HCP LAN
Health Care Payment Learning & Action Network

CLINICAL EPISODE PAYMENT MODELS

MATERNITY CARE

Chapter 4: Maternity Care

Background

Pregnancy and childbirth are pivotal events in a woman's life, framed by both the overall care experience and the actual birth event. During pregnancy, women are concerned with many things, including the healthy development of the baby, the labor and birth experience, and how they will take care of themselves and their newborns postpartum. Interactions with the health care system during this time create opportunities to address and allay these concerns by laying a strong foundation for the ongoing health of the woman, her baby, and her family as a whole. Often prenatal care, labor and birth, and postpartum care are viewed and delivered as three distinct periods. However, by viewing them as three phases within one episode, there is a potential for incentivizing the types of interactions and care delivery that support positive outcomes.

Positive outcomes for maternity care can be defined and achieved in a variety of ways, such as:

- A greater percentage of appropriate vaginal births;
- A greater percentage of full-term babies born at healthy weights;
- Strong recoveries for women; and
- Healthy starts for the babies.

Thoughtful episode payment seeks to achieve these outcomes at a lower overall cost to the system, and at a lower cost to women and families. The Work Group's recommendations provide guidance on how to achieve this goal without becoming overly prescriptive about the exact mechanisms for doing so.

In maternity care today, there are a variety of payment mechanisms. Payment often includes a global fee for professional services for prenatal care, and the management of the labor and birth. It will sometimes also include postpartum care. Facility fees for the actual birth are typically paid separately, with higher fees in the event of a birth by cesarean section. There are also separate facility and professional fees for the newborn. These different payment mechanisms are often associated with overuse of high-cost interventions and underuse of low-cost interventions, which leads to less-than-desirable outcomes for women and their babies, despite the fact that the maternity population is generally healthy. It is also important to note that maternal mortality in the United States has risen over the past 30 years (Centers for Disease Control and Prevention, 2016). By providing incentives for the provision of higher-value practices, and for care coordination across the continuum of services and providers, episode payment can potentially have a significant impact on both the short and long-term health of a woman and her baby, and on the health of American society.

Childbirth is the most common reason for hospitalization in the United States. In 2009, combined maternal and newborn stays represented 23% of all hospital stays (Agency for Healthcare Research and Quality, 2011). According to Healthcare Cost and Utilization Project (HCUP) data, while charges billed by hospitals represent a significant over-estimate of actual payment, such charges totaled $127 billion in 2013 (actual payments are roughly half of billed charges). These charges do not include professional fees or other settings of care across the episode. In addition, hospital-billed charges increased more than 90% between 2003 and 2013 (Agency for Healthcare Research and Quality, 2003; Agency for Healthcare Research and Quality, 2013).

A study by Truven Analytics shows the cost of birth varies significantly by payer, type of birth (vaginal or cesarean section), and setting where the birth occurs (see Table 6). In 2013, the average total maternal-newborn payments for cesarean births, including all facility and provider fees for prenatal, labor and delivery, and postpartum/newborn care, was $27,866 for a commercial payer and $13,590 for Medicaid. For both payer types, total payments for cesarean births were roughly 50% higher than for vaginal births. One of the reasons that cesarean birth costs more is that there are 50% higher neonatal intensive care unit (NICU) payments associated with these surgeries, compared to the percentage of vaginal births requiring NICU stays. Further, the fact that women who experience a cesarean once often have repeat additional cesareans adding to system costs.

Table 1: Costs and Disparities in Maternity Care

	Commercial Market	Medicaid
Volume (HCUP 2013) * Medicare, Other, or Uninsured Accounted for the Remainder	2,012,584 births (48.99%)	1,811,759 births (44.10%)
Payment Variation by Payer and Type of Birth (Truven, 2010)	Vaginal: $18,329 Cesarean: $27,866	Vaginal: $9,131 Cesarean: $13,590
Significant Opportunities for Improved Outcomes	• Reduce cesarean rates: Current average of cesarean is 32.2%, up 60% from the most recent low of 20.7% in 1996 (Osterman & Martin, 2013). WHO data find that cesarean rates higher than 10% are not associated with further reductions in infant or maternal mortality (World Health Organization, 2015). • Reduce pre-term rates: 9.57% of births are pre-term. The American College of Obstetricians and Gynecologists (ACOG) recommends no early births unless medically indicated (Hamilton et al., 2015). • Increase in births occurring in the highest value setting: Vaginal births are 50% less costly in birth centers than in hospitals (Hamilton et al., 2015). • Reduce infant mortality rates: Infant mortality is higher in the United States than in 38 other countries (World Health Organization, 2014). • Reduce maternal mortality rate in the United States, which has doubled since 1987 (World Health Organization, 2014). • Reduce racial/ethnic disparities: The prevalence of pre-term births for non-Hispanic white is 8.91%, non-Hispanic black is 13.23%, and Hispanics is 9.03%, with additional significant disparities in infant mortality and low-birth weight babies (Matthews & MacDorman, 2013).	

The setting in which a woman gives birth also affects the cost, as well as the type of delivery. The average national cesarean rate in the United States is currently 32.2% (Matthews & MacDorman, 2013; World Health Organization, 2015). Just as with other surgical procedures, there is significant, non-

clinically supported variation in cesarean rates across hospitals. Even hospitals in the same city show wide variation. For example, Jersey City Medical Center, near Newark, N.J., reported a 35% cesarean section rate for low-risk women, compared to a 19% rate at Trinitas Regional Medical Center in nearby Elizabeth, N.J. (Haelle, 2016). In California, rates varied from 18% in one hospital to more than 50% in another, according to a recent study (Main et al., 2011). Healthy People 2020 calls for a reduction in nationwide cesarean rates for low-risk women to 23.9% by 2020.

For women who choose a midwife and/or a birth center for their primary care provider and birth setting, respectively, the costs are significantly less than in a hospital. Of course, part of this is due to the fact that birth centers do not provide cesarean section procedures. There are occasions when a woman chooses a midwife to manage prenatal care and a birth center for labor and birth, but ultimately delivers in a hospital due to complications. The costs in this scenario are still lower for vaginal birth if a midwife managed the prenatal care and subsequently manages the hospital birth (Howell et al., 2014). The use of community-based settings, such as birth centers and home births is growing. In 2014, 18,219 babies were born in birth centers while another 38,094 babies were born at home (MacDorman, Matthews, & Declercq, 2014). However, the vast majority of births in the U.S.—98.6%—still take place in a hospital setting (Hamilton et al., 2015).

These data demonstrate that too often the resources spent on maternity care services are not leading to the highest value birth care. The fact that the United States has a higher rate of infant mortality than 38 other countries and a lower successful breastfeeding rate than 98 other countries reflects this (World Health organization, 2014). It is also reflected in the 9.57% pre-term birth rate in 2014. Finally, there are significant racial and ethnic disparities in birth outcomes. Non-Hispanic black babies are at more than twice the risk of dying at birth compared to non-Hispanic white babies (Centers for Disease Control and Prevention & Health Resources and Services Administration, 2012).

The good news is that evidence-based care practices can deliver higher quality care at a lower cost. For the majority of low-risk births, lower resource-intensive births correlate with positive outcomes. There is no single definition of low-risk birth. However, Healthy People 2020 used this definition to define low-risk for cesarean sections: Full-term, singleton, and head-first presentation. Data from the National Center for Health Statistics show that as many as 80% of births meet this definition. If the percentage of safely achievable vaginal births for these lower risk pregnancies were to increase, resulting in a decrease in cesareans, overall birth costs would decrease. Outcomes should improve as well because vaginal births have fewer complications. Further, with a decrease in the rate of early elective and pre-term births, fewer babies would need high-cost NICU care, and babies would have higher survival rates and a healthier start to life. At the same time, those at elevated risk from such conditions as gestational diabetes, obesity, or twin pregnancy can benefit from personalized care fostering healthy outcomes.

