women in unstable condition and in need of an organ transplant.

Regionalization

Regional centers, which include any level III facility that functions in this capacity and all level IV facilities, should coordinate regional perinatal health care services; provide outreach education to facilities and health care providers in their region; and provide analysis and evaluation of regional data, including perinatal complications and outcomes, as part of collaboration with lower-level care facilities in the region. Community outreach and data analysis and evaluation will require additional resources in personnel and equipment within these facilities.

Although specific supporting data are not currently available in maternal health, it is believed that concentrating the care of women with the most complex pregnancies at designated regional perinatal health care centers will allow these centers to maintain the expertise needed to achieve optimal outcomes. Regionalization of maternal health care services requires that there be available and coordinated specialized services, professional continuing education to maintain competency, facilitation of opportunities for transport and back-transport, and collection of data on long-term outcomes to evaluate the effectiveness of delivery of perinatal health care services and the safety and efficacy of new therapies. Because the health statuses of women and fetuses may differ, referral should be organized to meet the needs of both. In some cases with specific care needs, optimal coordination of care will not be delineated by geographic area, but rather by availability of specific expertise (eg, transplant services or fetal surgery).

Measurement and evaluation of regionalized maternal care

Implicit in the effort to establish levels of maternal care is the goal to provide the best possible maternal outcomes, as well as ongoing quality improvement. If levels of maternal care improve care, then ensuring that appropriate transfer of women occurs should be associated with a decrease in preventable maternal severe morbidities and mortality. There also should be a shift toward less severe morbidity in lower-level care facilities. Therefore, facilities and regional systems should develop methods to track severe maternal morbidity and mortality to assess the efficacy of utilizing maternal levels of care.

Operational definitions are needed to compare data and outcomes

between levels of maternal care. However, waiting for the precise measure before establishing tiered levels of care invites unnecessary delay. Therefore, two constructs to implement with the utilization of levels of maternal care are proposed: (1) identify women at extreme risk of morbidity and (2) identify severe morbidity outcomes that may improve with appropriate use of maternal levels of care. Some women at extreme risk of severe morbidities, such as stroke, cardiopulmonary failure, or massive hemorrhage, can be identified during the antepartum period and should give birth in the appropriate level hospital. Examples of such women include those with suspected placenta accreta or placenta percreta; prior cesarean birth and current anterior previa; severe heart disease such as complex cardiac malformations and pulmonary hypertension, coronary artery disease, or cardiomyopathy; severe preeclampsia with uncontrollable hypertension; and preterm HELLP syndrome (hemolysis, elevated liver enzymes, low platelet count).

Outcome morbidities that may improve with appropriate use of levels of maternal care include stroke, returns to the operating room, massive transfusions, severe maternal morbidity, and potential ICU admissions. The incidence of these outcomes could decrease or be shifted from lower-level to higher-level hospitals. For example, known placenta accreta has the potential for massive blood loss and need for advanced surgical services, which are best available at facilities with a high designated level of care. Expectant management of severe early preeclampsia, septic shock, and pulmonary hypertension are other examples of conditions that require considerable resources likely best available at facilities with a high designated level of care. Although the development of comprehensive lists of what conditions comprise extreme morbidity risks and what outcomes ought to be measured currently is an evolving process, prospective measurement with continuous monitoring and evaluation of any regionalized maternal care system is critical to improvement in care processes and outcomes.

Determination and implementation of levels of maternal care

Many barriers to the implementation of levels of maternal care may need to be overcome. The development of the classification system is the first step; the next step, is the implementation of this concept in all facilities that provide maternal care. The questions of whether to have state-level or national-level accrediting bodies establish and set these proposed levels of maternal care, as well as how to provide the financing needed to run them, are unanswered. Follow-up interdisciplinary work groups are needed to further explore the implementation needs to adopt the proposed classification system for levels of maternal care in all facilities that provide maternal care.

