

Overdue: Medicaid and Private Insurance Coverage of Doula Care to Strengthen Maternal and Infant Health

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Executive Summary

Doula care, which includes non-clinical emotional, physical and informational support before, during and after birth, is a proven key strategy to improve maternal and infant health. Medicaid and private insurance reimbursement for doula care would increase the availability and accessibility of this type of support and would advance the “Triple Aim” framework of the National Quality Strategy by:

- ▶ Improving the quality of care, including by making it more accessible, safe and woman- and family-centered (e.g., by enhancing women’s experience of care and engagement in their care);
- ▶ Improving health outcomes for mothers and babies; and
- ▶ Reducing spending on non-beneficial medical procedures, avoidable complications and preventable chronic conditions.

Rigorous studies show that doula care reduces the likelihood of such consequential and costly interventions as cesarean birth and epidural pain relief while increasing the likelihood of a shorter labor, a spontaneous vaginal birth, higher Apgar scores for babies and a positive childbirth experience. Other smaller studies suggest that doula support is associated with increased breastfeeding and decreased postpartum depression. This body of research has not identified any harms of continuous labor support.

Studies in three states (Minnesota, Oregon and Wisconsin) have concluded that Medicaid reimbursement of doula care holds the potential to achieve cost savings even when considering just a portion of the costs expected to be averted. Cesareans currently account for one of every three births, despite widespread recognition that this rate is too high. Cesareans also cost approximately 50 percent more than vaginal births – adding \$4,459 (Medicaid payments) or \$9,537 (commercial payments) to the total cost per birth in the United States in 2010.



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Because doula support increases the likelihood of vaginal birth, it lowers the cost of maternity care while improving women's and infants' health. Other factors that would contribute to cost savings include reduced use of epidural pain relief and instrument assisted births, increased breastfeeding and a reduction in repeat cesarean births, associated complications and chronic conditions.

Because the benefits are particularly significant for those most at risk of poor outcomes, doula support has the potential to reduce health disparities and improve health equity. Doula programs in underserved communities have had positive outcomes and are expanding, but the persistent problem of unstable funding limits their reach and impact.

In August 2013, the Centers for Medicare and Medicaid Services (CMS) Expert Panel on Improving Maternal and Infant Health Outcomes in Medicaid/CHIP included providing coverage for continuous doula support during labor among its recommendations.

"One of the most effective tools to improve labor and delivery outcomes is the continuous presence of support personnel, such as a doula."

— "Safe Prevention of the Primary Cesarean Delivery," Consensus Statement, American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine, March 2014.

Currently, only two states – Minnesota and Oregon – have passed targeted legislation to obtain Medicaid reimbursement for doula support, including continuous support during labor and birth, as well as several prenatal and postpartum home visits. Implementation has been challenging, and bureaucratic hurdles make obtaining reimbursement difficult. At this time, few doulas, if any, have actually received Medicaid reimbursement in either state. Across the country, a relatively small number of doula agencies have contracted with individual Medicaid managed care organizations and other health plans to cover doula services. The extent of these untracked local arrangements is unknown.

The recently revised CMS Preventive Services Rule (42 CFR §440.130(c)) opens the door for additional state Medicaid programs to cover doula services under a new regulation allowing reimbursement of preventive services provided by non-licensed service providers. However, the absence of clear implementation policies or national coordination would require each state to spend considerable resources devising new processes and procedures to achieve Medicaid reimbursement for doula support.

Key Recommendations for Increasing Public and Private Coverage of Birth Doula Services

- ▶ Congress should designate birth doula services as a mandated Medicaid benefit for pregnant women based on evidence that doula support is a cost-effective strategy to improve birth outcomes of women and babies and reduce health disparities with no known harms.
- ▶ Until this broad, optimal solution is attained, CMS should develop a clear, standardized pathway for establishing reimbursement for doula services, including prenatal and postpartum visits and continuous labor support, in all state Medicaid agencies and Medicaid managed care plans. CMS should provide guidance and technical assistance to states to facilitate this coverage.
- ▶ State Medicaid agencies should take advantage of the recent revision of the Preventive Services Rule, 42 CFR §440.130(c), to amend their state plans to cover doula support. States should also include access to doula support in new and existing Delivery System Reform Incentive Payment (DSRIP) waiver programs.

- ▶ The U.S. Preventive Services Task Force (USPSTF) should determine whether continuous labor support by a trained doula falls within the scope of its work and, if so, should determine whether labor support by a trained doula meets its criteria for recommended preventive services.
- ▶ Managed care organizations and other private insurance plans as well as relevant innovative payment and delivery systems with options for enhanced benefits should include support by a trained doula as a covered service.
- ▶ State legislatures should pass legislation mandating private insurance coverage of doula services.

What is Doula Care?

Doulas are trained to provide non-clinical emotional, physical and informational support for women before, during and after labor and birth. Birth doulas provide hands-on comfort measures, share resources and information about labor and birth and facilitate positive communication between women and their maternity care providers by helping women articulate their questions, preferences and values.

In addition to providing continuous support during labor, birth doulas typically meet with clients one or more times at the end of pregnancy, as well as early in the postpartum period, although some hospital-based doula programs provide care only during labor and birth. In the postpartum period, doulas may offer help with newborn feeding and other care, emotional and physical recovery from birth, coping skills and appropriate referrals as necessary.

Community-based doula programs offer culturally appropriate, broad support to women in at-risk and underserved communities. Such programs offer services tailored to the specific needs of the community they serve at no or very low cost to women. In addition to birthing support, community-based doulas often make prenatal and postpartum home visits with clients to provide childbirth and breastfeeding education, offer referrals for needed health or social services, inform the client about birth options and assist with creating birth plans, and support attachment and responsive parenting.¹ Some programs provide only a few home visits or birth-only support.

Community-based doulas are specially trained community health workers (CHWs), women who are usually trusted members of the community they serve. CHWs may be particularly well-suited to address issues related to discrimination and disparities by bridging language and cultural gaps and serving as a health navigator or liaison between the client and service providers.²

Payment for doula services is largely out of pocket, with the exception of community-based doula programs and some health plans. Lack of reliable reimbursement is a barrier to access to doula care, especially for women with limited means.

Why Do Women Need Doula Care?

The current system of maternity care in the United States is failing to meet the needs of our women and families. Available data suggest that the United States spends more on childbirth-related care than any other nation,³ yet our performance and international ranking on numerous key maternal and infant health indicators lag behind those of many other countries. World Health Organization data published in 2014 identify 36 nations with a lower infant mortality rate, 62 with a lower maternal mortality ratio, and 97 with a higher rate of exclusive breastfeeding to six or more months

than the United States.⁴ “Severe maternal events” – complications of pregnancy or birth that are severe enough to be or become life threatening – have been rapidly rising in the United States, reaching a total of 60,000 women a year.⁵ Relative to Asian and Pacific Islander and white women, black, American Indian and Alaska Native and Hispanic women experience disparities for many maternal and infant health measures.⁶

Medicaid and private insurance reimbursement for doula care would significantly increase access to this beneficial service and would improve the quality and value of publicly and privately funded maternity care, consistent with the “Triple Aim” of the Department of Health and Human Service’s National Quality Strategy:⁷

- ▶ Improving the quality of care, including by making it more accessible, safe and woman- and family-centered (e.g., by enhancing women’s experience of care and engagement in their care);
- ▶ Improving health outcomes for mothers and babies; and
- ▶ Reducing spending on non-beneficial medical procedures, avoidable complications and preventable chronic conditions.