Although the relationship between quality of care and better health outcomes is recognized by the field, this relationship is not always reflected in the current U.S. payment system, which is characterized by a tendency to incentivize higher cost and lower quality care. In the maternity care context, vaginal births cost less, have fewer complications, and involve shorter stays, thus providing less reimbursement to hospitals; but they also require patience and often several hours of hard work by the women, as well as support from the care team. In contrast, cesareans are sometimes considered more convenient by women, practitioners, and facilities because of the shorter duration of labor and the ability to schedule in advance (Truven Health Analytics, 2013). In part, the rate of cesareans has increased 60% from the most recent low of 20.7% in 1996 because of this (Agency for Healthcare Research and Quality, 2011). This is despite the fact that they are considered riskier for both the mother and baby. ACOG and the

Society for Maternal-Fetal Medicine have both stated that this increase has not been accompanied by discernable gains in maternal or newborn health (American College of Obstetricians and Gynecologists, 2014).

Role of Episode Payment in Maternity Care

The goal of using clinical episode payments is to improve the value of maternity care by improving the outcomes and experience of care for the woman and her baby while reducing costs. Although the payment incentives in episode payment provide significant support for this goal, the design and implementation of the episode's care pathway(s) and delivery model(s) are also critical—for example, rates of cesarean births or early elective inductions could be impacted by changing protocols within a hospital. The CEP Work Group believes that the goal of episode payment should go beyond lowering costs, and that it should be designed such that it supports a more patient-centered approach to care. Specific goals of maternity episode payment include:

- Increasing the percentage of vaginal births and decreasing unnecessary cesarean births;
- Increasing the percentage of births that are full-term and decreasing preterm and early elective births;
- Decreasing complications and mortality, including readmissions and neonatal intensive-care unit (NICU) use;
- Providing support for childbearing women and their families in making critical decisions regarding the prenatal, labor and birth, and postpartum phases of maternity care and respecting those choices;
- Increasing the level of coordination across providers and settings of maternity care; and
- Consistently providing a woman- and family-centered experience.

Care improvements must occur across the continuum of prenatal, labor and birth, and postpartum care in order to support a more patient-centered approach to care. Episode payment can address the need for appropriate, high-quality, prenatal and postpartum care. Testing for potential problems (such as gestational diabetes or birth defects); monitoring the growth and health of the growing fetus and the woman; providing education to the woman on what to expect during and after birth; and supporting her in making decisions about her preferences for interventions, settings, and provider types can all lead to a more engaged and healthier mother. Postpartum care that supports the new mother in breastfeeding, baby care, contraceptive care, mental health, and self-recovery can have a lifelong impact on the health of both the woman and her baby. Yet these and other high-value services are not always effectively provided because the bulk of payment is focused on hospital-based labor/delivery services. Therefore, the goal of episode payment design in this realm is both to incentivize the delivery of the full continuum of services by holding providers accountable for their quality and coordination, and to decrease costs while improving the value of maternity care overall.

Fortunately, Medicaid (which pays for approximately 45% of births annually), commercial payers, and large purchasers have begun to develop episode payment initiatives for maternity care in recognition of the ways in which episode payment can drive higher quality, lower-cost care (Kaiser Family Foundation, n.d.).

There are three general types of models in the market today that bundle all or some of the services for maternity care into an episode payment. See Appendix D for a table summarizing various initiatives. Examples of each model are below.

Comprehensive Bundle: Several initiatives, led by both Medicaid and commercial payers, define the episode as the prenatal, labor and birth, and postpartum time frame and include care for the woman and sometimes the newborn. This strategy acknowledges the importance of support throughout the entire maternity care experience to ensure the best outcomes for the woman and her baby. It is agnostic as to both the birth site and who manages the birth, and as to whether the birth is vaginal or a cesarean, but it is typically priced assuming a hospital birth.

Comprehensive Birth Center/Midwife Bundle: This provider-driven episode model includes the full continuum of services, much like the comprehensive bundles, but is priced based on midwife management, and thus reflects the cost of a birth center birth. In this model, if a woman is referred to a hospital, then the hospital is paid a separate fee; the bundle is only for the midwife services and the fee for a birth center. In some cases, the midwife still manages the birth even if it is in the hospital, but the facility fee for the hospital is paid separately.

Blended Rate for Hospital Labor and Birth (Regardless of Delivery Type): Several purchasers and providers are implementing episodes framed specifically around hospital-based labor and birth, and which do not include costs for prenatal or postpartum care or care for the baby. This model blends cesarean and vaginal birth reimbursement rates into a blended case rate for hospitals. The primary goal is to decrease cesarean rates. Hospital payments and the clinical professional fees are the same in this model, regardless of the delivery method. The episode price also includes the costs of postpartum complications, but no other postpartum costs are included.

As described in more detail in Appendix D, maternity episode payment has been associated with increased use of preventive services, lower cesarean rates, lower readmission and complication rates, and lower early elective birth rates.

Recommendations: Maternity Care

Design Elements

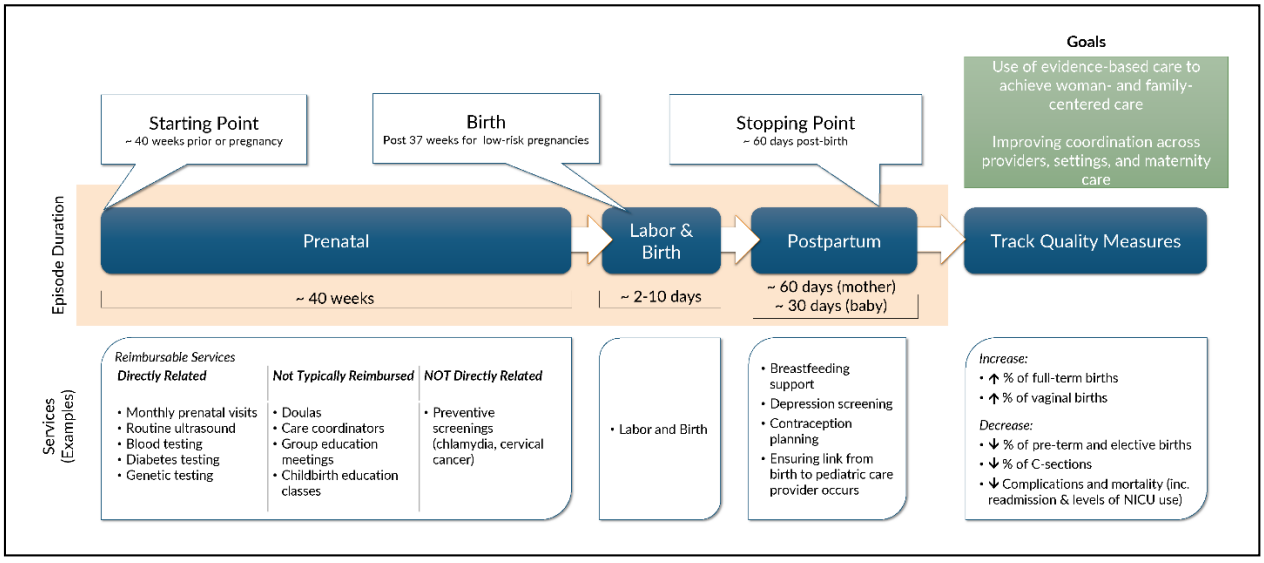
The design element recommendations reflect the CEP Work Group's research and analysis on a range of existing episode payment initiatives for joint replacement (see Appendix C). See Chapter 2, Episode Payment Design Elements, for a summary of the recommendations described in more detail below.