The determination of the appropriate level of care to be provided by a given facility should be guided by local and state health care regulations, national accreditation and professional organization guidelines, and identified regional perinatal health care service needs.[6] State and regional authorities should work together with the multiple institutions within a region to determine the appropriate coordinated system of care. ■

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American Association of Birth Centers
American College of Nurse-Midwives
Association of Women's Health, Obstetric and Neonatal Nurses
Commission for the Accreditation of Birth Centers
The American Academy of Pediatrics leadership, the American Society of Anesthesiologists leadership, and the Society for Obstetric Anesthesia and Perinatology leadership have reviewed the opinion and are supportive of the Levels of Maternal Care.

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Appendix

Society for Maternal–Fetal Medicine grading system: grading of recommendations assessment, development, and evaluation (GRADE) recommendations

Obstetric Care Consensus documents will use Society for Maternal–Fetal Medicine grading approach: http://www.ajog.org/article/S0002-9378%2813%2900744-8/fulltext.

Recommendations are classified as either strong (grade 1) or weak (grade 2), and quality of evidence is classified as high (grade A), moderate (grade B), and low (grade C).[a] Thus, recommendations can be 1 of following 6 possibilities: 1A, 1B, 1C, 2A, 2B, 2C

Grade of recommendation	Clarity of risk and benefit	Quality of supporting evidence	Implications
1A. Strong recommendation, high-quality evidence	Benefits clearly outweigh risk and burdens, or vice versa.	Consistent evidence from well-performed randomized controlled trials or overwhelming evidence of some other form. Further research is unlikely to change confidence in estimate of benefit and risk.	Strong recommendations, can apply to most patients in most circumstances without reservation. Clinicians should follow a strong recommendation unless a clear and compelling rationale for an alternative approach is present.
1B. Strong recommendation, moderate-quality evidence	Benefits clearly outweigh risk and burdens, or vice versa.	Evidence from randomized controlled trials with important limitations (inconsistent results, methodological flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have impact on confidence in estimate of benefit and risk and may change estimate.	Strong recommendation, and applies to most patients. Clinicians should follow strong recommendation unless clear and compelling rationale for alternative approach is present.
1C. Strong recommendation, low-quality evidence	Benefits appear to outweigh risk and burdens, or vice versa.	Evidence from observational studies, unsystematic clinical experience, or from randomized controlled trials with serious flaws. Any estimate of effect is uncertain.	Strong recommendation, and applies to most patients. Some of evidence base supporting recommendation is, however, of low quality.
2A. Weak recommendation, high-quality evidence	Benefits closely balanced with risks and burdens.	Consistent evidence from well-performed randomized controlled trials or overwhelming evidence of some other form. Further research is unlikely to change confidence in estimate of benefit and risk.	Weak recommendation, best action may differ depending on circumstances or patients or societal values.
2B. Weak recommendation, moderate-quality evidence	Benefits closely balanced with risks and burdens; some uncertainty in estimates of benefits, risks, and burdens.	Evidence from randomized controlled trials with important limitations (inconsistent results, methodological flaws, indirect or imprecise), or very strong evidence of some other research design. Further research (if performed) is likely to have effect on confidence in estimate of benefit and risk and may change estimate.	Weak recommendation, alternative approaches likely to be better for some patients under some circumstances.
2C. Weak recommendation, low-quality evidence	Uncertainty in estimates of benefits, risks, and burdens; benefits may be closely balanced with risks and burdens.	Evidence from observational studies, unsystematic clinical experience, or from randomized controlled trials with serious flaws. Any estimate of effect is uncertain.	Very weak recommendation, other alternatives may be equally reasonable.
Best practice	Recommendation in which either: (i) there is enormous amount of indirect evidence that clearly justifies strong recommendation (direct evidence would be challenging, and inefficient use of time and resources, to bring together and carefully summarize), or (ii) recommendation to contrary would be unethical.		