Authors [of the 2013 Cochrane systematic review] concluded that benefits are so substantial that “all women should have continuous support during labour.”

High-quality scientific research strongly and consistently supports the benefits of doula care. The 2013 Cochrane systematic review of effects of continuous labor support analyzed data from 22 individual studies involving more than 15,000 women. Authors concluded that the benefits are so substantial that “all women should have continuous support during labour.” The review found no known harms of such care and determined that caregivers such as doulas who are present solely to provide continuous labor support offer a broader range of benefits with greater impact than either nurses or other hospital staff or a woman’s friend or family member.⁸ A review of 41 birth practices in the *American Journal of Obstetrics and Gynecology* in 2008 using the methodology of the USPSTF concluded that doula support was among the most effective of all those reviewed – one of only three to receive an “A” grade.⁹

Despite the strength of the evidence supporting doula care, the American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) reported that continuous labor support is likely underutilized,¹⁰ suggesting the need for policy changes that will increase access to doula care, particularly for those at greatest risk of poor outcomes.

Improving the Health of Women and Babies

Doula support increases the likelihood of safer, healthier and more satisfying births¹¹ and reduces health disparities.^{12,13} By providing continuous emotional and hands-on, physical support throughout labor and delivery, doulas help women experience healthy birth practices with less use of interventions. By avoiding consequential unwarranted and unwanted procedures and medications,¹⁴ doula care reduces the likelihood of complications and improves the long-term health of women and infants.^{15,16,17}

Most women giving birth in the United States are in good health with low-risk pregnancies. Research shows that supporting normal, healthy physiologic processes around the time of birth is the optimal model of care for the majority of women and babies²² – an approach that is “low-tech”

and “high-touch.” Doula care helps mitigate the highly medicalized approach to maternity care that has become the norm, resulting in an overuse of some medical procedures, even in circumstances where there is no evidence to demonstrate their benefits.²³

The documented impact of doula support on the cesarean rate alone is of major significance. One in three births is now by cesarean (32.2 percent in 2014), a 56 percent increase from 1996.²⁴ The cesarean rate has increased for all groups of women, including those at very low risk for this procedure.^{25,26} Rising rates of cesarean birth in the United States have not led to better maternal or infant health.²⁷

Cesareans have been associated with an increased risk of serious short- and long-term complications.^{28,29} Between 1998 and 2011, life-threatening, severe maternal complications of birth more than doubled.³⁰ The increase in many of these complications has been associated with rising cesarean rates.³¹ The risk of severe maternal complications is three times greater following a cesarean and may include maternal death, cardiac arrest, hysterectomy, blood clots and major infections, as well as result in longer hospital stays and a greater chance of hospital readmission.³² Risks are magnified in subsequent pregnancies, with the risk of several serious types of placental complication rising exponentially with each repeat cesarean.^{33,34,35} Systematic reviews have found that babies born via cesarean face an increased risk of breathing problems³⁶ and such chronic diseases as asthma,³⁷ Crohn’s disease,³⁸ Type 1 diabetes,³⁹ allergies,⁴⁰ autism spectrum disorder⁴¹ and obesity.⁴²

Doula support also helps reduce the use of several other medical interventions, and the type of labor support provider makes a big difference. Compared with women without labor support, labor support provided by doulas has consistently been found to be more beneficial than labor support provided by nurses and other members of the hospital staff (associated with fewer, less effective benefits) and by a member of the woman’s social network (associated solely with greater satisfaction). Compared with no labor support, doula-provided labor support has been shown on average to involve a:

- ▶ 28 percent reduction in cesarean births;
- ▶ 9 percent reduction in use of any pain medications;
- ▶ 31 percent reduction in use of synthetic oxytocin to speed up labor;
- ▶ 34 percent reduction in reporting a negative birth experience; and
- ▶ 12 percent greater likelihood of having a spontaneous vaginal birth.⁴³

The Benefits of Doula Care

The Cochrane review of effects of continuous labor support offers what is widely understood to be the most trustworthy type of evidence: systematic review of randomized controlled trials. It concludes that continuous support during labor lowers the likelihood of having a:

- ▶ Cesarean birth
- ▶ Labor with epidural or other pain medications
- ▶ Birth with forceps or vacuum assistance
- ▶ Negative childbirth experience
- ▶ Baby with a low five-minute Apgar score

It increases the likelihood of having a:

- ▶ Shorter labor
- ▶ Spontaneous vaginal birth¹⁸

Some studies of doula support have found that such care is associated with:

- ▶ Increased breastfeeding¹⁹
- ▶ Decreased likelihood of developing postpartum depression^{20,21}

Compared with no labor support, doula-provided labor support has been shown, on average, to involve a 28 percent reduction in cesarean births.

Care provided by trained, experienced doulas also appears to increase the establishment and duration of breastfeeding^{44,45,46} and may help identify and reduce postpartum depression and improve parent-infant interaction.^{47,48} Increasing breastfeeding has been a top public health priority, because it is linked to reduction in the risk of asthma, obesity, diabetes and ear infections in babies, and the risk of heart disease, obesity, diabetes and breast and ovarian cancers in women.^{49,50} A recent study supported by the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) assessed the outcomes in multiple HealthConnect One community-based doula program sites and found a dramatic increase in breastfeeding duration and exclusivity in women from populations that traditionally experience some of the lowest breastfeeding rates.⁵¹ The CDC has recommended doula care as a strategy to increase breastfeeding.⁵²

Doula care is also an important component of maternity care from the perspective of our growing understanding of innate hormonally-driven childbearing processes. A recent, comprehensive synthesis of the literature finds that physiologic processes foster safe and effective labor, birth, maternal behaviors, maternal-newborn attachment, and breastfeeding, whereas common medical procedures during childbirth, such as epidural pain relief and cesarean birth, interfere with these processes and diminish their benefits. Consistent with these findings, labor support by doulas appears to enhance the functioning of major hormone systems and limit stress responses that can interfere with labor progress. This in turn reduces the need to use interventions with established side effects and helps keep women and babies healthy.⁵³

Eliminating Disparities

Providing access to doula services to women of color and low-income women – populations facing the worst maternal and infant outcomes – can reduce disparities by improving the care and health of those with the greatest need. Community-based doula programs offer culturally appropriate doula support to women in underserved communities, generally at no charge to the client.

Some community-based doula programs engage and educate trusted members of the community they serve to become birth doulas and home visitors who can provide childbirth education, breastfeeding support and help navigating the health care system, as well as continuous support during labor and birth. The CDC and HRSA support community-based doula programs as a promising approach to meeting the needs of vulnerable and high-risk mothers and families.⁵⁴

Childbirth Connection’s national *Listening to Mothers III* survey found that just 6 percent of women who gave birth in hospitals experienced labor support from a doula.