1. Episode Definition

The episode is defined to include the large majority of births, including the newborn care, that are lower-risk. While not necessarily lower risk, episode payment may also be considered appropriate for women who may be at elevated risk due to conditions that have defined and predictable care trajectories, such as gestational diabetes. As the CEP model matures, some groups with significant high-risk pregnancy experience and capacity may seek to manage the entire continuum of risk.

The CEP Work Group recommends defining the episode to include all services and care delivered during three phases of maternity: prenatal, labor and birth, and postpartum (Figure 7). Including these three phases within the episode, as opposed to narrowly defining the episode around labor and birth, which are arguably the costliest aspects of maternity care, is key to achieving the goals of episode payment. A focus on lower risk births will have significant impact as the large majority of births are considered low-risk. However, women with conditions that develop over the course of the pregnancy or which have defined trajectories can also benefit. Over time, some providers who are experienced with higher-risk pregnancies may also seek to manage the continuum of risk underneath a CEP.

Figure 1: Maternity Episode Definition and Timeline



2. Episode Timing

The episode should begin 40 weeks before the birth and end 60 days postpartum for the woman, and 30 days post-birth for the baby

Including the entire pregnancy, the labor and birth, and the postpartum/newborn period within one payment recognizes the importance of prenatal and postpartum/newborn support for the health of the woman and her baby. However, some episode payment initiatives limit the time period for the episode to hospital care only, and use a blended hospital case rate (blending payment for vaginal births with cesareans) for labor and birth. While this approach has been shown to decrease the rate of cesareans, the potential for improving on a broader set of outcomes encourages a more woman/patient-centered, coordinated approach across settings, and could be increased by including prenatal and postpartum care in the episode.

The 60 days postpartum recommendation will allow for post-natal follow-up to occur and will ensure the woman receives needed physical and mental health care in a sufficient time period to be able to take care of her baby. A lesser amount of time is recommended for the baby to ensure that accountability was limited to newborn care.

Consistent prenatal care, in addition to providing continuous care for the woman, can identify high-risk markers, such as gestational diabetes. Prenatal care can also include childbirth education to support a woman through the mental and physical challenges of vaginal delivery and provide other supports during pregnancy, giving birth, and the transition to new parenthood. High quality postpartum support can lower readmission rates, increase rates of breastfeeding, reduce postpartum depression, and provide a strong foundation for the woman as a caregiver to her baby and her family.

There may be concerns among stakeholders that including prenatal and postpartum care in the episode can lead to decreased access to or limited delivery of those services by a provider trying to utilize fewer resources to maximize potential savings. Another concern regarding postpartum care is whether the clinician who manages the birth should also be accountable for the postpartum period, particularly when the postpartum period may include some pediatric care. The Work Group believes these concerns, although valid, are manageable. For example, some initiatives require the collection and monitoring of certain performance metrics, such as number of visits and delivery of certain prenatal tests and screening before the birth and the provision of breastfeeding support or contraceptive advice afterwards to ensure their delivery. Concerns have also been raised about whether to include women who do not opt to access prenatal care or who access prenatal care later in their pregnancy. To address these concerns, one bundling initiative adjusts the episode definition and price based on differing numbers of prenatal visits. Another option is to exclude women who do not have a minimum number of visits from the episode design.

Recognizing these concerns, it is nevertheless optimal for maternity care episode payment to include prenatal and postpartum care in addition to labor and birth, in order to fully leverage the opportunity to improve value and outcomes across all three phases of maternity care.

3. Patient Population

The episode should primarily include the large majority of births, including newborn care, that are lower-risk. While not necessarily lower risk, episode payment may also be considered appropriate for women who may be at elevated risk due to conditions that have defined and predictable care trajectories, such as gestational diabetes. As the CEP model matures, some groups with significant high-risk pregnancy experience and capacity may seek to manage the entire continuum of risk.

There are two issues of particular importance in defining the population in the episode: whether to include newborn care and whether to include all pregnant women, or a subset of less risky women.

Including the Baby: Some current maternity episode payment initiatives include the baby, while others include only care for the woman. The Work Group recommends including the baby in the episode population, given that the primary focus of the episode is the birth and the primary goal is both a healthy woman **and** a healthy baby. Stakeholder readiness to implement maternity care episode payment can be a factor in determining whether to include the baby in the population. In the beginning of these initiatives, even limiting the episode to the childbearing woman can yield improvements in value and may be less complex for the provider to implement. However, the Work Group recommends transitioning to a design that includes both the woman and baby as soon as possible.

The inclusion of the baby in the episode population raises issues related to assigning an accountable entity (e.g., when managing the pregnancy requires a neonatology specialist in addition to or instead of the OB/GYN or the midwife). Although these cases are relatively rare, such instances highlight the need for cooperation among all providers across the episode, as well as the need for clear policies on the level of risk when the provider identified as the accountable entity has limited ability to manage care across providers.

Defining the Pregnancy Level of Risk: The Work Group recommends that, at least in the beginning of the implementation of CEP models, the episode should primarily include the large majority of births, including newborn care, that are lower-risk. The Work Group also supports CEP for women who may be at elevated risk because of predictable risk factors that have defined care trajectories, such as gestational diabetes. For both lower and elevated risk pregnancies, CEP may offer opportunities for better, safer care at lower cost. As the CEP model matures, some groups with significant high-risk pregnancy experience and capacity may seek to manage the entire continuum of risk.

There is ample opportunity in this group of women for CEP to provide incentives to discourage the use of unnecessary services and increase the use of services that are shown to be effective but underused. Beginning with lower risk pregnancies also ensures less variation in the complexity and the risk that providers will absorb. However, the Work Group also believes that women at higher levels of risk could benefit.

Some high-risk pregnancies introduce a level of variability and potential risk for the accountable entity that could be difficult to manage, particularly for small practices. In the event that a pregnancy results in

a baby who requires intensive care, stop-loss policies should be established to mitigate potential unanticipated risks of true outliers. Critical to the episode population design element is defining the exclusions. Definitions vary, depending on when during the maternity period the determination is made and by whom.

Defining risk levels can be difficult because they can change over the course of the episode and can be influenced by the care delivered. Initial determination of whether a woman is "low risk" can be made at the first prenatal visit, but it may change over time. Healthy People 2020 uses a definition for calculating low risk for cesarean rates that is based on factors present immediately prior to birth—full-term, single, head-first presentation (Office of Disease Prevention and Health Promotion, 2016; Stapleton, Osborne, & Illuzzi, 2013). A higher-risk pregnancy is one which puts the mother, the developing fetus, or both at an increased risk for complications during or after pregnancy and birth. Clinical parameters for identifying a high-risk pregnancy can include:

- Pre-existing health conditions, such as diabetes, hypertension, epilepsy, cancer, renal disease, obesity, advanced maternal age, and mental health conditions;
- Lifestyle choices: Cigarette smoking, alcohol use and illegal drug use;
- Previous pregnancy complications, such as genetic or congenital disorder, stillborn, preterm delivery; and
- Pregnancy complications, which can also arise during the pregnancy and birth, such as: Multiple gestation, fetal growth restriction, prolonged premature rupture of membranes, or placenta abnormalities.

As evidenced by the list above, some of the excluded cases may not be clear until after the birth. CEP may be helpful in effectively managing complications as they arise. The Work Group advises those designing initiatives to consider the different levels of risk and develop exclusionary criteria exclusions of importance to their populations. If there is concern over the ability for providers to accept the risk of a higher-risk population, there are ways to limit risk through risk adjustment, including factors that might arise during pregnancy. Stop/loss limits will be discussed in the discussion on the Level and Type of Risk below. See Appendix K for links to resources that provide lists of exclusions.