Modified from grading guide. In: UpToDate, Basow, DS (Ed), UpToDate, Waltham, MA, 2013. Available at: http://www.uptodate.com/home/grading-guide. Retrieved October 9, 2013.

[a] Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. GRADE Working Group. BMJ 2008;336:924-6.

ACOG. Levels of maternal care. Am J Obstet Gynecol 2015.

000 Levels of maternal care

This document was developed jointly by the American College of Obstetricians and Gynecologists and the Society for Maternal–Fetal Medicine with the assistance of M. Kathryn Menard; Sarah Kilpatrick; George Saade; Lisa M. Hollier; Gerald F. Joseph Jr; Wanda Barfield; William Callaghan; John Jennings; and Jeanne Conry

Best Practice Guidelines:
Transfer from Planned Home Birth to Hospital

> *"We believe that collaboration within an integrated maternity care system is essential for optimal mother-baby outcomes. All women and families planning a home or birth center birth have a right to respectful, safe, and seamless consultation, referral, transport and transfer of care when necessary. When ongoing inter-professional dialogue and cooperation occur, everyone benefits."*[1]

The statement above from the Home Birth Consensus Summit serves as the foundation for the following guidelines on transfer from planned home birth to hospital. These guidelines were developed by a multidisciplinary group of home and hospital based providers and stakeholders who were delegates at the national Home Birth Consensus Summits in 2011 and 2013. These guidelines are informed by the best available evidence on risk reduction and quality improvement and by existing regional policy and practice documents addressing transfer from home to hospital. [2-19]

The purpose of these guidelines is twofold:

1. To highlight core elements to be included when developing documents and policies related to transfer from home to hospital.
2. To promote the highest quality of care for women and families across birth settings via respectful inter-professional collaboration, ongoing communication, and the provision of compassionate family-centered care.

Collaborative care throughout the antepartum, intrapartum, and postpartum periods is crucial to safety whenever birth is planned outside the hospital setting. Coordination of care and communication of expectations during transfer of care between settings improve health outcomes and consumer satisfaction. [20-34]

State-specific hospital regulations and the Emergency Medical Treatment and Labor Act (EMTALA)[35] establish the legal framework for requiring access to hospital care in the United States. The legal recognition of providers of maternity care services varies between states. However, each woman seeking care at any point during the maternity cycle has the right to optimal and respectful care regardless of her planned birth setting, the persons she selects to be part of the process, or state provider regulations.

These guidelines are appropriate for births planned at home or in a freestanding birth center. Furthermore, we recognize not all providers of home birth or birth center services are midwives. However, we use the term midwife herein because the vast majority of providers of home birth or birth center services identify as midwives.

Model practices for the midwife

- In the prenatal period, the midwife provides information to the woman about hospital care and procedures that may be necessary and documents that a plan has been developed with the woman for hospital transfer should the need arise. [15]
- The midwife assesses the status of the woman, fetus, and newborn throughout the maternity care cycle to determine if a transfer will be necessary.
- The midwife notifies the receiving provider or hospital of the incoming transfer, reason for transfer, brief relevant clinical history, planned mode of transport, and expected time of arrival. [11,13-16,19]
- The midwife continues to provide routine or urgent care en route in coordination with any emergency services personnel and addresses the psychosocial needs of the woman during the change of birth setting.
- Upon arrival at the hospital, the midwife provides a verbal report, including details on current health status and need for urgent care. The midwife also provides a legible copy of relevant prenatal and labor medical records. [11,12,15,16,19]
- The midwife may continue in a primary role as appropriate to her scope of practice and privileges at the hospital. Otherwise the midwife transfers clinical responsibility to the hospital provider. [13]
- The midwife promotes good communication by ensuring that the woman understands the hospital provider's plan of care and the hospital provider understands the woman's need for information regarding care options.
- If the woman chooses, the midwife may remain to provide continuity and support.

