New Payment Models for Improving Maternal and Infant Health and Health Care

A Convening Hosted by NEHI in Partnership with Merck for Mothers
December 11, 2018

Meeting Summary

I. Introduction

On December 11, 2018, at the Kaiser Permanente Center for Total Health in Washington, DC, NEHI (the Network for Excellence in Health Innovation) hosted a stakeholder convening in partnership with Merck for Mothers. The purpose of the convening was to discuss new payment models to drive down rates of maternal and infant mortality and to support optimal maternal and infant health outcomes in the United States.

More than 75 participants explored a wide range of issues (see Appendix A for participant list and Appendix B for the meeting agenda) and began to develop a roadmap for new payment approaches in maternal and infant care. There were no formal prepared presentations, but rather discussion modules that were launched by a series of "thought starters," as the agenda enumerates. This meeting summary highlights the key themes and issues discussed during the course of the convening, as well as the central recommendations that emerged in discussion of an initial roadmap.

NEHI held a second convening on the following day with support from the Jewish Healthcare Foundation. This second session explored state and federal policies to support improved maternal and infant health and outcomes. The summary of that session is also available, and convening participants may wish to read it for the full context of the discussion on both days and the spectrum of changes deemed necessary.

II. Background Issues and Convening Discussion

Maternal and infant health in the United States is in a state of crisis. Estimated U.S. rates of maternal mortality, severe maternal morbidity, preterm birth, infant mortality, and low birth weight are the highest among high-income nations.[1,2,3] Large disparities exist in these areas and in such pregnancy outcomes as preterm birth rates and in obstetric care, across racial and ethnic lines.[4,5] The United States has a higher rate of cesarean or C-sections than all but two OECD countries (Australia and Switzerland),[6] despite some recent success in lowering unnecessary C-section rates and pre-term induction rates.[7] There are large variations around the country, within regions, and among health systems, in multiple aspects of maternity care,

including C- section and pre-term induction rates.[8] In total, the United States spends 0.6% of GDP on maternity care or $111 billion annually;[9] costs for both vaginal and C-section deliveries are on average the highest worldwide and have grown rapidly;[10] and the gap between the dollars spent and the outcomes obtained is evidently large and growing.

U.S. maternal health and maternity care is thus afflicted with all of the problems that the Institute of Medicine identified as characterizing the entire U.S. health care system: it is not sufficiently safe, effective, patient-centered, timely, efficient, and equitable.[11] It is also clear that many women who become pregnant in the United States are already in poor health, with high rates of cardiovascular disease, hypertension, obesity, and diabetes; these factors, coupled with advancing maternal age, are contributing to severe maternal morbidity[12] as well as high maternal death rates.[13] What's more, in an era of growing reliance on high-deductible health plans, childbirth costs are increasingly unaffordable for American families. Despite some positive trends in infant and child health, such as historically low (for the United States) rates of infant mortality and teen births, and increases in breastfeeding,[14] racial and ethnic disparities in these areas remain high.

Much important work to date, including that supported by Merck for Mothers, has illuminated many of these problems, and important steps have been taken to make childbirth safer, such as through adoption of safety bundles, or "sets of evidence- based tools and practices to prevent and treat the three leading causes [hemorrhage, pregnancy-related hypertensive disorders, and infection] of maternal death in the U.S."[15]

Still, multiple additional opportunities exist to improve the quality and safety of, and outcomes associated with, prenatal and maternity care and infant health. Merck for Mothers asked NEHI explicitly to explore the potential for new payment models, as payment has long been identified as a key contributing factor to improving care and eliminating unwarranted disparities in care and outcomes.[16] NEHI further sought to explore the possibility of a broad payment model that could span the spectrum of maternal and infant care, from preconception through at least the first year of a child's life, and the potential for a consumer awareness campaign that could make women more cognizant of variations in care, cost, and outcomes in maternal and infant care. Coupled with potential changes in state and federal policy, which could also support payment reforms, the stage could then be set for major improvements in maternal and infant health.

A number of individuals and organizations with either experience in, or familiarity with, new maternal health payments models and/or maternal health quality and safety initiatives were represented at the convening (see attendee list for details). Also represented were a number of state Medicaid representatives and Medicaid managed care organizations – a critical set of participants, since Medicaid programs now pay for close to half the deliveries that take place in the nation annually. Among those commercial payers who had developed new care and/or payment models and whose work was discussed at the convening were CIGNA, Humana, Anthem, and Horizon Blue Cross Blue Shield of New Jersey. Within Medicaid, programs featured included those of Tennessee, Texas, and Arkansas.

As with much of the rest of U.S. health care, most maternal and infant health care has been paid for through fee-for-service payment, with alternative approaches very slow to take hold. Current payment approaches are far from the only problem plaguing maternal and infant health care, but convening participants noted that the current payment system, focused on volume of services rather than outcomes, tends to reinforce problems that exist within maternal and infant health care generally. New payment models, by contrast, could in theory help to ameliorate these problems, as follows:

Overmedicalization of pregnancy and delivery. Pregnancy and giving birth are not diseases or conditions to be treated; rather, they are part of a normal, healthy, physiologic life process for many women. Yet compared to most developed countries, the U.S. has chosen to medicalize maternal health, with the vast majority of care being provided in doctors' offices and hospitals. New payment models, however, have the opportunity to reward a less medicalized approach when highly specialized care isn't needed – for example, by paying for birth centers and midwifery care.