4. Services

Covered services include all services provided during pregnancy, labor and birth, and the postpartum period (for women) and newborn care for the baby. Exclusions should be limited. Initiatives should also consider including high-value support services, such as doula care and prenatal and parenting education.

All services currently covered during prenatal care visits, labor and birth, postpartum care, and newborn care should be included as part of the episode services. This includes services such as genetic testing, imaging, and anesthesia that are typically provided to pregnant women. We note the time frame for newborn care is shorter than for woman's care; this is intentional to limit the services included in the

price to those needed to address neo-natal care needs. The Work Group considered excluding specific newborn services, but determined that limiting the time frame to 30 days post discharge would ensure that the bulk of ongoing healthy baby pediatric care, such as immunizations, would be delivered outside that time frame.

Central to the recommendation of included services is the issue of currently underused services. Some underused services are typically covered in today's delivery systems, but others are not. Each set of services creates opportunities for effective implementation of a maternity care episode payment strategy.

Currently Covered but Underused Services Not Directly Related to Pregnancy and Birth: Some initiatives see the OB/GYN, midwife, or family physician, as the primary care provider during the pregnancy, birth, and postpartum periods, and view the prenatal care period as an opportunity to perform preventive screenings, such as for screenings for chlamydia or cervical cancer. These screenings are not typically related to pregnancy, but it may be important to include them in the episode price, as they are commonly provided to women as part of their prenatal care and, if present, could impact care during the pregnancy (American Academy of Pediatrics, 2013). Another option might be to pay separately for them through FFS, but include them in episode quality metrics, perhaps with a pay for performance incentive in addition to the bundled payment incentives.

Commonly Uncovered (and Underused) High-Value Services Directly Related to Pregnancy and Birth: A variety of services that have been shown to improve a woman's birth experience and potentially improve outcomes are not commonly part of typical benefit packages. One important service that clinical episode payment is designed to encourage is greater care coordination across providers by the providers themselves. Typically, providers are expected to provide some level of this coordination without additional reimbursement. Other services not typically covered are those provided by doulas, care coordinators (e.g., for shared decision-making, shared care planning, community referrals, and follow up on such matters as smoking cessation, mental health referrals, and completion of postpartum visits), group prenatal visits, and breastfeeding support. The use of doulas alone—or continuous support for women during childbirth---has been associated with a 28% reduction in cesarean birth (Hodnett et al., 2013).

Although bundling currently covered services could result in efficiencies and improved outcomes, providing incentives to increase the use of the enhanced services described above may lead to even higher-value care. Prospective payment (as described in the Payment Flow Recommendation below) may allow for greater provider flexibility to deliver these services, as it does not rely on a direct payment from the payer for individual covered services. Evaluation of the enhanced prenatal care models—through maternity care homes, group prenatal care, and birth centers—being tested within the CMS Center for Medicare and Medicaid Innovation's Strong Start initiative provides lessons for the types of services that support maternity care episode payment models (see Patient Engagement recommendation). Regardless, it is important to monitor the shift in service patterns to ensure that the initiative results in the highest value care feasible and does not lead to unintended consequences, such as restricting the use of important services because of the risk involved in the episode payment.

5. Patient Engagement

Engaging women and their families is critical in all three phases of the episode—prenatal, labor and birth, and postpartum/newborn—to contribute to the foundation for healthy women and babies.

Engaging the patient across the full episode of maternity care provides important opportunities to contribute to maternity care episode payment success. It is not uncommon for pregnant women to want to understand the changes they are experiencing and to learn about care options. Many prioritize being involved in making decisions about their care. They are motivated to contribute to healthy outcomes for themselves and their babies. Moreover, given that most are embarking on a long period of having disproportionate responsibility for managing health care across generations, the entire maternity care episode is an optimal time to help women become effective users of health care.

It should be stressed as early as possible in the maternity experience that the woman's choice of a care provider and birth setting are interrelated. Given the extent of practice variation, understanding these choices could greatly impact their care options, experiences, and outcomes. With the growth of meaningful public reporting of performance results, and evidence of women's considerable interest in finding and using such information, many women would benefit from being directed to relevant resources and having access to guidance from someone who could help them identify and interpret available and relevant comparative quality information (Declercq et al., 2013). Health plans are well positioned to support women in this way and, as a pregnancy proceeds, to encourage them to assess whether their chosen care arrangements prove to be a good match with their values and preferences. However, it is also important that providers understand the choices a woman faces in her area and are willing to help her make them, because not all health plans will be set up to support these discussions, and the woman may go first to the provider. It may also be helpful for a primary care provider to assist a woman in these decisions. This level of involvement can help a woman obtain the type of high-quality care she prefers and foster quality-based competition in the marketplace.

After a maternity care provider is selected, shared-care planning should be integrated throughout the episode, including goal setting, shared decision-making, and documenting preferences and decisions, with the understanding that circumstances can change over time. Optimally, information technology makes the care plan available across the episode at all sites of care and to all members of the care team, including women and families.

Some patient engagement efforts involve enhanced services, such as the maternity home and group prenatal visits being studied in the CMS-sponsored Strong Start demonstration (Centering Healthcare Institute, n.d.; Hill et al., 2016). In the maternity care home model, clinical or community health worker care coordinators are assigned to work with pregnant women to support their goals, provide referrals to community resources (such as smoking cessation programs, childbirth education, mental health services, breastfeeding support), foster successful care transitions, and ensure that women attend postpartum visits. The Year 2 Strong Start evaluation suggests that these enhanced services are associated with a decrease in interventions that are not medically indicated and that women are pleased with this type of care. Strong Start participants experiencing enhanced prenatal care in birth

centers had a reduction in cesareans and other interventions, had strong breastfeeding results, and were especially happy with their experiences (Hill et al., 2016). In the context of this clinical episode payment model, a care coordinator is also well positioned to ensure that childbearing women complete self-reported surveys of experience and outcome. In addition, women who have access to doula services, including prenatal and postpartum support, experience lower frequency of cesarean sections and increased breastfeeding (National Partnership for Women & Families, 2016).

High-quality childbirth education classes are another important way to engage women in learning about options and making informed decisions about their care. Benefit policies vary, but many Medicaid programs include childbirth education as a covered benefit. Healthy People 2020 includes a goal to increase the number of women who attend childbirth classes (Office of Disease Prevention and Health Promotion, 2016). These classes can decrease a woman's fears about labor and birth and are shown to be a critical factor in reducing early elective births.

Other examples of tools for patient engagement include shared decision-making aids, such as the decision aids developed by the Informed Medical Decisions Foundation and Childbirth Connection (now available through Healthwise) and the use of mobile devices, including Text4baby, to access health information and services that provide individualized information based on the pregnancy stage and individual needs. An online inventory identifies decision aids by topic rated according to international standards (Ottawa Hospital Research Institute, 2016).

Further, based on the success of the Open Notes project, a growing proportion of patients are gaining full access to their electronic health records (Bell et al., 2015; Esch et al., 2016; Walker, Meltsner, & Delbanco, 2015). Another initiative—Maternity Neighborhood—helps clinicians and women communicate and query each other, track women's progress, schedule appointments, and share educational resources (Maternity Neighborhood, n.d.). Meanwhile, the initiative enables women to review, discuss, and contribute to their health record. Existing experience suggests that full and interactive access to health records may contribute to the success of episode payment models. Patient portals can deliver a broad range of user friendly, evidence-based tools and educational resources. While not yet standard practice, a wide variety of patient engagement support is now available (see Appendix G for a list of resources, including patient engagement tools).