Model practices for the hospital provider and staff

- Hospital providers and staff are sensitive to the psychosocial needs of the woman that result from the change of birth setting. [11]
- Hospital providers and staff communicate directly with the midwife to obtain clinical information in addition to the information provided by the woman. [12]
- Timely access to maternity and newborn care providers may be best accomplished by direct admission to the labor and delivery or pediatric unit. [11-15]
- Whenever possible, the woman and her newborn are kept together during the transfer and after admission to the hospital.
- Hospital providers and staff participate in a shared decision-making process with the woman to create an ongoing plan of care that incorporates the values, beliefs, and preferences of the woman.
- If the woman chooses, hospital personnel will accommodate the presence of the midwife as well as the woman's primary support person during assessments and procedures.
- The hospital provider and the midwife coordinate follow up care for the woman and newborn, and care may revert to the midwife upon discharge.
- Relevant medical records, such as a discharge summary, are sent to the referring midwife. [14]

Quality improvement and policy development

All stakeholders involved in the transfer and/or transport process, including midwives based at home or in the hospital, obstetricians, pediatricians, family medicine physicians, nurses, emergency medical services personnel, and home birth consumer representatives, should participate in the policy development process. Policies and quality improvement processes should incorporate the model practices above and delineate at a minimum the following:

- Communication channels and information needed to alert the hospital to an incoming transfer.
- Provision for notification and assembly of staff rapidly in case of emergency transfer.
- Opportunities to debrief the case with providers and with the woman prior to hospital discharge.
- Documentation of the woman's perspective regarding her care during transfer.
- A defined process to regularly review transfers that includes all stakeholders with a shared goal of quality improvement and safety. This process should be protected without risk of discovery. [12]
- Opportunities for education regarding home birth practice, shared continuing medical education, and relationship building that are incorporated into medical, midwifery and nursing education programs. Multi-disciplinary sessions to address system issues may enhance relationship building and the work culture.

Quality of care is improved when policies and procedures are in place to govern best practices for coordination and communication during the process of transfer or transport from a home or birth center to a hospital.[2-10]

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Midwives' Association of Washington State
INDICATIONS FOR DISCUSSION, CONSULTATION, AND TRANSFER OF CARE IN A HOME OR BIRTH CENTER MIDWIFERY PRACTICE

1. INTRODUCTION:

Professional members of the Midwives' Association of Washington State (MAWS) include Licensed Midwives (LMs)[1] and Certified Nurse Midwives (CNMs). In the home or birth center setting LMs and CNMs (herein referred to as 'Midwives') work interdependently with one another and with other health care practitioners to promote the optimal health and safety of low-risk mothers and babies during the normal childbearing cycle. Midwives engage in an ongoing risk screening process that begins at the initial visit and continues through the completion of care. In providing care, midwives take into account their clinical judgment and expertise, a client's own values and informed choice, relevant state laws and regulations, the standards for practice and core competencies for basic midwifery care provided by their professional organizations, relevant midwifery and medical literature, the settings in which they practice, the collaborative relationships they have with other health care practitioners and area hospitals, and their philosophy of care.

During pregnancy, labor, or postpartum, risk factors or complications can develop. This document provides a list of conditions that a midwife may encounter in practice for which discussion, consultation, or transfer of care is indicated. The list is representative but not exhaustive. Other circumstances may arise where the licensed midwife believes discussion, consultation, or transfer of care to be necessary.

Professional members of the Midwives' Association of Washington State are advised to discuss, consult, and/or transfer care of their clients according to this document and in accordance with the MAWS document Position Statement: Shared Decision-Making. MAWS recognizes that there are variations in practice specialty and professional members may hold different licenses or qualifications which hold them to a different standard of care than those outlined in this document. (These practitioners may include but are not limited to CNMs, ARNPs, and NDs). In addition, new clinical procedures may be undertaken in accordance with the MAWS document Mechanism for Introducing Expanded Clinical Procedures into Midwifery Practice. MAWS members should discuss the scope and limitations of midwifery care with clients and refer to these documents as necessary.