Community-based programs have achieved positive results, such as reducing cesareans and increasing breastfeeding, in communities across the United States, improving outcomes and care practices, elevating the voices of women in disenfranchised communities and taking a comprehensive approach to maternal health by linking women with a variety of support services.^{55,56}

Childbirth Connection’s national *Listening to Mothers III* survey found that just six percent of women who gave birth in hospitals from 2011 to 2012 experienced labor support from a doula. Medicaid beneficiaries were half as likely as privately insured women to know about doula care (19 percent versus 36 percent).⁵⁷ However, underserved women were disproportionately interested in using doula care. Among women who did not experience but knew about this type of care, Medicaid beneficiaries

were far more likely to have wanted doula care than women with private insurance (35 percent versus 21 percent), as were black non-Hispanic and Hispanic women compared with white non-Hispanic women (39 percent versus 30 percent versus 22 percent).⁵⁸ Moreover, research suggests that maternal health benefits derived from doula support are greatest among women from low-income and socially disadvantaged communities and those facing language or cultural barriers.⁵⁹

Enhancing Women's Experience of Care

Doulas improve women's satisfaction and experience of care by strengthening their engagement in care decisions.^{60,61,62} By offering resources to help women educate themselves in advance and by assisting women in establishing and maintaining positive communications with their maternity care providers, doulas strengthen women's capacity to make informed decisions about their own health care. Having a sense of control and involvement in maternity care decision-making are key factors in women's satisfaction with the childbirth experience.^{63,64}

Research shows that many women do not have enough information about the maternity care choices they face or the risks and benefits of various options.⁶⁵ Women have reported feeling that they do not have the capacity to be actively engaged in their maternity care decisions because their input or concerns are dismissed, ignored or not heard.^{66,67}

The Affordable Care Act prioritizes the experience of care as an essential quality component and has created financial incentives to improve it. In 2012, CMS instituted a new system for hospital reimbursement, with experience of care survey scores impacting the level of incentive payments to hospitals; increasingly, private insurers are following suit.⁶⁸ Doulas can help facilities benefit from these incentives by emphasizing a woman-centered, individualized approach to care and by encouraging women to become more informed about and actively involved in care decisions.

Reducing the Cost of Care

Childbirth-related hospital charges exceed charges for any other type of hospitalization.^{69,70} In 2013, hospitals billed \$126 billion for combined maternal and newborn care.⁷¹ Obstetric care has become procedure intensive, even for low-risk women and newborns, contributing to the soaring maternity care costs. Studies conducted in Oregon, Minnesota and Wisconsin have found that Medicaid reimbursement of doula support has the potential to reduce Medicaid expenditures by reducing the number of unnecessary cesareans, instrument assisted births and admissions to neonatal intensive care units based on Apgar scores.^{72,73,74} While more difficult to quantify, Oregon's analysis recognized, but did not calculate, the long- and short-term benefits of increased breastfeeding and reduced repeat cesareans with their attendant risk of morbidity and mortality.⁷⁵

Eliminating spending on non-beneficial procedures, avoidable complications, and preventable chronic conditions would each contribute to significant savings that would cover the cost of doula care.

Eliminating spending on non-beneficial procedures, avoidable complications and preventable chronic conditions would each contribute to significant savings that would cover the cost of doula care. Existing analyses of potential cost savings are based primarily on calculations of the reduction in spending on cesarean sections at the time of a single pregnancy and birth. While that is the easiest to estimate and possibly the largest source of savings, the economic benefits of doula support in the present pregnancy extend beyond avoided cesareans in that pregnancy and continue well into the future.

Doula care has the potential to generate cost savings by:

- ▶ **Lowering cesarean rates:** Cesarean births cost about 50 percent more than vaginal births, whether paid for by Medicaid or by commercial insurance, adding \$4,459 and \$9,537, respectively, to the total payments per birth in the United States in 2010.⁷⁶ Because medical costs have risen steadily in the intervening period, these figures are conservative, and current numbers are substantially higher. If cesareans were decreased by 28 percent, the average achieved in the Cochrane review’s meta-analysis of doula studies,⁷⁷ Medicaid and private insurance could potentially reduce spending on cesareans in the present pregnancy alone by \$646 million and \$1.73 billion, respectively, per year (see Table 1).
- ▶ **Reducing repeat cesareans:** About 90 percent of births following a cesarean are repeat cesareans, but few women with an initial vaginal birth have cesareans in subsequent births.⁷⁸ This means that avoiding the first cesarean reduces costs in future pregnancies.
- ▶ **Reducing the use of epidural analgesia:** The cost of epidural analgesia includes fees for the medication and anesthesia services, and the increased likelihood of additional interventions, including the use of medication to speed labor, bladder catheters, cesarean section for concern about the welfare of the baby, and evaluation and treatment of subsequent fevers, often an iatrogenic consequence of epidurals.⁷⁹
- ▶ **Increasing rates of breastfeeding:** Breastfeeding improves the health of women and babies, and research suggests that \$31 billion could be saved nationwide (\$13 billion in pediatric and \$18 billion in maternal costs) if breastfeeding targets were reached.^{80,81}
- ▶ **Reducing preventable complications and chronic conditions:** Cesareans, epidurals, vaginal birth assisted with vacuum or forceps and not breastfeeding increase the risk of complications and chronic conditions. By reducing use of these interventions and increasing breastfeeding, doulas can reduce spending on these long-term adverse effects (as described above).

Table 1. Estimated Potential Reduction in Spending Limited to Cesareans in the Present Pregnancy

| United States, 2013 | Medicaid | Private Insurance |
|--|----------------------|------------------------|
| Number of births ⁸² | 1,579,099 | 1,845,499 |
| Number of cesareans ⁸³ | 517,630 | 642,435 |
| Cesarean rate ⁸⁴ | 32.8% | 34.8% |
| Estimated cesareans preventable with doula support (28%) ⁸⁵ | 144,936 | 179,882 |
| Average additional costs per cesarean ⁸⁶ | \$4,459 | \$9,627 |
| Estimated savings per year | \$646,271,408 | \$1,731,722,089 |
| Estimated savings per birth | \$409.27 | \$938.35 |

Paths Forward

To deliver the proven benefits of doula care to women and their babies, doula services must be widely available and accessible, which in turn requires the establishment of clear, system-wide pathways to reimbursement. Several approaches at the federal level hold the potential to achieve widespread, national access to doula services. While achieving these more far-reaching solutions is optimal, several interim more incremental strategies that are currently in place on a small scale should be expanded, clarified, and simplified to meaningfully increase access to doulas.

The Role of Medicaid

Each year almost 4 million women give birth in the United States.⁸⁷ Medicaid covers nearly half of these births⁸⁸ and disproportionately serves vulnerable and disadvantaged families. As the nation's largest payor for childbirth care, Medicaid influences maternity care and reimbursement practices system-wide through its policies and standards.

In June 2012, CMS convened the Expert Panel on Improving Maternal and Infant Health Outcomes in Medicaid/CHIP to identify opportunities to enhance care, improve outcomes and reduce costs for mothers and babies enrolled in Medicaid and the Children's Health Insurance Program (CHIP). The Expert Panel presented its findings in August 2013 and included Medicaid coverage for continuous doula support during labor among the strategies recommended to enhance maternal care.^{89,90}

The most effective and far-reaching step to increase utilization of doula support among women in underserved communities would be for Congress to mandate coverage of this high-value service for pregnant Medicaid beneficiaries.