The maternity care episode should support the standardized use of patient engagement strategies and models, particularly given that these strategies are typically underutilized. In fact, it may be feasible to encourage some reinvestment of a portion of overall episode savings into services that support such engagement. One provider-driven initiative specifically included additional services such as doulas and patient navigators and found them to be of significant value in engaging patients and improving outcomes.[1]

Further, to consistently improve upon patient-engagement activities, it will be important to use patient-activation metrics to track overall patient engagement. A change score for the Patient Activation Measure (a healthy person version recently endorsed by the National Quality Forum [NQF]) administered near the beginning and end of pregnancy would incentivize those participating in the episode payment to build women's skills, knowledge, and confidence as they approach giving birth and new parenthood.

[1] Providence Health and Services initiative, article and e-mail conversation. April 2016. See Appendix D for more detail.

A final approach to engaging women is to communicate, in plain language, that they are receiving their maternity care within an episode payment model and to explain the implications in terms of their participation and how the model affects cost sharing, health care quality, and health care outcome.

6. Accountable Entity

The accountable entity should be chosen based on readiness to re-engineer change in the way care is delivered to the patient and to accept risk. In this model, the accountable entity will likely require a degree of shared accountability, given the number of clinicians working to care for a patient.

Overall Readiness: The question of readiness to both re-engineer the care delivery model for the patient, and in the process, accept the financial risk they might incur, is central to the determination of what entity or entities should be accountable. Payers should work with the accountable entity to assess their readiness, and promote collaboration to allow for multiple providers within a maternity care team to share the risk and reward in such a manner that all are engaged in creating a seamless, efficient, patient-centered care process. This process can require active participation across the continuum by aligning incentives across contracts in the private sector, because the payer often has contracts directly with providers.

While local situations will vary, the CEP Work Group favors clinicians as the preferred accountable entity. The accountable clinicians are more likely to be involved throughout the entire pregnancy. In addition, if FFS represents the payment methodology with retrospective reconciliation, hospitals may have less of an incentive to decrease practices that provide higher reimbursement because the bulk of the costs for this episode lie in the labor and birth facility fees.

Optimally, accountability would be shared among all involved providers, if incentives are aligned. However, it can be difficult from a legal and financial perspective to create the necessary structures to share accountability. In circumstances where the provider is a health system encompassing both the facility and the clinicians, accountability could more easily be shared between the clinicians and the facility. Some hospitals own birth centers, and this may be an ideal situation. One initiative brought together the facility and the providers through a birth center as the accountable entity. In this example, if the woman needs to go to the hospital for the actual birth, the hospital facility fee is paid outside the bundle. Others use a blended (vaginal and cesarean) case rate with a discount built in to encourage lower cesarean rates, and, in these cases, hold the hospital and clinicians accountable separately for the part of the episode price that is allocated for each. In Medicaid, the process of sharing accountability may be affected in states that have regulatory barriers against one provider assigning payment to another. This is discussed below as well, in Recommendation 7, Payment Flow.

Another challenge related to assigning the accountable entity relates to situations in which the newborn needs intensive care. In such an instance, the newborn specialist will take over as the care manager. While we anticipate that limiting the population to lower-risk pregnancies, stop/loss limits and risk adjustment may limit the risk of the assigned accountable entity. It will be important for the team that managed the birth to incorporate the newborn specialist into the process.

In some cases, the practice responsible for the woman's care before the birth may not be available to manage the actual labor and birth or the hospital may use a "laborist" to manage the birth. Regardless, the determination of the accountable entity and alignment and coordination across the entire episode of care must take into consideration the specific context in which the care is delivered.

One question that arises in considering alternatives to hospital births is how widespread the availability is of birth centers or home births. According to the American Association of Birth Centers, there are 325 birth centers in the nation in 38 states. There are 11,114 certified nurse midwives, who practice primarily in hospitals, but also in birth centers and home births, with 1,904 certified professional midwives, who manage both birth center and home births. In contrast, there were 33,624 OB/GYNs in 2010. While not present in all regions, many women have access to these lower cost birth options, which also result in good birth outcomes (Cheyney et al., 2014; Health Management Associates, 2007).

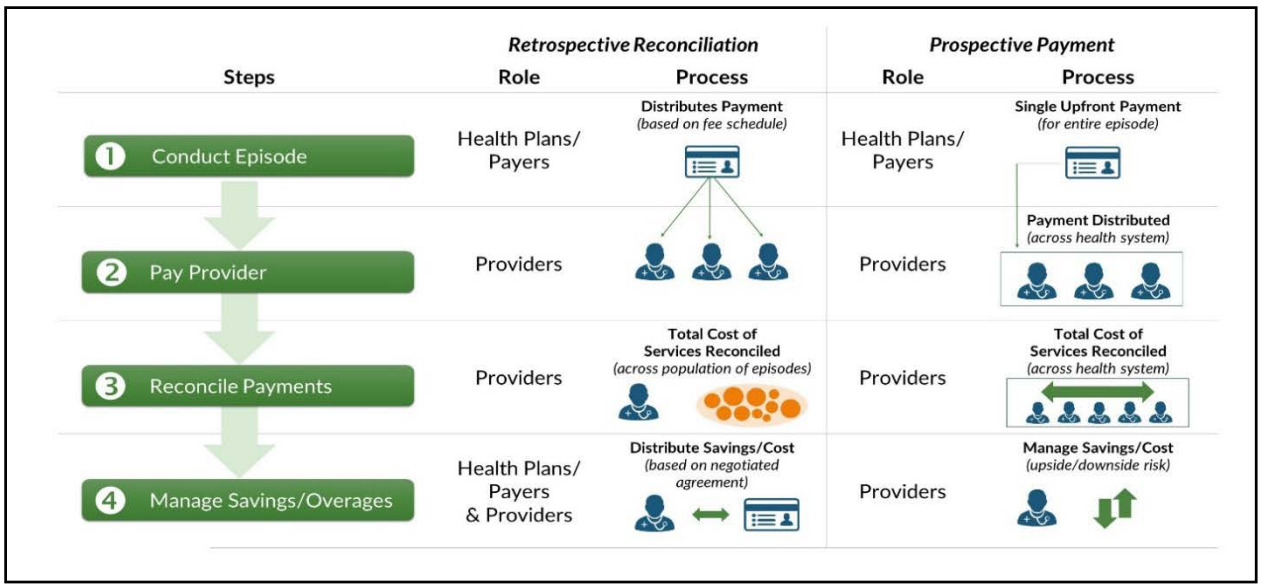
7. Payment Flow

The unique circumstances of the episode initiative will determine the payment flow. The two primary options are: 1) a prospectively established price that is paid as one payment to the accountable entity; or 2) upfront FFS payment to individual providers within the episode with retrospective reconciliation and a potential for shared savings/losses.

Episode payments are typically dispersed via either prospective payment or retrospective reconciliation (Figure 8).

In **Prospective Payment**, payment is provided for the whole episode, including all services and providers, and paid to the accountable entity, who subsequently pays each provider in turn. This payment typically occurs after the episode has occurred but is termed "prospective," as the price of the episode is set in a prospective budget ahead of time, and the savings or losses are not shared with the payer; they are simply a function of how well the accountable entity (and the providers with whom it coordinates) manages the pre-determined price. In **Retrospective Reconciliation**, individual providers are each paid on a typical FFS basis and then there is a reconciliation between the target episode price and the actual average episode price after a period of time across all the episodes attributed to a provider. Based on a specific formula, which is either negotiated or established by the payer, the accountable entity can share in gains and/or losses with the payer. In some instances, gains or losses are also shared among providers in the episode, in order to encourage collaboration and coordination across settings. These types of gain-sharing arrangements need to be considered within the parameters of federal laws that may impact their design, which is discussed in further detail in the regulatory infrastructure section of the Operational Considerations section of this White Paper.