This document should be used as a screening tool to distinguish between low-risk and higher-risk maternal and newborn clients. Its purpose is to enhance safety and promote midwives' accountability to their clients, to one another, to other health care practitioners, and to the general public. MAWS reviews this document periodically and revises it as necessary in order to reflect the most current evidence available and to insure that the parameters identified promote the safety of mother and newborn without unduly restricting midwifery practice.

[1] Licensed midwifery, as defined in RCW 18.50, is an autonomous profession. When there are significant deviations from normal during the pregnancy, labor, or postpartum period, licensed midwives are required by law in Washington State (RCW 18.50.010) to consult with a physician regarding the client's care.

2. DEFINITIONS:

2.1 DISCUSSION WITH ANOTHER MIDWIFE, AN ARNP, OR A PHYSICIAN

A discussion refers to a situation in which the midwife seeks information from a colleague about a clinical situation, presenting a management plan for feedback.[2]

2.1.1 It is the midwife's responsibility to initiate a discussion with and provide accurate and complete clinical information to another midwife, a nurse practitioner, or a physician in order to plan care appropriately. This discussion can take place between midwives in the same practice.

2.1.2 Discussion should occur in a timely manner soon after the clinical situation is discovered.

2.1.3 Discussion may occur in person, by phone, fax, or e-mail.

2.1.4 Discussion may include review of relevant patient records.

2.1.5 Discussion may include request for prescriptive medication based on signs or symptoms and/or laboratory results.

2.1.6 Discussion should be documented by the midwife in her records. Documentation of discussion should refer only to practitioner type without specifying the name of the practitioner contacted. Documentation should also include the midwife's management plan.

2.1.7 Discussion need not occur if the midwife has previously encountered a particular situation, discussed it with a colleague, developed a management plan, and is currently managing the same clinical presentation. In this case, documentation of the management plan and discussion with the client of the management plan is sufficient.

2.3 CONSULTATION WITH A PHYSICIAN

A consultation refers to a situation in which the midwife, using her professional knowledge of the client and in accordance with this document, or by client request, seeks the opinion of a physician competent to give advice in the relevant field. The consultant will either conduct an in-person assessment of the client or will evaluate the client's records in order to address the problem that led to the consultation.

2.2.1 It is the midwife's responsibility to initiate a consultation and to communicate clearly to the consultant that the midwife is seeking a consultation.

2.2.2 A consultation can involve the physician providing advice and information, and/or providing care to the woman/newborn, and/or prescribing treatment for the woman or newborn.

[2] A MAWS member who has additional credentials (i.e.: CNM, ND) that allow for a broader scope of practice need not discuss conditions that are within her scope of practice.

2.2.3 In the case of an in-person consultation, the midwife should expect that the consultant will promptly communicate findings and recommendations to the client and the referring midwife after the consultation has taken place.

2.2.4 Where urgency, distance, or climatic conditions do not allow an in-person consultation with a physician when it would otherwise be appropriate, the midwife should seek advice from a physician by phone or other similar means. The midwife should document this request for advice in her records and discuss the consultant's advice with the client.

2.2.5 It is the midwife's responsibility to provide all relevant medical records to the consultant, including a written summary of the client's history and presenting problem, as appropriate.

2.2.6 Consultation should be fully documented by the midwife in her records, including the consultant's name, date of referral, and the consultant's findings, opinions, and recommendations. The midwife should then discuss the consultant's recommendations with the client.

2.2.7 After consultation with a physician, care of the client and responsibility for decision-making, with the informed consent of the client, either continues with the midwife, is shared collaboratively by the midwife and the consultant,[3] or transfers completely to the consultant. Transfer or sharing of care should occur only after dialogue and agreement among the client, the midwife, and the consultant.