The most effective and far-reaching step to increase utilization of doula support among women in underserved communities would be for Congress to mandate coverage of this high-value service for pregnant Medicaid beneficiaries. Prior to federal legislative action, states have several possible pathways to expand Medicaid coverage of doula support. While these pathways are described below in more detail, CMS could amplify the impact of state action by providing states with the support, guidance and technical clarifications needed to facilitate the adoption of innovative practices. By providing technical expertise and sharing successful state strategies, CMS could reduce the duplication of efforts from state to state and allow more efficient and timely uptake of successful strategies.

Non-Licensed Health Professional Rule

On July 15, 2013, CMS published its final rule (CMS-2334-F) expanding the definition of who can provide preventive services covered by Medicaid. To ensure “robust provision of services designed to assist beneficiaries in maintaining a healthy lifestyle and avoiding unnecessary health care costs,” CMS revised “42 CFR 440.130(c) to accurately reflect the statutory language that physicians or other licensed practitioners recommend these services but that preventive services may be provided, at state option, by practitioners other than physicians or other licensed practitioners.”⁹¹ Previously, Medicaid required that services be “provided by a physician or other licensed practitioner...,” but the newest rule now grants individual states the option to reimburse for preventive services that have been recommended by a physician or other licensed medical provider (such as a midwife), but provided by a non-licensed practitioner.⁹²

In order to be approved to cover non-licensed preventive service providers, states must submit an amendment to their state Medicaid plan that includes the scope of services to be covered and who may provide them. The amendment must define practitioner qualifications, education, credentialing and any registration that the state will require.⁹³

While no state has yet submitted a state plan amendment reflecting this revision, the rule change has opened a new pathway for state Medicaid agencies to reimburse community-based preventive services that could include doula support before, during and following labor and birth. Community-based doulas often provide preventive services such as home visiting, care coordination, educational counseling and breastfeeding support, as well as continuous labor support, making this new rule a promising tool for authorizing funding for doula services.⁹⁴

Several resources have been developed to help states and organizations develop a state plan amendment. CDC has created a technical assistance guide to support states seeking to utilize community health workers to provide preventive services⁹⁵ and two non-profit organizations, the Trust for America's Health and Nemours Health and Prevention Services, have developed a questionnaire to guide states or organizations through the process of working with state Medicaid offices to develop state plan amendments to include community health workers.⁹⁶

Delivery System Reform Incentive Payment (DSRIP) Waivers

Delivery System Reform Incentive Payment – DSRIP initiatives – are a category of Section 1115 waiver programs, which states can use to test innovative practices through a demonstration or pilot project. DSRIP programs aim to transform the Medicaid payment and delivery systems by linking funding with improvements meeting specific metrics. Programs may focus on developing infrastructure, system redesign and improvement in outcomes.⁹⁷ Because doula support has been demonstrated to improve outcomes in maternity care and studies suggest that it has the potential to reduce unnecessary spending, doula programs would be excellent candidates for inclusion in DSRIP initiatives. States should pursue the inclusion of projects to expand access to doulas under existing and new DSRIP programs as a strategy to improve maternal and infant outcomes while reducing costs.

Existing State and Local Programs

States exercise a broad range of approaches to determining which services are eligible for Medicaid coverage.⁹⁸ Some states and individual organizations have taken the lead in creating innovative ways for Medicaid to reimburse for doula services. Two states, Oregon in 2011 and Minnesota in 2013, passed legislation leading to authorization of Medicaid coverage of doula services in those states, through the process of applying for and obtaining a waiver from CMS.⁹⁹ Both states have been taking steps to identify or create certifying bodies, registration procedures, core competencies, scope of services, supervision arrangements and reimbursement procedures. Because of the extensive work involved in developing the needed infrastructure, it has taken significant time for these states to begin reimbursement.

At this time, few doulas, if any, have actually received reimbursement in either Oregon or Minnesota. Challenges have included identifying the mechanism for a non-licensed service provider to receive payment and locating and making arrangements with licensed providers who are required to serve as

a conduit for reimbursement. For example, in Oregon doulas must register with the state to be eligible for reimbursement, but must also work with a health care provider (physician or certified nurse-midwife) who submits a request for their reimbursement. The physician or midwife receives the reimbursement and must then pay the doula. This requires close collaboration between the doula and the health care provider, which may not always be possible and may limit available services. Usually, a doula works independently or for an agency and provides services to women, who have many different maternity care providers, making this model of reimbursement potentially burdensome for maternity care providers, doulas and women.

In Minnesota, in the year after doula coverage went into effect, evaluation researchers have documented a number of challenges to implementation, including a number of difficulties with becoming an enrolled provider. Most community-based doulas work for agencies rather than as individuals, but as of the writing of this brief, there was no provision to allow agencies to contract with Medicaid, only individual providers. Doulas and agencies were unclear as to the documentation required for payment of claims for doula services, which differed from one Medicaid managed care organization to another. Minnesota doulas noted the need for a formal coordination structure to allow various parties to work together to resolve issues related to the registry/credentialing (Minnesota Department of Health) and payment, including for sustainable levels of reimbursement (Minnesota Department of Health Services).¹⁰⁰

In several parts of the country, doula programs run by independent agencies or non-profit organizations have developed innovative strategies to secure funding and serve women by contracting directly with Medicaid managed care organizations in their area. Because this information is not tracked, the extent of these local arrangements is unknown. Uzazi Village's Sister Doula program in Kansas City, Missouri, is an example of such a model (see box).

Innovative Programs

Small-scale programs have been successfully providing doula services to some low-income women, but limited funding constrains their impact and sustainability. New reimbursement policies would provide much-needed financial stability and would greatly increase the number of women who could be served. Below are a few examples of programs currently providing services.

HealthConnect One developed and implemented a program in about 50 sites across the country. In this model, trusted community members complete a 20-session doula training course supplemented with additional information and skills such as breastfeeding counseling and childbirth education. Doulas begin meeting with clients as early in pregnancy as possible, provide home visits and attend health care visits with clients during the prenatal period. Doulas assist clients during labor and birth, and then continue with intensive home visits in the weeks and months following birth for up to two years.¹⁰¹ These programs have been supported by grants from HRSA and private foundations.

Uzazi Village was established in Kansas City, Missouri, to increase perinatal health equity in the urban core and eliminate disparities in urban at-risk populations. Uzazi Village's Sister Doula program pairs pregnant women enrolled in Medicaid with community members who have been specially trained in an eight-week course as perinatal doulas. The training includes breastfeeding peer counseling, birth and postpartum doula care, childbirth education and contraception counseling. In addition

to providing culturally appropriate care to their clients, Uzazi Village seeks to develop the next generation of birth workers of color, ensuring that the workforce better reflects both the values of the community

and the population being served.¹⁰² Uzazi Village contracted directly with a local Medicaid managed care organization serving Kansas City to obtain reimbursement for Sister Doula services. Twenty-three women are currently participating in the Sister Doula program. A study of the program's impact is underway. Full-scale implementation of Medicaid reimbursement would allow this and similar programs to increase their impact by reaching a significantly greater number of women.¹⁰³

Everyday Miracles is a community-based program in Minneapolis, Minnesota, that provides doula support and other pregnancy-related services including childbirth education classes in three languages, mother support groups, prenatal yoga and access to car seats and breast pumps. Since its founding in 2003, Everyday Miracles has served over 3,000 clients. The women participating in their program have a cesarean rate of 17 percent, significantly lower than the national average (32.2 percent in 2014). Ninety-eight percent of their clients initiate breastfeeding and 72 percent continue past six months, compared with national averages of 75 percent and 43 percent, respectively. The first-year evaluation of the Doula Access Project is now available and details the challenges, opportunities and impact of Minnesota's new Medicaid coverage option.¹⁰⁴

The Role of Private Insurance

Private insurance plans should include services of a trained doula as a covered service, and state legislatures should pass legislation mandating private insurance coverage of doula services, as they have done for a broad range of services.¹⁰⁵ Anecdotal reports from advocates and doulas across the country indicate that no state legally mandates coverage of doula services at this time.

Options Impacting Both Medicaid and Private Insurance

Private insurance plans can generally determine the scope of the coverage they provide, but under the Affordable Care Act, new private insurance plans are required to cover recommended preventive services without any cost-sharing by the consumer. Preventive services are identified by four agencies, including the USPSTF, and insurers must cover evidence-based services that receive an "A" or "B" rating, which indicates that the services have substantial or moderate benefits that outweigh any harms. The USPSTF assesses clinical preventive services, such as counseling, screening tests and preventive medication.

The USPSTF should determine whether continuous labor support by a trained doula falls within the scope of their work, and if it does, they should carry out a review to determine whether continuous labor support by a trained doula meets their criteria for recommended, evidence-based, preventive services.

Designation by the USPSTF as a recommended preventive service would greatly expand inclusion of doula support under new private insurance plans and would make coverage of doula services optional for maternity coverage through traditional Medicaid programs and required for coverage under Medicaid expansion.

Private insurance plans should include services of a trained doula as a covered service, and state legislatures should pass legislation mandating private insurance coverage of doula services, as they have done for a broad range of services.

Finally, innovative payment and delivery systems, such as those sponsored by the CMS Center for Medicare and Medicaid Innovation,¹⁰⁶ are another possible pathway to expanding access to doula services. The recent announcement of major public and private sector initiatives for reaching value-based payment targets that accelerate movement to value-based care,^{107,108} and establishment of the Health Care Payment Learning & Action Network,¹⁰⁹ will further accelerate this innovation. To facilitate better performance, some innovative payment and delivery systems offer enhanced benefits for high-value services that are not otherwise covered. As relevant and possible, high-value doula services are an excellent candidate for inclusion as an enhanced benefit. Table 2 compares these options.

Table 2. Comparing Strategies to Expand Coverage of Doula Services

| Strategy | Coverage Type | Positives | Negatives |
|---------------------------------|----------------------|--|--|
| Federal Legislation | Medicaid | <ul style="list-style-type: none"> - Would efficiently settle issue for all 50 states - Would lead to greatest access | <ul style="list-style-type: none"> - Could take a long time - Requires concerted lobbying effort - Politically challenging to achieve |
| Federal Guidance | Medicaid | <ul style="list-style-type: none"> - Would efficiently settle issue for all 50 states | <ul style="list-style-type: none"> - Not binding - No leverage |
| USPSTF | Medicaid and Private | <ul style="list-style-type: none"> - National reach - Would result in private insurance and Medicaid expansion reimbursement - Would expand and affirm evidence-based benefits of doula services | <ul style="list-style-type: none"> - Traditional state Medicaid plans have option of covering USPSTF recommended services without cost-sharing and not all do so for all services - Doula services may not fit into categories covered by the USPSTF |
| Preventive Services Rule | Medicaid | <ul style="list-style-type: none"> - Federal regulations already in place - No legislation required - Potential collaboration with other types of preventive service providers would strengthen advocacy and implementation efforts - Intended to address non-licensed, community-based services | <ul style="list-style-type: none"> - Requires state plan amendment, which may be time consuming to develop, submit, and obtain approval - Each state has to develop guidelines independently - Not clarified as applicable |
| State DSRIP Programs | Medicaid | <ul style="list-style-type: none"> - May move faster than federal legislation or other national solutions - Able to address specifics of each state's health care context | <ul style="list-style-type: none"> - Requires significant duplication of effort across states - Beneficiaries in states without DSRIP programs lack access - May not fit parameters of some state DSRIP plans |
| State Legislation | Medicaid and Private | <ul style="list-style-type: none"> - May move faster than federal legislation or other national solutions - Able to address specifics of each state's regulatory, legislative, political and health care context | <ul style="list-style-type: none"> - Requires significant duplication of effort across states - Beneficiaries in states without legislation lack access - Requires political as opposed to regulatory action |
| Payment and Delivery Innovation | Medicaid and Private | <ul style="list-style-type: none"> - Flexibly enables enhanced benefits for high-value services not otherwise covered - CMS is authorized to scale up successful innovation | <ul style="list-style-type: none"> - To date, relevant programs that might offer doula services as enhanced benefit are limited (e.g., much innovation has been in Medicare) |

Next Steps

Federal Level Recommendations

1. CMS should make continuous labor support by a trained doula a reimbursable service in all states, including by:

- ▶ Clarifying the appropriate current procedural terminology (CPT) code for obtaining reimbursement for doula services;
- ▶ Identifying doula support as a reimbursable preventive service delivered by non-licensed service providers who could be reimbursed through agencies or community health centers under 42 CFR §440.130(c);
- ▶ Exploring and advancing strategies to integrate doulas into innovative payment and delivery systems; and
- ▶ Advancing reimbursement for continuous labor support by a trained doula within its ongoing Maternal and Infant Health Initiative.

2. The USPSTF should determine whether continuous labor support by a trained doula falls under the scope of its work and, if so, should undertake a scientific evidence review to determine if such care meets its criteria for recommended preventive services.

3. HRSA and CMS should explore and define clear pathways for community-based doulas to be reimbursed for home visits that provide preventive services including, but not limited to, health education, nutrition counseling and breastfeeding counseling.

4. The Agency for Healthcare Research and Quality should collaborate with stakeholders to develop, implement and seek National Quality Forum endorsement of an adaptation of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey suitable for measuring the experience of facility care of birthing women and newborns, including the dimension of access to supportive care during labor.

5. Given the complex and uneven approach across states to determine covered Medicaid services, Congress should include high-value birth doula services, inclusive of prenatal and postpartum home visits, among services mandated for Medicaid coverage.

State Level Recommendations

6. States should seek CMS approval of state plan amendments to cover continuous labor support and home visits as reimbursable preventive services provided by non-licensed service providers under 42 CFR §440.130(c).

7. States should seek to include coverage of doula support under new and existing DSRIP programs

8. Medicaid managed care organizations and other health plans should offer doula services as a covered benefit, and states should enact legislation requiring plans to do so.

9. States should require health plans to include doula services within their covered benefits.

Community Level Recommendation

10. Local governments, public and other safety net hospital systems, Medicaid managed care organizations, community health centers and other agencies and organizations should establish interdisciplinary teams to continue to explore and develop innovative approaches to making doula support available to women enrolled in Medicaid.

Conclusion

Doula support is a proven strategy to improve health outcomes for mothers and babies, reduce disparities, engage and increase the satisfaction of those receiving care and improve the value of care. Recognizing the well-established benefits and the absence of identified harms of doula services, leading professional societies (e.g., ACOG, SMFM), agencies (e.g., CDC, HRSA and the CMS Expert Panel) and authors of the rigorous Cochrane review identify the value of increased access to this form of care. Multiple existing analyses anticipate a favorable return on investment for payors, considering just a subset of reduced costs. And many women desire but do not receive such care, pointing to unmet need for doula services.

Improving outcomes of mothers and babies and the experience of maternity care system-wide is imperative. Achieving measureable success will require better use of existing evidence-based practices. With the proliferation of pathways to increase access to doula support, this is a critical time to bring well-established benefits of this form of care to many more women and babies. Because all childbearing women and babies can benefit from this cost-effective service, private and government insurers throughout the United States should make doula services widely available. The greatest priority, however, is to initiate policy changes to ensure access to doula support for vulnerable women who have the greatest need for support and the fewest options available to them.

Private and government insurers throughout the United States should make doula services widely available. The greatest priority, however, is to initiate policy changes to ensure access to doula support for vulnerable women.

About Choices in Childbirth

Choices in Childbirth is a non-profit organization that works to ensure access to maternity care that is safe, healthy, equitable, and empowering. Our mission is to promote evidence-based, mother-friendly childbirth options through public education, advocacy, and innovative policy reform. Learn more at www.ChoicesinChildbirth.org.

About the National Partnership for Women & Families

The National Partnership for Women & Families is a nonprofit, nonpartisan advocacy group dedicated to promoting fairness in the workplace, access to quality health care and policies that help women and men meet the dual demands of work and family. Founded in 1918, Childbirth Connection became a core program of the National Partnership in 2014. Childbirth Connection programs serve as a voice for the needs and interests of childbearing women and families, and work to improve the quality and value of maternity care through consumer engagement and health system transformation. Learn more at <http://Transform.ChildbirthConnection.org> or www.NationalPartnership.org.

Endnotes

- ¹ Tillman, T., Gilmer, R., & Foster, A. (2012). *Utilizing Doulas to Improve Birth Outcomes for Underserved Women in Oregon*. Oregon Health Authority. Retrieved 22 September 2015, from <http://www.oregon.gov/oha/legactivity/2012/hb3311report-doulas.pdf>
- ² Gentry, Q. M., Nolte, K. M., Gonzalez, A., Pearson, M., & Ivey, S. (2010). "Going beyond the call of doula": a grounded theory analysis of the diverse roles community-based doulas play in the lives of pregnant and parenting adolescent mothers. *Journal of Perinatal Education*, 19(4), 24-40.
- ³ International Federation of Health Plans. (2014). *2013 Comparative Price Report: Variation in Medical and Hospital Prices by Country*. Washington, DC: Author. Retrieved 22 September 2015, from <http://www.ifhp.com/1404121/>
- ⁴ World Health Organization. *World Health Statistics 2014*. Geneva, Switzerland: WHO, 2014. Retrieved 22 September 2015, from http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf
- ⁵ Creanga, A. A., Berg, C. J., Ko, J. Y., Farr, S. L., Tong, V. T., Bruce, F. C., & Callaghan, W. M. (2014). Maternal Mortality and Morbidity in the United States: Where Are We Now? *Journal of Women's Health* (15409996), 23(1), 3-9. doi:10.1089/jwh.2013.4617
- ⁶ Centers for Disease Control and Prevention. (2012). *Healthy People 2010: Final Review*. Hyattsville, MD: National Center for Health Statistics. Retrieved 22 September 2015, from http://www.cdc.gov/nchs/data/hpdata2010/hp2010_final_review.pdf
- ⁷ Agency for Healthcare Research and Quality. (n.d.) *National Quality Strategy*. Retrieved 22 September 2015, from <http://www.ahrq.gov/workingforquality/about.htm#aims>
- ⁸ Hodnett, E.D., Gates, S., Hofmeyr, G.J., & Sakala, C. (2013). Continuous support for women during childbirth. *Cochrane Database of Systematic Reviews*, (7), doi:10.1002/14651858.CD003766.pub3
- ⁹ Berghella, V., Baxter, J., & Chauhan, S. (2008). Evidence-based labor and delivery management. *American Journal of Obstetrics & Gynecology*, 199(5), 445-454.
- ¹⁰ American College of Obstetricians and Gynecologists. (2014). Obstetric care consensus no. 1: safe prevention of the primary cesarean delivery. *Obstetrics & Gynecology*, 123(3), 693-711. doi:10.1097/01.AOG.0000444441.04111.1d
- ¹¹ See note 8.
- ¹² Gruber, K. J., Cupito, S. H., & Dobson, C. F. (2013). Impact of Doulas on Healthy Birth Outcomes. *Journal of Perinatal Education*, 22(1), 49-58. doi:10.1891/1058-1243.22.1.49
- ¹³ Vonderheid, S.C., Kishi, R., Norr, K.F., & Klima, C. (2011). *Group prenatal care and doula care for pregnant women*. In A. Handler, J. Kennelly, & N. Peacock (Eds.), *Reducing racial/ethnic disparities in reproductive and perinatal outcomes* (pp. 369-399). New York: Springer Publishing.
- ¹⁴ See note 8.
- ¹⁵ Gregory, K. D., Jackson, S., Korst, L., & Fridman, M. (2012). Cesarean versus Vaginal Delivery: Whose Risks? Whose Benefits? *American Journal of Perinatology*, 29(1), 7-17. doi:10.1055/s-0031-1285829
- ¹⁶ Anim-Somuah, M. (2011). Epidural versus non-epidural or no analgesia in labour. *Cochrane Database of Systematic Reviews*, (12), doi:10.1002/14651858.CD000331.pub3
- ¹⁷ O'Mahony, F. (2010). Choice of instruments for assisted vaginal delivery. *Cochrane Database of Systematic Reviews*, (11), doi:10.1002/14651858.CD005455.pub2
- ¹⁸ See note 8.
- ¹⁹ HealthConnect One. (2014). *The Perinatal Revolution*. Chicago, IL. Retrieved 22 September 2015, from http://www.healthconnectone.org/pages/white_paper_the_perinatal_revolution/362.php
- ²⁰ Wolman, W., Chalmers, B., Hofmeyr, J., & Nikodem, V. (1993). Postpartum depression and companionship in the clinical birth environment: A randomized, controlled study. *American Journal of Obstetrics & Gynecology*, 168(5), 1388-1393.
- ²¹ Trotter, C., Wolman, W. L., Hofmeyr, J., Nikodem, C., & Turton, R. (1992). The effect of social support during labour on postpartum depression. *South African Journal of Psychology*, 22(3), 134-139.
- ²² Buckley, S.J. (2015). *Hormonal physiology of childbearing: Evidence and implications for women, babies, and maternity care*. Washington, DC: Childbirth Connection Programs, National Partnership for Women & Families. Retrieved 22 September 2015, from <http://www.childbirthconnection.org/HormonalPhysiology>
- ²³ Goer H., & Romano A. (2012). *Optimal care in childbirth: The case for a physiologic approach*. Seattle, WA: Classic Day.
- ²⁴ Hamilton, B.E., Martin, J.A., Osterman, M.J., & Curtin, S.C. (2015). *Births: Preliminary data for 2014*. National Vital Statistics Reports, 64(6). Hyattsville, MD: National Center for Health Statistics.
- ²⁵ Childbirth Connection. (2012). *Vaginal or cesarean birth: What is at stake for women and babies? A best evidence review*. New York, NY: Author. Retrieved 22 September 2015, from <http://transform.childbirthconnection.org/wp-content/uploads/2013/02/Cesarean-Report.pdf>
- ²⁶ See note 15.
- ²⁷ See note 10.
- ²⁸ See note 25.
- ²⁹ See note 15.
- ³⁰ See note 5.
- ³¹ Kuklina, E. V., Meikle, S. F., Jamieson, D. J., Whiteman, M. K., Barfield, W. D., Hillis, S. D., & Posner, S. F. (2009). Severe obstetric morbidity in the United States: 1998-2005. *Obstetrics & Gynecology*, 113(2 Pt 1), 293.
- ³² See note 25.
- ³³ Silver, R. M., Landon, M. B., Rouse, D. J., Leveno, K. J., Spong, C. Y., Thom, E. A., ... & National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. (2006). Maternal morbidity associated with multiple repeat cesarean deliveries. *Obstetrics & Gynecology*, 107(6), 1226-1232.
- ³⁴ Sakala, C., & Corry, M. (2008). *Evidence-Based Maternity Care: What It Is and What It Can Achieve*. New York, NY: Milbank Memorial Fund. Retrieved 22 September 2015, from <http://www.childbirthconnection.org/pdfs/evidence-based-maternity-care.pdf>
- ³⁵ Getahun, D., Oyelese, Y., Salihu, H. M., & Ananth, C. V. (2006). Previous cesarean delivery and risks of placenta previa and placental abruption. *Obstetrics & Gynecology*, 107(4), 771-778.
- ³⁶ Hansen, A. K., Wisborg, K., Uldbjerg, N., & Henriksen, T. B. (2007). Elective caesarean section and respiratory morbidity in the term and near-term neonate.

Acta Obstetrica et Gynecologica Scandinavica, 86(4), 389-394.

³⁷ Thavagnanam S, Fleming J, Bromley A, et al. (2008). A meta-analysis of the association between Caesarean section and childhood asthma. *Clinical & Experimental Allergy*, 38(4), 629-633.

³⁸ Li, Y., Tian, Y., Zhu, W., Gong, J., Gu, L., Zhang, W., ... & Li, J. (2014). Cesarean delivery and risk of inflammatory bowel disease: a systematic review and meta-analysis. *Scandinavian Journal of Gastroenterology*, 49(7), 834-844.

³⁹ Cardwell CR, Stene LC, Joner G, et al. (2008). Caesarean section is associated with an increased risk of childhood-onset type 1 diabetes mellitus: a meta-analysis of observational studies. *Diabetologia*, 51(5), 726-735.

⁴⁰ Bager P, Wohlfahrt J, & Westergaard T. (2008). Caesarean delivery and risk of atopy and allergic diseases: meta-analyses. *Clinical & Experimental Allergy*, 38(4), 634-642.

⁴¹ Curran, E. A., O'Neill, S. M., Cryan, J. F., Kenny, L. C., Dinan, T. G., Khashan, A. S., & Kearney, P. M. (2015). Research Review: Birth by caesarean section and development of autism spectrum disorder and attention-deficit/hyperactivity disorder: a systematic review and meta-analysis. *Journal of Child Psychology and Psychiatry*, 56(5), 500-508.

⁴² Darmasseelane, K., Hyde, M. J., Santhakumaran, S., Gale, C., & Modi, N. (2014). Mode of delivery and offspring body mass index, overweight and obesity in adult life: a systematic review and meta-analysis. *PLoS One*, 9(2), e87896.

⁴³ See note 8.

⁴⁴ Edwards, R. C., Thullen, M. J., Korfmacher, J., Lantos, J. D., Henson, L. G., & Hans, S. L. (2013). Breastfeeding and complementary food: randomized trial of community doula home visiting. *Pediatrics*, 132(Supplement 2), S160-S166.

⁴⁵ See note 19.

⁴⁶ Mottl-Santiago, J., Walker, C., Ewan, J., Vragovic, O., Winder, S., & Stubblefield, P. (2008). A hospital-based doula program and childbirth outcomes in an urban, multicultural setting. *Maternal and Child Health Journal*, 12(3), 372-377.

⁴⁷ Hans, S. L., Thullen, M., Henson, L. G., Lee, H., Edwards, R. C., & Bernstein, V. J. (2013). Promoting positive mother-infant relationships: A randomized trial of community doula support for young mothers. *Infant Mental Health Journal*, 34(5), 446-457.

⁴⁸ See note 20.

⁴⁹ Bartick, M. C., Stuebe, A. M., Schwarz, E. B., Luongo, C., Reinhold, A. G., & Foster, E. M. (2013). Cost analysis of maternal disease associated with suboptimal breastfeeding. *Obstetrics & Gynecology*, 122(1), 111-119.

⁵⁰ Stuebe, A. (2009). The risks of not breastfeeding for mothers and infants. *Reviews in Obstetrics and Gynecology*, 2(4), 222.

⁵¹ See note 19.

⁵² Shealy, K. R., Li, R., Benton-Davis, S., & Grummer-Strawn, L. M. (2005). *The CDC guide to breastfeeding interventions*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

⁵³ See note 22.

⁵⁴ See note 19.

⁵⁵ See note 1.

⁵⁶ See note 19.

⁵⁷ Declercq, E.R., Sakala, C., Corry, M.P., Applebaum, S., & Herrlich, A. (2013). *Listening to Mothers III: Pregnancy and Birth*. New York: Childbirth Connection. Retrieved 22 September 2015, from <http://www.childbirthconnection.org/article.asp?ck=10450>

⁵⁸ Ibid.

⁵⁹ See note 12.

⁶⁰ Breedlove, G. (2005). Perceptions of social support from pregnant and parenting teens using community-based doulas. *Journal of Perinatal Education*, 14(3), 15.

⁶¹ See note 2.

⁶² See note 12.

⁶³ Hodnett, E. D. (2002). Pain and women's satisfaction with the experience of childbirth: a systematic review. *American Journal of Obstetrics & Gynecology*, 186(5), S160-S172.

⁶⁴ Cook, K., & Loomis, C. (2012). The impact of choice and control on women's childbirth experiences. *Journal of Perinatal Education*, 21(3), 158.

⁶⁵ See note 57.

⁶⁶ Rance, S., McCourt, C., Rayment, J., Mackintosh, N., Carter, W., Watson, K., & Sandall, J. (2013). Women's safety alerts in maternity care: is speaking up enough? *BMJ Quality and Safety in Health Care*; 0:1-8.

⁶⁷ Amnesty International. (2010). *Deadly Delivery: The Maternal Health Care Crisis in the USA*. New York: Amnesty International USA. Retrieved 22 September 2015, from <http://www.amnestyusa.org/deadlydelivery>

⁶⁸ Rau, J. (2013, Nov. 14). Nearly 1,500 Hospitals Penalized Under Medicare Program Rating Quality. *Kaiser Health News*. Retrieved 22 September 2015, from www.kaiserhealthnews.org/stories/2013/november/14/value-based-purchasing-medicare.aspx

⁶⁹ Wier, L.M., & Andrews, R.M. (2011). *The National Hospital Bill: The Most Expensive Conditions by Payer, 2008*. HCUP Statistical Brief #107. Rockville, MD; Agency for Healthcare Research and Quality. Retrieved 22 September 2015, from <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb107.pdf>

⁷⁰ See note 25.

⁷¹ Agency for Healthcare Research and Quality. (2012). *Healthcare Cost and Utilization Project (HCUP) National Inpatient Sample (NIS)* [data file]. Retrieved 12 December 2015, from <http://hcupnet.ahrq.gov>

⁷² See note 1.

⁷³ Kozhimannil, K. B., Hardeman, R. R., Attanasio, L. B., Blauer-Peterson, C., & O'Brien, M. (2013). Doula care, birth outcomes, and costs among Medicaid beneficiaries. *American Journal of Public Health*, 103(4), e113-e121.

⁷⁴ Chapple, W., Gilliland, A., Li, D., Shier, E., & Wright, E. (2013). An economic model of the benefits of professional doula labor support in Wisconsin births. *WOMJ*, 112(2), 58-64.

⁷⁵ See note 1.

- ⁷⁶ Truven Health Analytics. (2013). *The Cost of Having a Baby in the United States*. Truven Health Analytics MarketScan Study. Retrieved 22 September 2015, from <http://transform.childbirthconnection.org/wp-content/uploads/2013/01/Cost-of-Having-a-Baby1.pdf>
- ⁷⁷ See note 8.
- ⁷⁸ Centers for Disease Control and Prevention. (2013). *User Guide to the 2012 Natality Public Use File*. Hyattsville, MD: National Center for Health Statistics. Retrieved 22 September 2015, from ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/natality/UserGuide2012.pdf
- ⁷⁹ See note 16.
- ⁸⁰ Bartick, M., & Reinhold, A. (2010). The burden of suboptimal breastfeeding in the United States: a pediatric cost analysis. *Pediatrics*, 125(5), e1048-e1056.
- ⁸¹ See note 49.
- ⁸² HCUP National Inpatient Sample (NIS). (2013). *Healthcare Cost and Utilization Project (HCUP)*. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved 22 September 2015, from www.hcup-us.ahrq.gov/nisoverview.jsp
- ⁸³ Ibid.
- ⁸⁴ Ibid.
- ⁸⁵ See note 8.
- ⁸⁶ See note 76.
- ⁸⁷ Martin, J.A., Hamilton, B.E., Osterman, M.J.K., Curtin, S.C., & Mathews, T.J. (2015). Births: Final Data for 2013. *National Vital Statistics Reports*, 64(1). Hyattsville, MD: National Center for Health Statistics.
- ⁸⁸ Markus, A. R., Andres, E., West, K. D., Garro, N., & Pellegrini, C. (2013). Medicaid covered births, 2008 through 2010, in the context of the implementation of health reform. *Women's Health Issues*, 23(5), e273-e280.
- ⁸⁹ Centers for Medicare and Medicaid Services. (2013). *Improving Maternal and Infant Health Outcomes, Crosswalk between Current and Planned CMCS Activities and Expert Panel Identified Strategies*. Retrieved 22 September 2015, from <http://www.medicaid.gov/medicaid-chip-program-information/by-topics/quality-of-care/maternal-and-infant-health-care-quality.html>
- ⁹⁰ Expert Panel on Improving Maternal and Infant Health Outcomes in Medicaid/CHIP. (2013). *Final Report: Strategies for Improving Maternal and Infant Health Outcomes in Medicaid/CHIP*. Erie, PA: Provider Resources.
- ⁹¹ Mann, C. (2013). *CMCS Informational Bulletin: Update on Preventive Services Initiatives*. [Bulletin]. Baltimore, MD: Center for Medicaid and CHIP Services. Retrieved 22 September 2015, from www.medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-11-27-2013-Prevention.pdf
- ⁹² Medicaid and Children's Health Insurance Program: Essential Health Benefits in Alternative Benefit Plans, Eligibility Notices, Fair Hearing and Appeal Processes, and Premiums and Cost Sharing; Exchanges: Eligibility and Enrollment. 42 C.F.R. §440.130.78 (2013). Retrieved 22 September 2015, from <http://www.gpo.gov/fdsys/pkg/FR-2013-07-15/pdf/2013-16271.pdf>
- ⁹³ Katzen, A., & Morgan, M. (2014). *Affordable Care Act Opportunities for Community Health Workers*. MA: Center for Health Law & Policy Innovation, Harvard Law School. Retrieved 22 September 2015, from <http://www.chlpi.org/wp-content/uploads/2013/12/ACA-Opportunities-for-CHWsFINAL-8-12.pdf>
- ⁹⁴ Trust for America's Health, & Nemours. (2013). *Medicaid Reimbursement for Community-Based Prevention*. [Briefing based on convening held October 31, 2013]. Retrieved 22 September 2015, from <http://www.astho.org/Community-Health-Workers/Medicaid-Reimbursement-for-Community-Based-Prevention/>
- ⁹⁵ Centers for Disease Control and Prevention. (2014). *States Implementing Community Health Worker Strategies*. [Technical Assistance Guide]. National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention. Retrieved 22 September 2015, from http://www.cdc.gov/dhdsp/programs/spha/docs/1305_ta_guide_chws.pdf
- ⁹⁶ See note 94.
- ⁹⁷ Gates, A., Rudowitz, R., & Guyer, J. (2014). *An Overview of Delivery System Reform Incentive Payment (DSRIP) Waivers*. Retrieved 18 November 2015, from <http://kff.org/medicaid/issue-brief/an-overview-of-delivery-system-reform-incentive-payment-waivers/>
- ⁹⁸ Bachrach, D., Newman, N., & Nevitt, K. (2015). *In or Out: An Examination of Medicaid's Coverage Determination Policies*. Oakland: California HealthCare Foundation.
- ⁹⁹ See note 1.
- ¹⁰⁰ Kozhimannil, K.B., Vogelsang, C.A., & Hardeman, R.R. (2015). *Medicaid Coverage of Doula Services in Minnesota: Preliminary Findings from the First Year*. [Interim report to the Minnesota Department of Human Services].
- ¹⁰¹ See note 19.
- ¹⁰² Uzazi Village. *Sister Doulas*. Retrieved 23 October 2015, from <http://www.uzazivillage.com/professionals/services/sister-doulas/>
- ¹⁰³ Communication with Sherry Payne, Executive Director, Uzazi Village, 22 March 2015.
- ¹⁰⁴ See note 100.
- ¹⁰⁵ National Conference of State Legislatures. *Mandated health insurance benefits and state laws*. Retrieved 22 September 2015, from <http://www.ncsl.org/research/health/mandated-health-insurance-benefits-and-state-laws.aspx>
- ¹⁰⁶ Centers for Medicare and Medicaid Services Innovation Center. *Innovation models*. Retrieved 22 September 2015, from <https://innovation.cms.gov/initiatives/index.html#views=models>
- ¹⁰⁷ Burwell, S. M. (2015). Setting value-based payment goals—HHS efforts to improve U.S. health care. *New England Journal of Medicine*, 372(10), 897-899.
- ¹⁰⁸ Walker T. (2015). Top stakeholders form task force to accelerate shift to value-based care. *Managed Healthcare Executive eNews*. Retrieved 21 November 2015, from <http://managedhealthcareexecutive.modernmedicine.com/formulary-journal/news/health-care-transformation-task-force-private-sector-alliance-lead-acceleration-value-based-care?page=full>
- ¹⁰⁹ Health Care Payment Learning & Action Network. Retrieved 21 November 2015, from <https://publish.mitre.org/hcplan/>