Figure 2: Retrospective Reconciliation vs. Prospective Payment



Prospective payment is an option in some circumstances— particularly when the accountable entity is a health system that already integrates the clinician and facility payment. As a practical matter, it may be more difficult to implement a single prospective payment when multiple providers involved in delivering the care do not already have mechanisms for administering payment among themselves, such as is the case in integrated systems. Increased use of prospective payment can accelerate development of various supporting mechanisms to aid in this process. One caution on prospective payment in a FFS Medicaid program is that there may be regulatory barriers for one provider assigning payment to another. Legal counsel should be sought in this scenario. However, retrospective reconciliation is easier to administer within our current FFS environment because it requires fewer changes from current practice where the prevailing model is an open, non-integrated system. In addition, retrospective reconciliation is more prevalent in current episode initiatives. It does not require providers to develop the capacity to pay claims, and allows for better tracking of the resources used in the episode. It also can be built on an existing payment system.

Nevertheless, prospective payment has advantages in that it is a clear break from the legacy of FFS payment and may encourage greater coordination and innovation in episode payment. For example, in a prospective payment initiative, it may be easier to be flexible in delivering otherwise uncovered services, such as childbirth education or care coordination, which assist providers in achieving the goals of fewer pre-term deliveries and a higher level of vaginal births. Overall, it will be important for payers in specific regions to coordinate their strategies on payment flow, as it is easier to administer for providers if they are paid the same way.

8. Episode Price

The episode price should strike a balance between provider-specific and multi-provider/regional utilization history. The price should: 1) acknowledge achievable efficiencies already gained by previous initiatives; 2) reflect a level that potential provider participants see as feasible to attain; and 3) include the cost of services that help achieve the goals of episode payment.

Pricing episodes involves significant complexity, both to assure the accuracy of estimates, and to develop a pricing structure that is fair to providers while encouraging innovation. The goal should be to establish a price that encourages competition among providers to achieve the best outcomes for the lowest cost. However, certain issues need to be taken into consideration, including accounting for variation in the risk of the population, the impact of differing fee schedules and negotiating power, shifts in insurers mid-stream, regional variation in availability of types of providers, and ensuring that payments are sufficient to adequately reimburse for high-value services.

The monetary rewards or penalties that an accountable entity may experience are determined in large part by the manner in which the episode price is determined. In addition, there are several key aspects that interact in the establishment of the episode price. All payers will expect some return on their investments in this payment design, and can choose a variety of mechanisms to generate some level of savings. It is also important to consider including in the target episode price costs for historically underused services, as discussed in Recommendation 4, and additional services, such as a patient navigator/care coordinator, group visits, a doula, or breastfeeding support. Further, whether to build in savings for improvements, such as lower cesarean rates, is also a consideration.

Typically, the target episode price is set using some combination of regional and provider-specific claims data for a period of time that includes a sufficient number of cases used in estimates for the coming year. In some cases, the payer can also include an estimate of a decrease in costs based on quality improvements, such as lower cesarean rates or less need for NICU care. The Work Group recommends balancing regional-/multi-provider[2] and provider-specific cost data:

Balancing Regional- and Provider-Specific Data: Cost data should reflect a mix of provider and regional claims experience. The goal of including regional, rather than market-level data, is to ensure that there is enough variation in episode cost. This mix will also ensure that the established episode price takes into consideration the unique experience of the specific provider, and that the goals are set based on what is feasible in the region. Risk adjustment will be needed during this process to adjust for the unique characteristics of the population the provider serves. If the payer is a national payer, it may be more difficult to address specific provider issues and will require consideration of the use of national claims experience to ensure equity across regions. Over time, as performance becomes less variable, it may be

[2] For purposes of this paper, region is not defined. The region will be defined as a combination of the experience of multiple providers. We use the term "regional" to reflect this assumption.

useful to lessen the proportion of the episode look-back period that is based on the organization's specific experience.

Regional Costs: Using region-level claims data allows the payer to take into account the costs of multiple providers within a region, reflecting the fact that one provider's costs may not be representative of the entire region. It also addresses the variability that may exist for a provider with a low volume of cases. However, the concern with using regional claims is that, if as a whole, providers in that region have already achieved a certain level of efficiency, they may be less able to achieve further savings. In essence, these regions—or the providers in them—will argue that an efficient region will be "punished" for its previous work to achieve these efficiencies. On the other hand, if the region, on average, has a higher per bundle cost than other regions (or specific providers within the region), the payer may not achieve as great a level of savings than if the episode price was to be set at a national or provider-specific level. While basing some part of the price on region, it is also important to note variation across regions and to consider whether variation across the regions is warranted or not. It is important to look at this closely, and not just "bake in" regional variation if there is not objective reason for doing so.

Provider Costs: Provider-specific costs are the actual costs for the provider's previous patients. For example, if the OB/GYN practice is the accountable entity, the payer would conduct the analysis using the current episode definition and apply it to its pregnant patients over the past two years. The challenge is that although these costs may be accurate for a given clinical practice with a given payer, they may build in existing efficiencies that make it more difficult to achieve savings or leave in place built-in inefficiencies that limit the savings for the payer.

One challenge in maternity care is that different providers may have different episode costs. Consequently, payers may take various approaches to episode pricing as a function of other factors, including network configuration, benefit incentives, and preferred mechanisms for coming to agreement on pricing. For example, because there is significant variation in cesarean section rates across providers, as well as varying prices, payers will need to determine with which providers they want to base the episode. Determining what level of cesarean rate to build into the price will vary based on the payer's network and negotiating power, or it may impact the decisions the payer makes regarding with which hospitals to contract. It is also the case that services delivered at one hospital may be more or less expensive based on the fees they have negotiated with payers. Another example of a challenge specific to maternity is the absence of uniform billing codes for birth centers across payers. This may require a benchmarking process that utilizes different, or proxy, billing codes.

Significant variation in costs between hospitals and birth centers can also greatly impact episode cost. Research increasingly reveals that births managed by midwives and births in birth centers are not only less expensive than hospital births but also often lead to the same, if not better, outcomes (Howell, et al., 2014; Johantgen et al., 2012). If a woman chooses to go to a birth center, the cost structure is significantly lower than if she chooses to give birth in a hospital. A strategy might be one where the payer builds a network either with hospitals that have lower cesarean rates or with incentives for women to more fully utilize and expand access to birth centers in their region. The bundled price could be based on that lower intensity birth model, but may only apply in that setting.

Incentivize More Efficient Levels of Practice: In addition to historical provider and region-level data, the episode price should be based on the performance of the better performers in a particular market, such that all providers can see that the episode price and the quality metric performance thresholds are feasible to achieve. If a provider's performance is already at a relatively efficient level, it will need to see

some reward for that achievement at the same time that low performers will have an incentive to improve.

The episode price can be revised over time to ensure continual improvement by both the more and less efficient providers. In this way, the episode price automatically integrates savings and simultaneously incentivizes a compression of variation in cost and quality across all providers. Finally, the episode price should take into account services that are historically under reimbursed, and thus, underused, but are of high value to the patient. Care coordination, patient engagement, shared decision-making, and assessment of patient-reported pain and function are examples of services that could fall under this category.

Other Factors Impacting Episode Price

There are many other factors that should be used in developing the episode price, though the ability to do so will depend on the availability of data and analytic tools. These include:

Socio-Economic Status of the Patient Population: There are a number of socio-economic factors that have a significant impact on a patient's health status prior to pregnancy, access to care, and post-partum outcomes for the woman and the baby. These include income, literacy status, living status (living alone, living in a community without family or other supports nearby), and availability of transportation (both in general, and to care settings), among others. Certain socio-economic factors may align with a specific payer category, whether it be Medicaid or commercial payers.