2.4 TRANSFER TO A PHYSICIAN OR OTHER QUALIFIED HOSPITAL-BASED PROVIDER

When care is transferred permanently or temporarily from the midwife to a qualified hospital-based provider, the receiving practitioner assumes full responsibility for subsequent decision-making, together with the client. For guidance about intrapartum transfers, see also the MAWS document Planned Out-of-Hospital Birth Transport Guideline.

[3] During such collaborative care the consultant may be involved in, and responsible for, a discrete area of the client's care, with the midwife maintaining overall responsibility within her scope of practice. It is the midwife's responsibility to maintain explicitly clear communication between all parties regarding which health professional has primary responsibility for which aspects of the client's care. In addition to any verbal dialogue regarding client care, the dialogue and plan of care should be documented in the client's chart.

3.1 PRE-EXISTING CONDITIONS AND INITIAL HISTORY

Discussion:

- family history of significant genetic disorders, hereditary disease, or congenital anomalies
- history of pre-term birth (<36 weeks)
- history of IUGR
- history of severe postpartum hemorrhage
- history of severe pre-eclampsia or HELLP
- history of gestational diabetes requiring oral hypoglycemic or insulin
- no prenatal care prior to third trimester
- BMI > 35
- history of lap band, gastroplasty or other bariatric (weight loss) surgery
- previous unexplained neonatal mortality or stillbirth

Consultation:

- absent prenatal care at term
- history of seizure disorder in adulthood
- history of HELLP
- history of uterine surgery, including myomectomy
- one prior cesarean birth with low transverse incision
- significant history of or current cardiovascular, renal, hepatic, neurological or severe gastrointestinal disorder or disease
- significant history of or current endocrine disorder (excluding controlled mild hypothyroidism)
- pulmonary disease/active tuberculosis/severe asthma
- collagen vascular diseases
- significant hematological disorders
- current or recent diagnosis of cancer requiring chemotherapy
- history of cervical cerclage
- history of 3 consecutive spontaneous abortions (excluding clients who present to care with viable pregnancy at gestation >14wks and beyond previous miscarriage)
- significant uterine anomalies
- essential hypertension
- history of eclampsia
- history of postpartum hemorrhage requiring transfusion
- current severe psychiatric illness
- current seizure disorder

Transfer:

- any serious medical condition associated with increased risk status for mother or fetus, for example: cardiac disease, renal disease with failure, insulin-dependent diabetes mellitus, uncontrolled asthma, or maternal HIV infection
- isoimmunization with an antibody known to cause hemolytic disease of the

newborn
- prior cesarean with incision other than low transverse (e.g. classical)
- two or more prior cesareans with low transverse incision

3.2 ANTEPARTUM CONDITIONS

Discussion:
- urinary tract infection unresponsive to treatment
- significant abnormal ultrasound finding
- significant abnormal laboratory finding
- unresolved size/dates discrepancies
- 42 completed weeks with reassuring fetal surveillance including AFI and BPP with NST

Consultation:
- reportable sexually transmitted infection
- significant abnormal Pap
- significant abnormal breast lump
- pyelonephritis
- thrombosis
- fetal demise after 14 weeks gestation
- anemia unresponsive to treatment
- primary herpes infection
- significant vaginal bleeding
- hemoglobinopathies
- platelets ≤ 105,000/μL
- persistent abnormal fetal heart rate or rhythm
- non-reassuring fetal surveillance
- significant placental abnormalities
- significant or unresolved polyhydramnios or oligohydramnios
- presentation other than cephalic at 37 weeks
- multiple gestation if co-managing prenatal care (transfer if not co-managing)
- significant infection the treatment of which is beyond the midwife's scope of practice

Transfer:

- ectopic pregnancy
- molar pregnancy
- premature pre-labor rupture of membranes (PPROM)
- documented persistent/unresolved intrauterine growth restriction (IUGR)
- multiple gestation if not co-managing prenatal care
- eclampsia, HELLP, pre-eclampsia, or persistent hypertension
- placenta previa at term
- isoimmunization with an antibody known to cause hemolytic disease of the newborn

- clinically significant placental abruption
- deep vein thrombosis
- cardiac or renal disease with failure
- gestational diabetes requiring management with medication; consultation in lieu of transfer if co-managing metformin with physician
- known fetal anomaly or condition that requires physician management during or immediately after delivery
- 43 weeks completed gestation

3.3 INTRAPARTUM CONDITIONS

In certain intrapartum situations, the midwife may need to act immediately and transport may not be the most prudent course of action in that moment. It is expected that the midwife will use her clinical judgment and expertise in such situations, access 9-1-1 and emergency services as appropriate, and transport as able.

Discussion:

- >8 hours of active labor pattern without significant change in cervix and/or station and/or position
- >3 hours of active pushing without significant change
- prolonged rupture of membranes (>48 hours without active labor)

Transfer:

- active labor before 37 completed weeks
- undiagnosed non-cephalic presentation including breech, transverse lie, oblique lie, or compound presentation at onset of labor
-
- undiagnosed multiple gestation
- maternal fever (≥100.4 F) that persists >1 hour
- findings indicative of chorioamnionitis including, but not limited to, maternal tachycardia, fetal tachycardia, temperature ≥100.4 F, uterine tenderness, purulent or malodorous amniotic fluid.
- thick meconium
- persistent non-reassuring fetal heart rate pattern
- maternal exhaustion unresponsive to rest/hydration
- abnormal bleeding during labor
- suspected placental abruption
- suspected uterine rupture
- hypertension (≥140 systolic or 90 diastolic twice 1 hour apart)
- suspected pre-eclampsia (hypertension and proteinuria)
- maternal seizure
- ROM > 72 hours
- ROM > 18 hours with GBS status unknown and no prophylactic antibiotics, or GBS+ and no prophylactic antibiotics
- prolapsed cord or cord presentation
- significant allergic response

- active genital herpes in vaginal, perineal or vulvar area in labor or after ROM
- client's stated desire for transfer to hospital-based care

3.4 POSTPARTUM CONDITIONS

Consultation:

- urinary tract infection unresponsive to treatment
- mastitis (including breast abscess) unresponsive to treatment
- reportable sexually transmitted infections
- retained products/unresolved subinvolution/prolonged or excessive lochia
- hypertension presenting beyond 72 hours postpartum
- significant abnormal Pap
- significant postpartum depression

Transfer:

- significant postpartum hemorrhage unresponsive to treatment, with or without sustained maternal vital sign instability or shock
- retained placenta (>1 hour or active bleeding and manual removal unsuccessful)
- lacerations beyond midwife's ability to repair
- unusual or unexplained significant pain or dyspnea
- significant, enlarging hematoma
- endometritis
- maternal seizure
- anaphylaxis
- persistent uterine prolapse or inversion
- maternal fever (≥ 100.4 F) that persists > 1 hour within the first 72 hours postpartum
- persistent hypertension in the first 72 hours postpartum (≥ 140 systolic or 90 diastolic twice 1 hour apart)
- postpartum psychosis

3.5 NEWBORN CONDITIONS

It is recommended that parents establish a relationship with a pediatric provider before the baby is born. It is strongly recommended that all parents be advised to establish care with a pediatric provider by 2 weeks of age. The following conditions warrant contact sooner.