Overutilization and underutilization of services. New payment models could also address the dual challenge of overutilization of some services and underutilization of others. Many studies have shown, for example, that the traditional fee for service payment system contributes to overuse of elective and unnecessary c-sections, overuse of ultrasound scans during pregnancy, and an overall "more is better" attitude, particularly relating to the overuse of hospital-related services for low-risk pregnancies. By contrast, examples of underutilization include preconception care and education, pregnancy and maternal health education, home visits as conducted by Nurse-Family partnerships, incorporation of midwives, doulas, community health workers and other care providers into the maternal health continuum of care. There is considerable opportunity to follow the path of other areas of health care and payment, and align payment to real value in maternal and infant care, as determined in part through achievement of specified quality and cost outcomes rather than simply paying for the volume of care delivered.

Pricing and payment variation. As with most aspects of health care, there is tremendous variation in pricing in maternity care, and no real consensus about how much should be paid for specific aspects of care. For example, national average payments for routine prenatal and postnatal care and a normal vaginal delivery range from $9,902 to $16,646, a 68 percent difference.[17] Similarly, national average payments for prenatal and postnatal care and a c-section delivery range from $12,485 to $20,979.[18]For historical reasons, care providers in rural areas are paid less for the same or similar services, whereas those in urban centers are paid more, over and above normal rural-urban cost-of-living differentials. State Medicaid program pay midwives anywhere from 70 percent to 92 percent of what they pay physicians for the same normal vaginal deliveries, despite the fact that the Strong Start evaluation showed reduced costs and better outcomes through the birth center/nurse midwife model.[19]New payment models that are not based solely, or at all, on old fee schedules, or out-of-date payment practices, would have the opportunity to reprice services, and direct payment precisely to those services that are worth purchasing.

Under recognition of women's varying preferences and lack of shared decision making. There is a growing appreciation and demand for personal choice and preferences in maternal health, which may guide some women to choose care pathways that are more or less medicalized. Women are seldom fully informed about maternal care options, and are often either self-refer or are steered to options that they might not elect if they were fully informed.

Need for customization. New payment models can also allow for tailoring care to a woman's and infant's individual backgrounds and circumstances and overall risk profile, in addition to preferences. New payment models, such as episodes and bundles, have the potential and opportunity to follow a woman from pre-conception counseling, through pregnancy and birth and then continue to follow mother and baby through the baby's first year of life. New payment models can provide the infrastructure and range of care systems to support women, wherever they may be in that continuum. Payment can also be risk-stratified, so that women who need more support, either in more intensive health care or more provision of social services, can receive that support as needed, with the understanding that levels of risk and care may need to be adjusted along the way.

For example, for a relatively healthy young woman, pregnancy and delivery may be comparatively uneventful experiences, group prenatal visits coupled with delivery in a birth center with the assistance of a nurse midwife may constitute a perfectly safe and appropriate care pathway. For other women, particularly older mothers who are less healthy, preconception counseling may be desirable to assist women in becoming as healthy as possible before pregnancy. Women with preexisting health conditions such obesity, cardiovascular disease, and diabetes may need considerably more care and support during pregnancy, as will those at high risk of preterm delivery. In addition, many women may face economic and social issues, such as lack of access to transportation, that may require non-medical or social supports that are not commonly paid for in the context of the delivery experience, but that should be included in care pathways. There are thus opportunities to align maternal and infant care with "Accountable Communities for Health" models that provide such supports as well.

Separate silos for maternal and infant care. With relatively few exceptions, such as in maternal-fetal medicine maternal care and infant care are typically handled separately, by different providers, and often under different payment and insurance arrangements. A post-partum woman may be seen for a six-week follow-up by her OB/GYN, but any health care she receives subsequently will probably be from a different provider, while her infant is cared for by still another provider, most likely a pediatrician or advance practice nurse. Only in the most holistic practice will mother and baby be viewed as a health "dyad" that bears a close relationship to each other. Different coverage exacerbates the situation: In some states, for example, women who are on Medicaid while pregnant are covered only through six weeks post-partum, and may end up uninsured, while their infants are and may remain on Medicaid. It is not known whether any studies have illuminated any ill effects of this bifurcation and silo-ization, but at minimum, it seems nonsensical, and unlikely to redound to the maximum benefit of mother and baby.

Disparities in care, morbidity and mortality. Large racial and ethnic disparities exist in both prenatal care and birth outcomes, particularly between white and black Americans.[20] The National Partnership for Women and Families has found in surveys that 22 percent of black women also report discrimination when going to a doctor or clinic. Public policies and health care practices should provide care that focuses on women's individual needs and preferences, regardless of race, culture or socio-economic background. In addition to promoting policies that will support culturally respectful care, participants cited training as another effective tool to help health and health care practitioners understand unintentional biases and address how racism, privilege and stigma can lead to systemic biases in maternal health and health care.

Dearth of outcomes measures. Convening participants identified a paucity of standardized and widely accepted outcomes measures that could be incorporated into new maternal and infant health payment models. The National Quality Forum, for example, has to date approved only 19 measures in the realm of maternal and perinatal care; three deal with contraception, four with elective delivery, and no new ones have been approved for more than five years. What's more, these and other existing maternity care measures have traditionally focused on process and administrative tasks. New measures by which to judge outcomes across the fuller spectrum of care are clearly needed – and in order to shape and track these measures and outcomes, payers and providers need better access to clinically meaningful data at both a granular level. ACOG, for example, has been developing a national registry and working with electronic health record vendors to enable the extraction of clinically meaningful data from EHRs that will dramatically improve the field of quality measurement for maternal health. A robust measure could to guide care improvement and serve as a basis for new maternal health payment models.

Return on investment considerations. As payers look to expand payment models to include the mother and baby dyad, there will be challenges in forecasting and verifying the likely return on investment, particularly if it appears that there are reasons to increase spending in the short run in order to minimize spending or attain broader societal benefits later. In optimal circumstances, payers could reap short-term returns – for example, by minimizing unnecessary c-sections, or reducing neonatal intensive care unit stays by curbing preterm birth (note that the latter could constitute an ROI that may be discounted if a payment model includes only maternal care, not infant care as well). But for other aspects of maternal and infant care that may require other types of spending, such as social supports, the ROI is either unknown, or the return may redound to society rather than to the individual payer. More empirical analysis will need to be done as new payment models evolve.

III. Opportunities to Build on Success

Fortunately, convening participants said, there are multiple examples of efforts to improve the quality and safety of maternal and perinatal care that can serve as a basis for crafting supportive new payment models.

For example, in California, multistakeholder collaboratives focused both on maternal and perinatal care have shown very positive results. The California Maternal Quality Care Collaborative (CMQCC), founded in 2006 by Stanford University School of Medicine and the state of California, now includes 212 hospitals where 95 percent of deliveries within the state take place. CMQCC has used research, quality improvement toolkits, state-wide outreach collaboratives and data compiled through a data center to improve health outcomes for mothers and infants. Since CMQCC's inception, California has seen maternal mortality decline by 55 percent between 2006 and 2013, while the national maternal mortality rate continued to rise.[21]

Similarly, the California Perinatal Quality Care Collaborative (CPQCC) is a statewide network, also housed at Stanford's School of Medicine, of California's neonatal intensive care units (NICUs) and high risk infant follow-up (HRIF) clinics. Formed in 1997, it is part of the network of perinatal quality collaboratives whose existence has been encouraged by the Centers for Disease Control and Prevention. Between 2006 and 2015, for example, hospitals that are members of the CPQCC achieved a one-fifth reduction in mortality for very low birth weight infants, among other successes.[22] Elsewhere, the 46 state perinatal quality collaboratives that now exist nationwide have contributed to other important improvements in health care and outcomes for mothers and babies, including reductions in deliveries before 39 weeks of pregnancy without a medical reason.[23]

At the federal level, at least one new care model recently tested showed promise in improving maternal and infant health. Strong Start was a Center for Medicare and Medicaid Innovation initiative that ran from 2013 to 2017 for pregnant women enrolled in Medicaid or the Children's Health Insurance program (CHIP). The initiative tested psychosocial approaches to reducing preterm birth, improving overall pregnancy outcomes for mothers and infants, and reducing costs to Medicaid and CHIP during pregnancy and the year following birth.

The 46,000 women participating in the program received care in one of three models: through maternity care homes, which offered standard clinical care along with a care coordinator and sometimes additional health education or other services; group care, which offered clinical care in a group setting, along with extended health education and peer support; and birth centers, which offered nurse-midwifery plus peer counseling for additional education and support. An evaluation found positive results from both the group prenatal and birth center approaches, but significantly better outcomes overall in the birth center model. In fact, whether or not the women served in birth centers actually delivered in the center or in a hospital, the costs of their and their babies' care were $2,010 lower on average from birth through the first year. Preterm birth rates for those served in birth centers were 25 percent lower than Medicaid comparison groups.[24]

There have also been learnings from commercial models, chiefly episode- based arrangements or bundles created by such payers as CIGNA, Humana, Anthem, and Horizon Blue Cross Blue Shield of New Jersey, and in Medicaid in such states as Tennessee, Texas, and Arkansas. Drawing on these past successes and models, participants in the NEHI convening said that the key is to spread identified best practices and

build the payment models that support them, as detailed further below. "We need to lead with the care models that work," as one participant put it.

IV. Outlining a Roadmap for Change

Given both the opportunities and the challenges described above, participants in this convening identified a number of high priority opportunities to advance maternal and infant health and health care, as well as the outlines of a roadmap for change. Components of this early roadmap are as follows:

- First, identify and share optimal care delivery models and practices that include both mother and infant, that produce the best outcomes for both, and that promulgate optimal care pathways – ideally from preconception through at least the infant's first birthday -- tailored to the needs and situations of specific groups of women and babies.
- Create new payment models that will support these care pathways. One strategy could be devising new Medicaid payment models at the federal or state level, potentially under the leadership of CMMI, to support the identified care pathways. Another strategy would be to encourage local/regional payers and providers to collaborate to develop payment models, either in Medicaid or in the commercial sector, to support these optimal practices and care pathways.
- Meanwhile, establish and/or maintain regional quality and safety collaboratives to continue to improve care and gather and analyze relevant data.
- Work with provider groups and payers to expand care teams; integrate newer types of health care workers, such as community health workers and doulas; and incorporate new modalities of virtual care, including telehealth and the use of apps.
- Establish a national repository of best practices/promising practices.
- Develop new quality metrics for maternal and infant health, as there is a paucity of widely used measures at present.
- Promote a maternal and infant health "Moonshot" incorporating the steps identified above, as well as a high-profile consumer engagement campaign to activate women and families to make more informed choices about maternal and infant care.

The sections below elaborate on these core roadmap components. The individual components should be understood as interdependent and reinforcing of each other, and should be undertaken simultaneously, rather than sequentially.

1. Identify and share optimal care delivery models and practices and develop risk-stratified care pathways.

To improve outcomes in maternal and infant health and health care, participants agreed that the most important place to start is *not* actually to begin with payment, but rather to identify specific delivery models and practices that have a strong evidence base to drive the best outcomes. In addition to sharing models and practices with a strong evidence base, participants expressed interest in sharing "promising" practices

and “good ideas” as well even as evidence is gathered as to their effectiveness.

As noted above, a central idea that emerged from the convening is that these delivery models and practices should be tailored to specific groups of women and babies, as determined by risk assessments that ideally would be undertaken preconception or, at the very least, immediately upon determination that a woman is pregnant. Payment models should be structured with an eye to reducing or eliminating overutilization, such as unnecessary c-sections, preterm inductions, and other inappropriate care, and also to eliminating underuse, such as the cost-effective use of care providers such as doulas.

A key recommendation is to evaluate all of the evidence to date and establish a series of risk-stratified care pathways that incorporate not only optimal pregnancy care but also various social supports, ranging from pre-conception counseling to assured access to healthful food and transportation, among other critical needs. These risk-stratified care pathways could be devised by a cross-sector stakeholder group that would ideally include leading organizations representing mothers and infants, as well as health care providers, such as obstetrician/gynecologists, maternal-fetal medicine specialists, nurse midwives, family practice clinicians, community health workers, doulas, neonatal intensive care specialists, pediatricians, social workers, and others with expertise in the social supports that many pregnant women and infants need.

The pathways could incorporate existing clinical guidelines as well as promising practices, assuming that these practices are also being evaluated in the context of ongoing studies. For example, Horizon Blue Cross Blue Shield is currently involved in a three-year demonstration project testing use of community health workers to assist in the care of pregnant women and infants in areas of New Jersey in which roughly a third of babies are born pre-term. “Virtual” visits between high-risk pregnant women and maternal-fetal medicine specialists brought together by telehealth have been shown to help lower preterm delivery rates. Care pathways would include use of group prenatal care or “centering” approaches, nurse midwives, and birth centers, along with other approaches based on a woman’s level of risk, and personal choice. Care pathways would not end with a delivery or a 6-week post-partum visit, but would extend to the first year of a child’s birth. Women could be referred to appropriate care pathways based on standardized assessments at various stages, such as preconception, in early pregnancy, later pregnancy, and so on. These assessments could include screening for substance use, depression, and other mental health issues as well.

As enumerated in #2 below, once these various care pathways were identified, they could then serve as a basis for discussion with local and regional payers, providers, and groups representing women and infants as to how best to shape payment models that would support the identified care pathways. To support use of new payment models, convening participants also acknowledged the need to bring stakeholders together to develop new quality metrics for maternal and infant health, as described more fully in #5 below.

2. Create new payment models that will support these care pathways. One strategy could be devising new Medicaid payment models at the federal or state level, potentially under the leadership of CMMI, to support the identified care pathways. Another strategy would be to encourage local/regional payers and providers to collaborate to develop payment models to support these optimal models and practices and care pathways.

At the risk of some oversimplification, there are two reigning approaches to value-based payment reforms in health care. One favors the design of "top-down" payment models, such as those that have been launched in recent years by the Centers for Medicare and Medicaid Services and CMMI. A second approach is distrustful of top-down models, and favors more bottom-up efforts, at the local, state, or regional level, to revamp payment and delivery together. Both schools of thought were represented at the NEHI convening.

In the wake of the Strong Start experiment described above, the possibility of more "top-down" models being launched by CMMI to improve maternal and infant health in the Medicaid program was explored at the convening. According to the CMMI representatives present, "the door is open" at the agency for new models to be proposed. One possibility is a further iteration of the birth center approach that produced positive results in Strong Start. Another CMMI model, Integrated Care for Kids, will be launched in 2020.[25] Aimed in part at addressing fallout of the opioid use disorder crisis, this model will support states and local providers to conduct early identification and treatment of children with health-related needs across settings. Participants will be required to integrate care coordination and case management across physical and behavioral health and other local service providers to provide child-and family-centered care. Although not specifically linked to maternal health as currently conceived, it is possible that bridges could be built between this and other maternal-infant payment models.

An entirely different approach also explored at the convening was payer and provider collaborations, at the local, state, or regional levels, to devise new payment models to serve both commercial and Medicaid populations. The preference for these bottom-up, local, or regional approaches stems from the fact that the populations who need to be served vary, and health system capacity varies, in different parts of the country. As noted above, many services aren't paid for appropriately today; providers may be overcompensated in some instances, particularly for procedures, and undercompensated for other activities, such as in listening to or counseling patients. Existing shared savings models do not distinguish between care that should be rewarded and care that should not be, and existing risk adjustment models are often poor.

Given these realities, an alternative approach may be to allow local or regional "coalitions of the willing" of payers, purchasers (such as self-insured employers and state Medicaid programs) and providers to work closely together to evolve new payment models geared to new risk-stratified pathways. "Truly transformational things won't happen overnight," as one participant put it. Payment need not always be structured around bundles or episodes; in some instances, new codes could be created for new activities, such as doula or community health worker support, that would be paid for by fee-for-service. Payers,

purchasers, and providers alike would need to be explicit about the trade-offs: relatively less money going to hospitals for both deliveries neonatal intensive care units, and relatively more going to midwives, birth centers, doulas, and community health workers.

For maximum adoption and take-up, participants also issued this caution: Keep new payment models as simple as they can be, but no simpler. Simple payment models, arrived at through negotiations between providers and payers, are far more likely to gain provider buy-in, will be easier to administer, and may have more staying power than more complex models. Depending on how payment is structured, models may have to be risk-adjusted, although different payment levels assigned to different care pathways should implicitly incorporate many risk factors. Some participants at the convening cautioned against "shared savings" payment models, given the potential for inherent disincentives to use certain valuable services, although again, appropriate pricing for some of these services might eliminate any of these disincentives and could make shared savings approaches appropriate.

The extended care pathway from preconception counseling to the child's first birthday would assume that insurance coverage is in place for this extended period. As a result, an appropriate policy change would be that, in all instances, such as in Medicaid, coverage of the pregnant woman would extend to one year postpartum.

3. Maintain or establish regional quality and safety collaboratives to continue to improve care and gather and analyze relevant data.

To support the evolution of new payment models and adoption of new care pathways, sustainable maternal and perinatal quality collaboratives will be critically important. As noted above, two of the best known are the California Maternal Quality Care Collaborative (CMQCC) and California Perinatal Quality Collaborative (CPQCC). Other states with effective regional quality collaboratives in maternal health are New Jersey and Pennsylvania. Meanwhile, the Centers for Disease Control and Prevention has actively encouraged, and in some instances funded, formation of perinatal quality collaboratives across 46 states. CDC is currently providing support for state-based perinatal quality collaboratives in Colorado, Delaware, Florida, Georgia, Illinois, Louisiana, Massachusetts, Minnesota, Mississippi, New Jersey, New York, Oregon, and Wisconsin. In addition, the proposed Quality Care for Moms and Babies Act (S.2637) would enable CMS to make grants to eligible entities for the development of new state and regional maternity and infant care quality collaboratives.

In addition to promulgating best practices, a crucial contribution of these collaboratives is collection and comparison of clinical data, beyond administrative or claims-related data sets. The American College of Obstetrics and Gynecology is creating a clinical data registry; it is possible that this effort could complement, or be linked to, broader data-collection efforts that could collect and analyze maternal and child health care data provided in numerous settings at the local, state, and regional level through quality collaboratives.

Critical success factors for these effective collaboratives include involving leadership at all levels from cross-sector organizations including hospitals, public and private payers, professional societies, practitioners, advocacy groups and policy makers; identifying the highest priority quality improvement initiatives based on local knowledge, population needs, capabilities and data sources; leveraging both "carrot and stick" approaches to quality improvement; understanding local populations and local insurance markets; local issues relating to specific social determinants of health that are most closely tied to maternal and infant health and health care; and the availability of funding support from public and private sources, as well as sustainable funding for effective pilots and programs.

Participants in NEHI's convenings said that all states and the District of Columbia should have these collaboratives; funding support for them should be increased, and new mechanisms should be found to make both maternal and perinatal quality collaboratives financially sustainable (as discussed further in the summary document on the second convening focused on state and federal policy initiatives.)

4. Expand care teams; integrate newer types of health care workers, such as community health workers and doulas; incorporate training to recognize and avoid racial and other forms of bias; and incorporate new modalities of virtual care, including telehealth and the use of apps.

There was broad agreement among convening participants about the need to create and expand high-performance maternal and infant health care teams, and to incorporate newer modalities of telehealth and other virtual care when and where possible. New payment models can help drive creation of effective care teams by providing appropriate payment for services by some combination of obstetrician-gynecologists, maternal-fetal medicine specialists, midwives, family practice physicians, advanced practice nurses, registered nurses, doulas, community health workers and/or others. Pregnant women could then be matched with the appropriate care team based on their risk profile, preferences, and needs and to ensure the care team is connected and working collaboratively to achieve the best outcomes. Participants also discussed the importance of training all care providers to recognize and avoid unconscious bias and address systemic racism to help address racial disparities in maternal care and outcomes.

There was also enthusiasm for taking advantage of technology and testing newer models of virtual care delivery, virtual group visits, and such devices as smart phones equipped for hand-held ultrasound. For example, a statewide telehealth program created in Georgia has conducted 23,000 maternal and fetal medicine visits virtually. Public private partnerships consisting of the state, midwifery groups, and virtual maternal fetal medicine specialist visits have sharply lowered preterm birth rates. Such approaches would appear to be vitally important in underserved areas of the country, including rural areas where hospitals are closing their maternity wards and OB/GYNs and maternal-fetal medicine specialists are few and far between.

5. Support Culturally Respectful Care by Addressing Implicit Bias and Systemic Racism.

Data show that black women, for example, are more likely to die from pregnancy or childbirth and experience maternal health complications than another other racial group. In addition, the National Partnership for Women and Families states that 22 percent of black women report discrimination when going to the doctor or clinic. Public policies and health care practices should provide care that focuses on women's individual needs and preferences, regardless of race, culture or socio-economic background. In addition to promoting policies that will support culturally respectful care, participants cited training as another effective tool to help health and health care practitioners understand unintentional biases and address how racism, privilege and stigma can lead to systemic biases in maternal health and health care.

6. Establish a national repository and learning platform – potentially under the aegis of a Department of Health and Human Services agency, such as the Agency for Healthcare Research and Quality -- that practitioners, payers, policymakers, and others could access to understand the breadth of models and evidence-based practices that are already being implemented and piloted across the country and perhaps even internationally.

Participants expressed the desire for "more sharing of success stories" that could be housed in this repository, which would be a source of information about proven models like the Nurse-Family Partnership, the CMMI Strong Start for Mothers and Newborns initiative, the Centering Pregnancy model, toolkits to advance safety and quality bundles, and the range of payment models that are already being piloted and implemented effectively in different parts of the country. Learning collaboratives could be formed around this platform, and/or technical assistance provided to providers and payers seeking to adopt new models or practices.

The Quality Care for Moms and Babies Act (S.2637), would direct CMS to establish an online clearinghouse of resources for entities working to improve maternity and infant care quality. The bill also would enable CMS to make grants to eligible entities for the development of new state and regional maternity and infant care quality collaboratives, among other activities.

7. Develop new quality metrics for maternal and infant health, as there is a paucity of widely used measures in maternal and perinatal health, as noted above.

Proposed legislation, the Quality Care for Moms and Babies Act (S.2637), would direct the Centers for Medicare and Medicaid Services to identify and publish a recommended core set of maternal and infant quality measures for women and children, as specified by the bill; publish an initial core set of any such measures applicable to mothers and infants eligible under Medicaid or the Children's Health Insurance Program (CHIP), and establish a Maternal and Infant Quality Measurement Program. This legislation should be enacted. To underscore the likelihood that such measures would be adopted into commercial health

insurance, a stakeholder group should also be convened under the aegis of the National Quality Forum to develop, test, and adopt a broader measure set.

8. Make maternal and infant health a vastly higher national priority, perhaps by framing improved care and outcomes as a "moonshot" initiative; promote greater awareness among women and families of differences in maternal and infant care and outcomes, and build consumer demand for more cost-effective, high quality care choices.

Participants agreed that maternal and infant health needs to become a vastly higher national priority, and that both policy makers and the public must become actively engaged. Participants discussed, for example, the idea of establishing a bold "moonshot" initiative for maternal and infant health, possibly with a long-term goal of achieving zero avoidable maternal and infant deaths by 2050. Other ideas included awarding a "Maternity X Prize" or prizes for organizations that achieved spectacular reductions in maternal and infant mortality, preterm birth, or other key outcomes. Maternal health champions, such as Christy Turlington Burns, and prominent survivors of complications of childbirth such as Serena Williams, could be mobilized to garner more support for change. To mobilize consumer demand and help to guide women and families in making optimal care choices, a branding campaign – perhaps along the lines of a Good Housekeeping Seal of Approval -- could be created for birth centers, health systems, and other entities that were certified as practicing patient-centered, high quality, safe, and cost effective maternity and infant health care.

V. Conclusion

The convening underscored that there are vitally important opportunities to improve maternal and infant health and health care, and that thoughtful care redesign and payment strategies will be essential to the process. Successes to date in improving care and outcomes demonstrate the need for collective action involving women and families; the public health community; public and private payers and purchasers; health care providers; hospitals and health systems; federal state and local policy makers; nonprofit organizations; and advocates.

Other federal and state policies will also be critical to create a successful context for care and payment redesign. For example, care pathways that would point to greater use of birth centers and use of midwives would not be achievable unless there are more birth centers throughout the country, and greater availability of and payment for nurse midwives. Liability issues that may currently disadvantage appropriate use of providers such as midwives may also need to be addressed. Many of the broad policy changes that will be essential – both to improving maternal and infant care and to creating the optimal context for payment and delivery reforms – are set forth in the meeting summary of the second NEHI convening entitled "Advancing New Federal and State Policies to Improve Maternal and Infant Health and Health Care".

This summary was written by Susan Dentzer, President and CEO, the Network for Excellence in Health Innovation (NEHI), and Valerie Fleishman, Executive Director, NEHI. Research assistance was provided by Yaminah Romulus, Health Policy and Program Associate, NEHI. NEHI is grateful to Merck for Mothers for its support of the convening.

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[1] Marian F. MacDorman et al., "Recent Increases in the U.S. Maternal Mortality Rate: Disentangling Trends from Measurement Issues," *Obstetrics & Gynecology* 128, no.3(September 2016):447-55, DOI: 10.1097/AOG.0000000000001556.
[2] Neha Bairoliya and Günther Fink, "Causes of death and infant mortality rates among full-term births in the United States between 2010 and 2012: An observational study," *PLos medicine* 15, no.3(2018), https://doi.org/10.1371/journal.pmed.1002531.
[3] Steven L. Clark and Michael A. Belfort, "The Case for a National Maternal Mortality Review Committee," *Obstetrics & Gynecology* 130, no.1(July 1, 2017): 198-202, DOI: 10.1097/AOG.0000000000002062.
[4] Judette M. Louis, M. Kathryn Menard, and Rebekah E. Gee, "Racial and ethnic disparities in maternal morbidity and mortality," *Obstetrics & Gynecology* 125, no. 3(March 2015): 690-4, DOI: 10.1097/AOG.0000000000000704.
[5] William A. Grobman et al., "Racial and ethnic disparities in maternal morbidity and obstetric care," Obstetrics & Gynecology 125, no.6(June 2015):1460-1467, DOI: 10.1097/AOG.0000000000000735.
[6] See https://www.oecd-ilibrary.org/docserver/health_glance-2017-en.pdf?expires=1529168484&id&accname=guest&checksum=601365C1CB0E0352E50A1A24C2BBD352 .
[7] Kasey Buckles and Melanie Guldi, "Worth the Wait? The Effect of Early Term Birth on Maternal and Infant Health," *Journal of Policy Analysis and Management* 36, no. 4(July 19, 2017): 748-772, DOI: https://doi.org/10.1002/pam.22014.
[8] Katy Backes Kozhimannil, Michael R. Law, and Beth A. Virnig, "Cesarean delivery rates vary tenfold among US hospitals; reducing variation may address quality and cost issues," *Health Affairs* 32, no. 3(March 2013):527-535. DOI: 10.1377/hlthaff.2012.1030.
[9] Verbal communication, Neel T. Shah, Assistant Professor of Obstetrics, Gynecology and Reproductive Biology at Harvard Medical School, and Director of the Delivery Decisions Initiative at Harvard's Ariadne Labs.
[10] See "The Cost of Having a Baby in the United States," report by Truven Health Analytics, at https://transform.childbirthconnection.org/wp-content/uploads/2013/01/Cost-of-Having-a-Baby1.pdf.
[11] *Crossing the Quality Chasm: A New Health System for the 21st*, Institute of Medicine, (Washington, DC: The National Academies Press, 2001).
[12] Stephanie A. Leonard, Elliott K. Main, and Suzan L. Carmichael, "The contribution of maternal characteristics and cesarean delivery to an increasing trend of severed maternal morbidity," *BMC Pregnancy and Childbirth* 19, no. 1(2019):16, https://doi.org/10.1186/s12884-018-2169-3.
[13] Andrea A. Creanga et al., "Pregnancy-Related Mortality in the United States, 2011-2013," *Obstetrics & Gynecology* 130, no. 2(August 2017):366-373, DOI: 10.1097/AOG.0000000000002114.
[14] Nicole Blair Johnson et al., "CDC National Health Report: leading causes of morbidity and mortality and associated behavioral risk and protective factors—United States, 2005-2013," MMWR Supplements 63, no. 4(October 31, 2014):3-27.
[15] "Making Pregnancy and Childbirth Safer in the U.S.," Merck for Mothers, at http://merckformothers.com/docs/Making_Pregnancy_Safer.pdf.
[16] Malini A. Niagal, Neel T. Shah, and Jeff Levin-Scherz, "Both Patients and Maternity Care Providers Can Benefit from Payment Reform: Four Steps to Prepare," *American Journal of Obstetrics and Gynecology* 218, no. 4(April 2018), DOI: 10.1016/j.ajog.2018.01.014.
[17] See https://www.guroo.com/#!care-bundles/CB001-childbirth-vaginal-delivery-and-newborn-care/47900-washington-district-of-columbia
[18] See https://www.guroo.com/#!care-bundles/CB002-childbirth-cesarean-delivery-and-newborn-care/47900-washington-district-of-columbia
[19] See https://www.medicaid.gov/federal-policy-guidance/downloads/cib110918.pdf
[20] (see https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Racial-and-Ethnic-Disparities-in-Obstetrics-and-Gynecology)
[21] See https://www.cmqcc.org/who-we-are
[22] See https://www.cpqcc.org/about/what-we-do
[23] See https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pqc.htm ; See https://www.medicaid.gov/federal-policy-guidance/downloads/cib110918.pdf
[24] See https://innovation.cms.gov/initiatives/integrated-care-for-kids-model/
[25] See https://innovation.cms.gov/initiatives/integrated-care-for-kids-model/

Appendix A

New Payment Models for Improving
Maternal and Infant Health and Health Care

Hosted by NEHI in Partnership with Merck for Mothers

Tuesday, December 11, 2018
Kaiser Permanente Center for Total Health
700 2nd Street NE, Washington DC

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CMS/CMMI

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Senior Vice President
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Horizon BCBSNJ

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President and Chief Executive Officer
Jewish Healthcare Foundation

Robert Ferguson
Director of Government Grants and Policy
Jewish Healthcare Foundation

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Associate Executive Director and COO
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Corporate Strategy Lead, Population Health
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Denise Juliano
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Appendix B

New Payment Models for Improving Maternal and Infant Health and Health Care

Hosted by NEHI in Partnership with Merck for Mothers

Tuesday, December 11, 2018 | 10 AM – 4 PM
Kaiser Permanente Center for Total Health
700 2nd Street NE, Washington DC

Agenda

10:00 AM	Welcome and Introductions	Susan Dentzer
10:10 AM	**Overview and Background:** The Urgency of Improving Maternal and Infant Care and Harnessing New Payment Models to Drive Change	Susan Dentzer

10:30 AM **Stakeholder Perspectives on Driving Care Improvement**

Advancing the Conversation: "Thought Starters":

- Mary Ann Christopher, Vice President, Clinical Operations and Transformation, Horizon Blue Cross Blue Shield of New Jersey
- Sarah Kilpatrick, Chair, Dept. of Obstetrics and Gynecology, Cedars-Sinai Health System
- Cathie Markow, Administrative Director, California Maternal Quality Care Collaborative
- Brynn Rubinstein, Associate Director, Pacific Business Group on Health
- Carol Sakala, Director of Childbirth Connection Programs, National Partnership for Women & Families
- Sheri Sesay-Tuffour, Chief Executive Officer, American College of Nurse-Midwives
- Elizabeth Wieand, Program Director of Payment and Delivery System Policy, ACOG

Discussion Topics:

- What evidence-based practices have been shown to improve quality, safety, and outcomes in maternal and infant care, and what is the relationship to payment?
- What overarching goals in care quality and safety and "mother-centeredness" should new payment models support?

11:30 AM **Payment Innovation to Drive System Change in Maternal and Infant Health:** What Do We Know About the Success of Bundles and Episodes To Date? What New Approaches Are Under Way, or Are Needed? If Not Bundles, What Other Payment Approaches Can Drive Change?

Advancing the Conversation: "Thought Starters":

- Dawn Alley, Director, Prevention and Population Health and Tiffany McNair, Director, Division of Health Innovation and Integration, CMS/CMMI

- Tanya Alteras, Associate Project Director, MITRE and Megan Burns, Senior Consultant, Bailit Health
- Joseph Bailey, Director, Program Advisory Team, Cigna
- Nick Bluhm, Senior Director, Strategy and Government Policy, Remedy Partners
- Lili Brillstein, Director, Episodes of Care, Horizon Blue Cross Blue Shield of New Jersey
- Abbie Gilbert, Corporate Strategy Lead, Population Health, Humana
- Stephen Hasley, MD, Chief Medical Informatics Officer, American College of Obstetricians and Gynecologists
- Janet McCauley, Senior Medical Director for Clinical Effectiveness, Blue Cross Blue Shield of North Carolina
- Harold Miller, President and CEO, Center for Healthcare Quality and Payment Reform
- Brent Thibodeaux, Pediatrician, Kaiser Permanente
- Victor Wu, Chief Medical Officer, TennCare

Discussion Topics:

- Existing and proposed payment models, implementation and adoption challenges, and results.
- What lessons have been learned? Where to go from here? How do we foster model spread and ongoing experimentation and research/analysis?

12:30 PM **Break for Lunch**

1:00 PM **Group Brainstorming:** Could New "Dyad/Mother-Infant" Payment Models Be Created to Span Maternal and Infant Health to One Year? What is Doable and What Would Be Necessary?

Discussion Topics:

- Issues for Medicaid
- Issues for Commercial Populations
- Could Models be "Branded" to Drive Patient/Consumer Awareness?

2:50 PM **Break**

3:00 PM **Path Forward: Opportunities for Piloting and Advancing New Payment Models**

Discussion Topics:

- Opportunities to test new payment models
- Next steps

3:45 PM **Wrap-up**

4:00 PM **Close**

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