Public vs. Private Payers: There are differences between public and private payers that should be acknowledged and reflected in the episode pricing. In addition to the socio-economic status of the patient population, as described above, there is also a difference in how overall pricing is set. For private commercial payers, pricing is an element of negotiation; in the public payer realm, prices are set by the public payer, if paid on a FFS basis. Managed care plans in Medicaid and Medicare will negotiate with providers, as they do in the commercial market. Either way, this will impact the level at which the episode price is set, as will the market in which the payer operates. If participation is voluntary, some form of negotiation will be necessary—whether through direct discussion, or through the public process of rulemaking. If the initiative requires participation, it may be easier to determine an episode price. However, the price will need to be one which is realistic for providers.

Trusted Empirical Data: One challenge is the ability for payers and providers to understand the variation in the costs of the episode across their region. Determining the appropriate price requires empirical data from a trusted source. The availability of these data to identify the opportunities for efficiency is critical to the success of these initiatives.

Episode Payment Flow: The episode price can be set retrospectively in an episode model for which retrospective reconciliation is the selected payment flow. Similarly, the price can be set prospectively in a model designed around prospective payment. Thus, setting the episode price and the payment flow should be part of an integrated process.

Patient and Family Definitions of Value: Information on the types of services that are most valued by patients and their families should be considered in determining the episode price. This information would not typically be captured via historical data, but rather via engagement between providers and their patients, as well as between purchasers and their employees. For further discussion on this topic, please read the paper on Financial Benchmarking, click here.

9. Type and Level of Risk

The goal should be to utilize both upside reward and downside risk. Transition periods and risk mitigation strategies should be used to encourage broad provider participation and support inclusion of as broad a patient population as possible.

The goal when setting an episode price should be to incorporate both upside reward and downside risk. Without downside risk (where the actual costs exceed the target episode price), the accountable entity and other involved providers have less incentive to make the necessary care redesign changes to create efficiencies and improve patient care. Further, increases in the cost of care delivery from year to year can negate the benefits of upside sharing of savings because of the reliance on historical data. Prospective payment by definition includes both. Retrospective reconciliation with upfront FFS payment can be designed to only share in savings (upside reward) or to share in losses (downside risk). In some cases, payers will begin with upside reward sharing to allow for the provider to establish the infrastructure and reengineer care practices to become capable of managing downside risk in the future.

However, taking on downside risk may be difficult for smaller providers, including many OB/GYN, family physician, and midwife practices that are the providers best able to support a new model of maternity care. Further, inclusion of downside risk may be a barrier to provider participation when the initiative is voluntary. It is important to acknowledge that several of the primary goals of the maternity care episode (for example, decreasing cesarean and NICU use) will result in lower per patient reimbursement for the hospital. This means that if the clinician practice is the accountable entity, and there is no upside reward or downside risk to the hospital where the majority of births will occur, then the providers—the clinicians and the facilities—will have very different incentive structures. This source of tension will need to be explicitly addressed, possibly through some type of shared accountability, which includes the ability to share in the savings or risk for any potential loses.

Safety Net Providers and Risk

A primary goal in designing any alternative payment model arrangement is guarding against unintended consequences. In episode payment for maternity care, the unintended consequence that concerns all providers—but perhaps safety net providers most of all—is the potential for decreased access to care for patients with poor health status, which puts them at increased risk for poor outcomes. This may be correlated with lower socio-economic status if the provider feels that it will not be possible to provide the full continuum of care and achieve positive outcomes within the episode price. Safety net providers in particular may need time to develop adequate reporting and staffing infrastructure; and build relationships across historically siloed organizations in order to feel prepared to take on the risk in an episode payment model.

To address concerns related to the level of risk, payers can utilize strategies to limit that risk or to transition (phase in) to downside risk arrangements over time. This is particularly important if the initiative is voluntary and participation would be limited without the option for upside shared savings only. Decisions about type, level, and timing of upside and downside risk illustrate the tensions between

payers and providers: more attractive risk arrangements for payers may be less attractive for providers and vice versa. Consequently, in the private market, these factors will become part of the ongoing negotiations among network participants and payers. In public programs, these negotiations will happen through the political and policy process of rulemaking.

Mechanisms for Limiting Risk

The level at which those risk limits are set is a critical design element. There are several issues to consider, such as whether the accountable entity will be required to pay the full difference between the total dollars over the established episode price and the actual episode costs back to the payer, or whether limits will be established. Limits are especially important considering that an accountable entity is accountable for care provided by other providers. In the case of maternity care, the facility accounts for the largest percentage of overall costs. What the accountable entity (the clinician practice) is paid through FFS payment is limited compared to the liability associated with the entire cost of the episode over the estimates for the entire population of included births.

One risk-mitigation strategy already addressed is limiting high-risk cases through exclusions. Following are additional strategies used by various initiatives to limit risk in an episode payment while still maintaining as broad an episode population as is feasible. These are often, but not always, used in tandem.

Risk Adjustment: Risk adjusting the episode price, based on the severity within the population in the maternity bundle, is one risk-mitigation strategy. Most initiatives will include a list of included and excluded women and then ***also*** have a list of factors that would be used to adjust the episode price. There are a variety of approaches to capturing patient characteristics, risk factors, and other parameters that predict maternity care episode expenditures. For example, the Health Care Incentives Improvement Institute's (HCI3) evidence-based case rates create a variety of patient-specific episodes that re-calibrate based on various patient-specific severity factors. The maternity bundles in Tennessee are also adjusted based on a variety of factors, including risk and/or severity factors captured in recent claims data, such as early labor, preeclampsia/eclampsia, and behavioral health conditions. Although risk-adjustment methods are limited in their predictive accuracy based on claims alone, over time, these factors and their weights can be updated to become more accurate based on empirical experience. At the same time, we recognize that risk adjustment can potentially lead to gaming. For example, a provider may adopt more intensive coding to either increase the reimbursement, or to ensure the patient is not included in episode population. Or a provider may refer more difficult patients to other practices to limit their own panel to only the lowest-risk women. This will need to be monitored to ensure that codes are not being overused to obtain higher payments rather than to accurately reflect the condition or risk of the pregnancy. For further discussion on this topic, please read the paper on Financial Benchmarking, click here.

Stop-Loss Caps, Risk Corridors, and Capital Requirements: Stop-loss caps are already discussed in the context of the included population as one way to limit the risk of very high-cost newborns at an individual patient level. Stop-loss caps also can be used on an aggregate level across the population. Risk corridors limit the exposure of the accountable entity by establishing an upper limit over which the accountable entity will not have to pay back any amount of dollars the overall costs of the episodes may go over the established episode price. These corridors can also be placed on the upside reward, such that the incentives to limit care are not as great as they would be otherwise. Another risk-mitigation strategy is to require the accountable entity to maintain a certain level of capital, so that it can cover

losses and invest in necessary infrastructure. While these types of arrangements are often used to limit insurance risk, the same concepts can also be used in this context to limit service risk.

10. Quality Metrics

Prioritize use of metrics that capture the goals of the episode, including outcome metrics, particularly patient-reported outcome and functional status measures; use quality scorecards to track performance on quality and inform decisions related to payment; and use quality information and other supports to communicate with, and engage patients and other stakeholders.

A wide variety of measures are in use for maternity care that could be used to support the goals and operation of clinical episode payment. At this time, the Work Group does not have specific recommendations for the most effective measures, but rather provides examples of the types of measures of maternity and newborn care quality. The Work Group also notes the importance of the development of patient-reported outcomes and functional status (particularly postpartum) measures.

Those already implementing maternity bundles use a variety of metrics, but there seems to be two primary categories or strategies. First, there are measures of whether certain processes or services were provided due to concerns that they might be underutilized absent some mechanism for accountability and because they are practices known to improve outcomes. These include measures such as the number of prenatal visits, screening tests, breastfeeding support, and depression screening. Second are measures of outcomes, which can correlate to changes in care delivery. These include rates of vaginal births/cesareans, pre-term and early elective births, rates of episiotomy, exclusive breastfeeding in the hospital, and patient complications. These two categories together can capture the quality of care delivered in the prenatal, labor and birth, and postpartum time frame.

In selecting the metrics for an episode payment model, it is important to recognize the preference for alignment of measures across programs, use of nationally endorsed measures, and a limited, tight set of measures with a low burden of collection. The Work Group supports these principles whenever they can be met with measures that incent priority opportunities for improving maternity care. A measure that meets these criteria without the potential for high impact among childbearing women and newborns would not be useful for this purpose.

Potential Measures: In the spirit of building on existing measurement consensus processes, the Work Group recommends consideration of the applicable measures recently released from the Core Quality Measures Collaborative (CQMC) that could be used in the maternity bundle (Centers for Medicare and Medicaid, 2015a). Measures in the CQMC OB/GYN Core Set that are only applicable to gynecological care and not obstetric care are not included here. However, measures in the core set that may not be considered directly related to maternity care but are often delivered either during the prenatal or postpartum period are included. The CQMC divided the set into accountability for the OB/GYN and for the hospital/acute care setting, but they could also be used for quality measurement of an episode of care.

CQMC measures related to the ambulatory OB/GYN setting include:

- Frequency of ongoing prenatal care;[3]
- Cervical cancer screening; and
- Chlamydia screening and follow up.

CQMC measures identified for the hospital/acute care settings include:

- Incidence of episiotomy;
- Elective delivery for vaginal or cesarean at > =37 and < 39 weeks of gestation completed (PC-01);
- Cesarean (nulliparous women with a term, singleton baby in a vertex position delivery by cesarean section, PC-02);
- Antenatal steroids under certain conditions (PC-03); and
- Exclusive breast milk (PC-05).

CMS Medicaid and CHIP Child and Adult Core Measures for Maternity Care: As illustrated in Table 7, CMS worked with state Medicaid agencies to develop a core set of child and adult measures that include some maternity metrics of importance to that community.

Table 2: Medicaid and CHIP Child and Adult Core Measures for Maternity Care[4]

	Source	Adult Core	Child Core	CQMC
PC-01: Elective delivery	NQF 0469	X		X
PC-03: Antenatal steroids	NQF 0476	X		X
Timeliness of Prenatal Care	NQF 1517	X	X	
PC-02: Cesarean Section	NQF 0471		X	X
Live births less than 2500 grams	NQF 1382		X	
Frequency of ongoing prenatal care	NQF 1391		X	X
Behavioral health risk assessment for pregnant women	AMA-PCPI		X	
Pediatric Central Linked Associated Bloodstream infections: neonatal ICU and pediatric ICU (CLABSI)	NQF 0139		X	

[3] Status: This measure was recently recommended for removal of NQF endorsed measures and the Medicaid core set by The NQF Perinatal and Reproductive Health Standing Committee and the NQF MAP Medicaid Child and Adult Task Forces

[4] The NQF MAP Medicaid Child Task Force voted to recommend inclusion of PC-05 Exclusive Breast Milk Feeding (NQF 0480) and the equivalent PC-05 eMeasure (NQF2830) in the Child Core Set.

	Source	Adult Core	Child Core	CQMC
Postpartum contraceptive use among women ages 15-44	Developmental measure (OPA/CDC)-NQF-2902[5]	Likely to be included in future sets		

Other Potential Measures:

The generic Consumer Assessment of Healthcare Providers and Systems (CAHPS) patient experiences of care facility, clinician, and health plan measures do not map well to antenatal through postpartum and newborn care and this population. However, there may be specific CAHPS supplemental items that could be of use to measure patient experience (Agency for Healthcare Research and Quality, 2016).

To measure experience of care within its episode payment model, Community Health Choice, a maternity clinical episode payment initiative in Texas Medicaid, developed a survey by selecting items primarily used in previous national *Listening to Mothers* surveys. Topics included the timing and communication experience in prenatal care, planning for the birth, and the mother's experience after the birth, which includes caregiver follow up and her overall satisfaction with the experience.

Functional status, particularly after birth, when used to capture such self-reported outcomes as pain, ability to perform activities, and depression also needs more focus. It is a time period that sets the stage for the health of the recovering woman and her newborn. Functional status instruments are not routinely used in the initiatives we have reviewed, but have been used for postpartum research, and could be developed into survey instruments for this context. Research on these functional status surveys demonstrate their ability to measure postpartum health.

A measure of patient skills, knowledge and confidence in managing one's health—the Patient Activation Measure (*NQF #2483: Gains in Patient Activation (PAM) Scores from 6-12 months*)—would demonstrate whether the health system has provided opportunities to increase activation from early to late pregnancy.

Several other measures are also of interest, including rates of unexpected newborn complications and rates of vaginal birth after cesarean. Rates of newborn complications, particularly unexpected complications (e.g. NQF 0716), measure the ultimate outcome of the birth—the baby's health. A measure of the vaginal birth after cesarean (VBAC) rate (e.g. AHRQ IQI 134) could address an important opportunity for improvement that would be complementary to the above-mentioned cesarean rate. Further, provision of influenza vaccines prenatally also has been shown to decrease complications. These measures are not the only ones that various initiatives have used, and each initiative may want to customize its quality metrics to some extent, depending on the needs of its population.

Quality Scorecard: A core feature of any episode payment initiative is using performance metrics to create scorecards to ensure high-quality care delivery; inform the decisions of the woman, her family, and her providers; and determine payment levels.

Most episode payment initiatives use a quality scorecard with defined thresholds that a provider must meet or exceed in order to receive the full reimbursement for an episode or the full shared savings.

[5] Status: NQF Reproductive Health Standing Committee recommended endorsement of this measure in May 2016 and is currently going through consensus development process.

However, the decision on where those thresholds are set—or how they are used—should be left for the payer and provider to negotiate. Some initiatives vary the level of shared savings based on performance metrics, while others also use minimum performance levels as a threshold for receiving any portion of the savings. In a prospectively-paid initiative, it may be useful to withhold some portion of the prospective payment and base its payment or level of payment on performance on the quality scorecard.

Quality Information to Communicate and Engage with Patients: In addition to using information on quality to determine payment, it is important to other stakeholders to have access to data on quality. As discussed under Patient Engagement, women need quality data on the performance of different facilities and on maternity care providers to inform their choices. Currently, data on maternity care provider performance are not routinely available and development is needed to support more widespread and routine data collection.

Comparative quality information is also important for providers to use to improve their performance. A provider portal, separate from electronic health records (EHRs), where providers can access individual average quality, costs, and utilization across episodes, is one way to provide this information. The Arkansas initiative found this type of portal to be important for providers.

Employers, purchasers, and payers also need these data to develop provider networks and to help employees make these important choices, both before and during pregnancy. Specifically, employees need to understand the bundle and what their role is in receiving high-quality care. Primary care providers hoping to enter into bundled payment contracts will want data about specialty physician quality performance in order to determine which bundled arrangements would be most beneficial to their patient population.

Finally, episode payment design must build in the capacity to collect, analyze, and provide data and support patients in identifying and interpreting this information. The use of patient navigators—for whom some existing initiatives have substituted community health workers—can be helpful in providing this support. First, however, the information itself must be available. It is important, therefore, to establish cross-cutting efforts to define metrics and systems for data collection and analysis. It is a significant burden, however, for each initiative to define its own metrics, collection system, and scorecard. Broader efforts are needed to build the necessary infrastructure for meaningful development and use of quality performance information, and building these systems is one of the key challenges discussed in the Operational Considerations section of this White Paper. To read more about Performance Measurement, click here.