Consultation:

- low birth weight newborn (< 2500 gm = 5 lbs 8 oz)
- loss of greater than 10% of birth weight
- prolonged asymptomatic jaundice
- persistent cardiac arrhythmias or murmurs
- significant clinical evidence of prematurity
- failure to thrive
- hypoglycemia
- significant or symptomatic jaundice beyond the first 24 hours
- positive critical congenital heart disease screening (CCHD)

Transfer:

- seizure
- jaundice in the first 24 hours
- persistent respiratory distress
- persistent central cyanosis or pallor
- persistent temperature instability
- persistent hypoglycemia
- significant bruising, petechiae or purpura
- Apgar score 6 or less at ten minutes of age
- major congenital anomalies affecting well-being
- birth injury requiring medical attention

Appendix D

Sample Protocol for Out-of-Hospital Birth Transfers

Generic General Hospital

1. In case of life-threatening emergency, please call 9-1-1 and request an emergency transfer of your patient to the nearest acute-care hospital that provides obstetrical services

2. In non-life-threatening situations, licensed midwives who are attending a planned out-of-hospital birth who need to transfer a laboring woman, a postpartum woman, or a newborn to our hospital are asked to notify the (insert: Obstetrical Charge Nurse or Nursing Supervisor or other designated responsible party at (***) ***-****) to notify the hospital about a perinatal transfer. This responsible hospital staff member will take the following steps:

   A. Notify the Nursing Supervisor about the transfer
   B. Notify the Obstetrical Charge Nurse about the transfer
   C. Notify the Emergency Department about the transfer
   D. Notify the Admitting Office about the transfer
   E. Notify the Obstetrician, Family Physician or Pediatrician on unassigned patient call about the transfer

3. The licensed midwife should give the responsible hospital staff member the patient's name, date of birth, reason for transfer, brief obstetrical history, brief medical and surgical history, medications and allergies, and any additional information that would help the hospital prepare for the transfer. The licensed midwife should describe the method of transfer (ambulance, private vehicle), and the approximate estimated time of arrival. The responsible hospital staff member should advise the licensed midwife where the patient should be brought to the hospital (Emergency Department, Admitting, Labor and Delivery).

4. The licensed midwife should accompany the patient to the hospital, and then transfer all care of her client to the hospital team. The licensed midwife should provide the hospital staff with a complete copy of her client's antepartum, intrapartum, (and postpartum, if applicable) records, including all laboratory and ultrasound reports. If the licensed midwife only has the originals, the hospital will make a copy, and return all of the originals to the licensed midwife. The licensed midwife should also give a verbal report about her client's status to the nursing staff and the physician.

5. Once being admitted to the hospital, the patient's care is transferred entirely to the hospital staff, with the licensed midwife's role changing from that of primary care provider before arrival at the hospital to companion/support person after arrival at the hospital. Respectful recognition of all parties' roles can only facilitate patient safety and satisfaction. *Each hospital may insert conflict resolution details, policies or support already in place to mediate complaints or concerns of patients or transferring midwives.*

6. After the patient is discharged from the hospital, a copy of the dictated admission history and physical examination, delivery summary, operative report and pathology report if applicable, and discharge summary should be sent to the licensed midwife, and where appropriate, the woman should be

returned to the licensed midwife’s care for postpartum follow-up.

Appendix E

Smooth Transitions – A Quality Improvement Project to Enhance the Safety of Transfers from Planned Out-of-Hospital Births

Annual Transfer Summary Form

Reporter

Name: _____

Position: _____

Phone: _____

Email:_____

Today's date: _____

Hospital Name: _____

Reporting Year: Month _____ Year _____ to Month _____ Year _____

Number of transfers received during this period: _____

General summary of transfer experiences

Please do not include specific identifying information, but describe the overall sense of how well the program is working in terms of:

a) outcomes for mothers and babies
b) ease of communication/care transfer from midwife to hospital staff
c) ease of communication/care transfer from hospital staff to midwife postpartum
d) maternal satisfaction
e) provider satisfaction (from all perspectives)
f) resource use

Please describe any concerns/barriers:

Please describe any actions taken to address these concerns/barriers:

Please describe any other actions taken to improve transports:

Please describe any additional technical assistance needed from the MD/LM Workgroup or the Washington State Perinatal Collaborative: