



Commentary

Ensuring Access to High-Quality Maternity Care in Rural America



Katy B. Kozhimannil, PhD, MPA ^{a,*}, Carrie Henning-Smith, PhD, MSW, MPH ^a, Peiyin Hung, MSPH ^a, Michelle M. Casey, MS ^a, Shailendra Prasad, MD, MPH ^{a,b}

Article history: Received 26 January 2016; Received in revised form 1 February 2016; Accepted 2 February 2016

Rural Women Have Limited Access to High-quality Maternity Care

Access to high-quality care during pregnancy and childbirth is a challenge for women living in rural and remote areas of the United States, partly owing to shortages of childbirth providers. Policy interventions at the local, state, and federal levels could help to address maternity care workforce shortages and improve quality of care available to the one-half million rural U.S. women who give birth each year.

Up to 40% of all U.S. counties-most of them rural-lack a qualified childbirth provider. These are places where there is not one obstetrician, midwife, or family physician attending births in the entire county (American College of Obstetricians and Gynecologists [ACOG], 2014; ACOG, 2015a; Tong et al., 2013). Workforce constraints are compounded by increasingly frequent obstetric unit closures (Hung, Kozhimannil, Casey, & Moscovice, 2016). In 2014, we conducted a survey of rural hospitals in nine states (Kozhimannil, Casey, Hung, Prasad, & Moscovice, 2015), and the responses we received highlighted the challenges and opportunities—at the state, local, and federal levels—for improving access to high-quality maternity care in rural U.S. communities. This commentary describes the obstetric workforce as well as the quality of maternity care in small-volume rural maternity hospitals, which are the obstetric units at greatest risk of closure (Hung et al., 2016; Zhao, 2007), and provides policy recommendations to ensure that rural residents have access to safe, timely, and effective maternity care.

E-mail address: kbk@umn.edu (K.B. Kozhimannil).

Access to Maternity Care in Rural U.S. Communities

Women in rural areas have more limited access to health care services, compared with their urban counterparts (ACOG, 2014). Pregnant residents of rural communities face several barriers to accessing maternity care, including often needing to travel long distances to reach facilities that provide obstetric services (Rayburn, Richards, & Elwell, 2012). This has been exacerbated by the closure of rural obstetric units in recent years. Between 2010 and 2013, the rural obstetric units most likely to close were those with fewer than 240 births per year, as well as those located in lower income communities and communities with a limited supply of primary care physicians (Hung et al., 2016). This leads to multilayered disadvantage for some of the most vulnerable rural pregnant women: those with the greatest difficulty accessing hospital-based obstetric care are also more likely to live in socioeconomically depressed communities and may have difficulty accessing prenatal and primary care, owing to decreases in the number of rural maternity providers and general shortages in the rural physician workforce (Tong et al., 2013).

Quality of Maternity Care in Rural Hospitals

A focus on access must be balanced with attention to quality of care. Quality improvement is essential to improving maternity care outcomes generally, and in rural areas, and addressing this need is urgent. The U.S. rate of severe maternal morbidity doubled between 1998 and 2011 (Creanga et al., 2014), and the rate of maternal mortality doubled between 1990 and 2013 (Creanga et al., 2014; Kassebaum et al., 2014). Although this trajectory raises concerns, averages do not convey the alarming disparities between rural and urban settings. For example, risks for postpartum hemorrhage, the leading cause of maternal mortality, are greatest for women who give birth in small-volume, rural hospitals (Snowden, Cheng, Emeis, & Caughey, 2015a; Kozhimannil et al., 2016).

^a University of Minnesota Rural Health Research Center, Division of Health Policy and Management, University of Minnesota School of Public Health, Minneapolis, Minnesota

^b Department of Family Medicine and Community Health, University of Minnesota Medical School, Minneapolis, Minnesota

Support for this study was provided by the Office of Rural Health Policy, Health Resources and Services Administration, PHS Grant No. 5U1CRH03717.

^{*} Correspondence to: Katy B. Kozhimannil, PhD, MPA, University of Minnesota Rural Health Research Center, Division of Health Policy and Management, University of Minnesota School of Public Health, 420 Delaware St. SE, MMC 729, Minneapolis, MN 55455. Phone: 612-626-3812; fax: 612-624-2196.

Efforts to address maternity care quality have been undertaken by a range of organizations, including the Joint Commission, which developed a Perinatal Care Core Measures Set and established a 2014 requirement that all hospitals with at least 1,100 births per year report on these measures. This is a set of five measures reporting use of elective delivery, cesarean delivery, antenatal steroids, the prevalence of health care-associated bloodstream infections in newborns, and the rate of exclusive breastmilk feeding among mothers (Jackson & Milton, 2015). Starting in January 2016, the Joint Commission requires all accredited hospitals with at least 300 births annually to report the Perinatal Care Core Measures (The Joint Commission, 2015). More than one-half of rural maternity hospitals remain exempt from the reporting requirement because of their low birth volume (<300 births annually), because they do not have sufficient cases for reporting specific measures, or because they are not accredited. Although hospitals can voluntarily report this information, it may be more difficult for these smaller hospitals to report, either owing to a small volume of cases or to both human resource and informatics constraints on the hospital's capacity to report additional quality metrics. As a result, residents of rural and remote areas have more limited access to information about the quality of maternity care at local hospitals than pregnant women living in urban areas.

Women interested in giving birth outside of hospital settings have even more limited information about the quality of care for births planned to occur at home or in freestanding birth centers. A recent study provided new information on outcomes of planned hospital births compared with planned out-of-hospital births, but this study did not distinguish risks for rural areas (Snowden et al., 2015b). Small numbers may have precluded this, but nonetheless access to relevant quality information for rural women is limited. Not only that, most birth centers are located in urban and suburban areas, so this evidence-based model of care may not be locally available for most rural residents (American Association of Birth Centers, 2015).

The Way Forward: Opportunities for Federal and State Policies to Support Rural Maternity Care

Federal Policy Efforts to Address Workforce Shortages

There are several policy levers that can be used to improve access to high-quality maternity care services for rural women delivering in low birth volume hospitals. On the federal level, there is currently a bill working its way through Congress entitled the "Improving Access to Maternity Care Act," which would task the Health Resources and Services Administration with identifying maternity care workforce shortage areas across the country (Improving Access to Maternity Care Act, S. 628, 2015). Those areas would benefit from loan forgiveness programs through the National Health Services Corps, which may incent maternity care clinicians to practice in those areas (American College of Nurse-Midwives, 2014). Similar strategies have been used in the past to address other types of health care workforce shortages (U.S. Department of Health and Human Services, 2015), and with nearly one-half million rural U.S. women giving birth each year, rural maternity care deserves a similar level of attention.

Federal Policy Efforts to Improve Maternity Care Quality

In addition, federal efforts to support maternity care quality improvement generally—including requirements and resources to develop, use, and report quality measures—require attention to the particular needs of rural residents. In 2015, Senators Debbie Stabenow and Chuck Grassley undertook a bipartisan effort to introduce legislation (Quality of Care for Moms and Babies Act. S. 466, 2015) that would require the U.S. Department of Health and Human Services to identify and publish a recommended core set of maternal and infant quality measures. The "Quality Care for Moms and Babies Act" is supported by both the American Congress of Obstetricians and Gynecologists (ACOG, 2015b) and the American College of Nurse Midwives (American College of Nurse-Midwives, 2015). If passed and implemented with attention to the differences between rural and urban areas, this legislation could help to level the playing field for rural families by ensuring access to federally collected information on quality of maternity care.

Medicaid Policy

In addition to federal policies, state policies affect workforce in rural hospitals. The variability across states in the number and types of maternity hospitals indicates that each state has particular constraints and opportunities for addressing rural maternity care (Hung et al., 2016). There are a wide range of state policy levers that may address the challenges of recruitment, retention, and skills maintenance that have been highlighted by rural hospitals (Kozhimannil et al., 2015). One key area where states can play a role in addressing both workforce and quality in maternity care is Medicaid policy (Markus & Rosenbaum, 2010). Medicaid funds nearly one-half of all births nationally (Markus, Andres, West, Garro, & Pellegrini, 2013), and more than one-half of births in rural areas (Kozhimannil et al., 2014). State Medicaid programs have a unique opportunity, through coverage, benefits, reimbursement rates, payment policy, and managed care arrangements, to ensure an adequate supply of providers and to reduce financial barriers to accessing evidence-based maternity services (Markus & Rosenbaum, 2010). Medicaid could also play a leadership role in advancing transparency and availability of information on quality metrics for rural residents who are pregnant. Efforts to improve the reporting and availability of relevant quality measures for rural maternity units could include exploring alternative ways for low birth volume hospitals to report and benchmark their data with peer hospitals. Noting the elevated (and rising) rates of nonindicated labor induction (Kozhimannil et al., 2014), it may be useful for Medicaid programs or the federal Centers for Medicare and Medicaid Services to develop rural-tailored strategies for reporting quality metrics and adopting quality improvement strategies.

State Scope of Practice Laws

Not only do the number and size of rural maternity hospitals vary across states, but so does the maternity workforce. Efforts to address health care workforce challenges are not limited to the federal level; the state plays a lead role in determining licensing, credentialing, and scope of practice regulations for all clinicians, including those in maternity care. There is wide variability across states in the allowed scope of practice for advanced practice nurses, including certified nurse-midwives and this is a focus of recent policy attention (Park, Cherry, & Decker, 2011; National Conference of State Legislatures, 2013). Restrictions that do not allow clinicians to practice at the top of their licenses may limit

access to evidence-based services, including access to midwifery care (Yang & Kozhimannil, 2015). Efforts to reduce practice barriers for certified nurse-midwives and other advanced practice nurses and midwives may increase access to care (Yang & Kozhimannil, 2015) and could also reduce overall costs (Hooker & Muchow, 2015).

State and Local Efforts to Improve Maternity Care Access and Ouality

Other state and local policies to address maternity workforce and quality concerns in small rural hospitals may include 1) subsidies for training programs for maternity care health professionals in professional schools, especially those that encourage a "home-grown" rural workforce, 2) encouragement of family medicine rotations and residency programs that include a focus on obstetric services in rural areas, 3) subsidies for continuing medical education and other ongoing training and capacity building for maternity care professionals working in smaller, more remote hospitals, 4) collaboration between clinicians, professional societies, and health care delivery systems on integration of care and transfer across birth settings, including attention to ensuring safety for planned home births in rural settings, and 5) state- and institutional-level quality improvement initiatives and collaborations to leverage resources and innovation across small-volume settings. Interventions to improve access to and quality of care by addressing health care workforce shortages should also take the community context into account when considering how to attract and retain maternity care professionals in rural areas (Henning-Smith & Kozhimannil, 2015).

Ultimately, the goal of any policy intervention in this area should be to find workable solutions to the challenges that pregnant women in rural and remote areas face, both in accessing comprehensive maternity care services and ensuring their receipt of high-quality maternity care. General efforts undertaken at the federal, state, or local levels ought to account for the particular circumstances of rural communities, rural clinicians, and rural women as they navigate the life and health changes that accompany pregnancy and childbirth.

Acknowledgments

The authors acknowledge all the rural hospitals that participated in the survey; the Office of Measurement Services at the University of Minnesota for fielding the survey; and the Rural Obstetric Advisory Group members, who provided valuable input to the survey development and interpretation, from: Barrett Hospital, Dillon, MT; St. Clare Hospital, Baraboo, WI; Shawano Medical Center, Shawano, WI; Upland Hills Health, Dodgeville, WI; Monroe Clinic, Monroe, WI; Charles Cole Memorial Hospital, Coudersport, PA; Whitman Hospital, Colfax, WA; and Tomah Memorial Hospital, Tomah, WI.

References

- American Association of Birth Centers. (2015). Find a birth center near you. Available: www.birthcenters.org/search/custom.asp?id=2926. Accessed: January 28, 2016.
- American College of Nurse-Midwives. (2014). Improving Access to Maternity Care Act of 2015. 2015:S. 628/H.R. 1209. Available: www.midwife.org/Improving-Access-to-Maternity-Care-Act-of-2014. Accessed: January 20, 2016.

- American College of Nurse-Midwives. (2015). The Quality Care for Moms and Babies Act: Improving maternity care for women and families. Fact Sheet. Silver Spring, MD: Author.
- American College of Obstetricians and Gynecologists (ACOG). (2014). ACOG Committee Opinion No. 586: Health disparities in rural women. *Obstetrics and Gynecology*, 123(2 Pt 1), 384–388.
- American College of Obstetricians and Gynecologists (ACOG). (2015a). 2013 socioeconomic survey of ACOG fellows. Available: www.acog.org/-/media/Departments/Practice-Management-and-Managed-Care/2013Socioeconomic Survey.pdf. Accessed: January 16, 2016.
- American College of Obstetricians and Gynecologists (ACOG). (2015b). ACOG Supports the Quality Care for Moms and Babies Act. Available: www.acog. org/About-ACOG/News-Room/Statements/2015/ACOG-Supports-the-Quality-Care-for-Moms-and-Babies-Act. Accessed: January 28, 2016.
- 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*, 23(1), 3–9.
- Henning-Smith, C., & Kozhimannil, K. B. (2015). Availability of child care in rural communities: implications for workforce recruitment and retention. *Journal of Community Health*. http://dx.doi.org/10.1007/s10900-015-0120-3. [Epub ahead of print].
- Hooker, R. S., & Muchow, A. N. (2015). Modifying state laws for nurse practitioners and physician assistants can reduce cost of medical services. *Nursing Economics*, 33(2), 88–94.
- Hung, P., Kozhimannil, K. B., Casey, M. M., & Moscovice, I. S. (2016). Why are obstetric units in rural hospitals closing their doors? *Health Services Research*. http://dx.doi.org/10.1111/1475-6773.12441. [Epub ahead of print].
- Improving Access to Maternity Care Act, S. 628, 114th Cong. 2015.
- Jackson, C. & Milton, C. (2015). 2015 Updates to perinatal care (PC) core measures: PC-01 elective delivery, structural measures, and DACA. Washington, DC. Available: www.qualityreportingcenter.com/wp-content/uploads/2015/02/IQR_2015-Updates-to-PC-Core-Measures_022315_508.pdf. Accessed: January 20, 2016.
- Kassebaum, N. J., Bertozzi-Villa, A., Coggeshall, M. S., Shackelford, K. A., Steiner, C., Heuton, K. R., ... Lozano, R. (2014). Global, regional, and national levels and causes of maternal mortality during 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *Lancet*, 384(9947), 980-1004.
- Kozhimannil, K., Hung, P., Prasad, S., Casey, M. M., & Moscovice, I. S. (2014). Rural-urban differences in childbirth care, 2002-2010, and implications for the future. *Medical Care*, 52(1), 4–9.
- Kozhimannil, K. B., Casey, M. M., Hung, P., Han, X., Prasad, S., & Moscovice, I. S. (2015). The rural obstetric workforce in US hospitals: Challenges and opportunities. *Journal of Rural Health*, 31(4), 365–372.
- Kozhimannil, K. B., Thao, V., Hung, P., Tilden, E., Caughey, A. B., & Snowden, J. M. (2016). Association between hospital birth volume and maternal morbidity among low-risk pregnancies in rural, urban, and teaching hospitals in the United States. American Journal of Perinatology. http://dx.doi.org/10.1055/s-0035-1570380. [Epub ahead of print].
- Markus, A. R., & Rosenbaum, S. (2010). The role of Medicaid in promoting access to high-quality, high-value maternity care. Womens Health Issues, 20(1 Suppl), S67–S78.
- Markus, A. R., Andrews, E., West, K. D., Garro, N., & Pellegrini, C. (2013). Medicaid covered births, 2008 through 2010, in the context of the implementation of health reform. Womens Health Issues, 23(5), e273–e280.
- National Conference of State Legislatures. (2013). Scope of practice legislative database, 2011-2013. Denver, CO. Available: www.ncsl.org/research/health/scope-of-practice-legislation-tracking-database.aspx. Accessed: January 29, 2016.
- Park, M., Cherry, D., & Decker, S. L. (2011). Nurse practitioners, certified nurse midwives, and physician assistants in physician offices. *NCHS Data Brief* (69), 1–8.
- Quality of Care for Moms and Babies Act. S. 466, 114th Cong. 2015.
- Rayburn, W. F., Richards, M. E., & Elwell, E. C. (2012). Drive times to hospitals with perinatal care in the United States. *Obstetrics & Gynecology*, 119(3), 611–616.
- Snowden, J. M., Cheng, Y. W., Emeis, C. L., & Caughey, A. B. (2015a). The impact of hospital obstetric volume on maternal outcomes in term, non-lowbirthweight pregnancies. *American Journal of Obstetrics and Gynecology*, 212(3), e1–e9.
- Snowden, J. M., Tilden, E. L., Snyder, J., Quigley, B., Caughey, A. B., & Cheng, Y. W. (2015b). Planned out-of-hospital births and birth outcomes. *New England Journal of Medicine*, 373(27), 2642–2653.
- The Joint Commission. (2015). Expanded requirement for perinatal care measure set reporting. Washington, DC: Author. www.jointcommission.org/assets/1/6/CAH_HAP_Perinatal_Meas.pdf. Accessed: January 20, 2016.
- Tong, S. T., Makaroff, L. A., Xierali, I. M., Puffer, J. C., Newton, W. P., & Bazemore, A. W. (2013). Family physicians in the maternity care workforce: Factors influencing declining trends. *Maternal and Child Health Journal*, 17(9), 1576–1581.

U.S. Department of Health and Human Services. (2015). Shortage designation: Health professional shortage areas & medically underserved areas/populations. Available: www.hrsa.gov/shortage/. Accessed January 20, 2016.

Yang, Y. T., & Kozhimannil, K. B. (2015). Making a case to reduce legal impediments to midwifery practice in the United States. *Womens Health Issues*, 25(4), 314–317. Zhao, L. (2007). *Why are fewer hospitals in the delivery business?* Bethesda, MD: NORC at the University of Chicago.

Author Descriptions

Katy B. Kozhimannil, PhD, MPA, is Associate Professor, Division of Health Policy and Management, University of Minnesota and Director of Research, University of Minnesota Rural Health Research Center. She studies policies affecting health care delivery, quality, and outcomes for women and families.

Carrie Henning-Smith, PhD, MSW, MPH, is a Research Associate at the University of Minnesota Rural Health Research Center. Dr. Henning-Smith uses quantitative and

qualitative research methodologies to study policy-relevant issues for rural populations.

Peiyin Hung, MSPH, is a doctoral student in the Division of Health Policy and Management, University of Minnesota. She applies econometric and health services research methods to studies of health care quality and access to care, with a focus on rural communities.

Michelle M. Casey, MS, is a Senior Research Fellow and Deputy Director, University of Minnesota Rural Health Research Center with more than 25 years of experience in rural health research and policy analysis.

Shailendra Prasad, MD, MPH, is Associate Professor, Department of Family Medicine and Community Health, University of Minnesota and Investigator, Rural Health Research Center. His research focuses on quality of care, coordination of care, methods of care delivery and appropriate resource utilization.