POLICY BRIEF

The Essential Role of Family Physicians in Providing Cesarean Sections in Rural Communities

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Of family physicians who perform cesarean sections, more than half do so in rural communities and 38.6% provide cesarean sections in counties without any obstetrician/gynecologists. As policymakers in the United States struggle with a widening landscape of 'obstetrical deserts,' efforts to adequately train a family physician workforce prepared to provide cesarean sections could help maintain access to local obstetric services in rural communities and reduce perinatal morbidity and mortality. (J Am Board Fam Med 2021;34:10–11.)

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Having local obstetric services in rural communities is associated with lower perinatal morbidity and mortality and decreased health care utilization and cost.[1,2] While approximately 28 million reproductive-age women in the United States live in rural communities, over half of rural counties do not have an obstetrician/gynecologist.[3] Since providing hospital-based obstetric services is often dependent on having cesarean section capacity, family physicians (FPs) who perform cesarean sections have an important role in maintaining obstetric care access in rural communities.[4]

We used data from the 2017 and 2018 American Board of Family Medicine's Family Medicine Certification Examination registration questionnaire for FPs seeking to continue their certification.[5] Completed 3 to 4 months before the examination date as a required component of registration, the questionnaire asked FPs whether they provided obstetric deliveries and, if yes, whether they performed cesarean section deliveries as primary surgeon. FPs' practice locations were geocoded and matched with county level data on obstetrician/gynecologist availability from the Area Health Resources Files.[6] We classified rurality based on the Rural-Urban Continuum Codes, which further divided rural areas based on population size. The American Academy of Family Physicians Institutional Review Board approved this study.

The response rate was 100%. In our sample of 17,171 FPs, 6.7% (n = 1144) provided any obstetric deliveries and 1.6% (n = 267) provided cesarean section deliveries as the primary surgeon. Of FPs who perform cesarean sections as primary surgeon, 57.3% (n = 153) did so in a rural county and 38.6% (n = 103) did so in a county without any obstetrician/gynecologists (Table 1).

We found that a substantial proportion of FPs who perform cesarean sections do so in rural counties and in counties without an obstetrician/gynecologist. The current decreasing trends in the proportion of FPs who provide any obstetric services may result in decreased access to obstetric care services in rural

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Table 1. Family Physicians Who Provide Cesarean Sections as Primary Surgeon (N [%]) from the 2017 and 2018 American Board of Family Medicine's Family Medicine Certification Examination Registration Questionnaire*

	Presence of Obstetrician/ Gynecologist in County		
	Yes	No	Total
Rurality†			
Urban	98 (59.8%)	16 (15.5%)	114 (42.7%)
Micropolitan	27 (16.5%)	2 (1.9%)	29 (10.9%)
Large Rural	39 (23.8%)	64 (62.1%)	103 (38.6%)
Small Rural	0 (0.0%)	21 (20.4%)	21 (7.9%)
Total	164	103	267

*The Certification Examination registration questionnaire is completed 3–4 months before the examination as a required part of registration.
†Rurality was defined using Rural-Urban Continuum Codes by county of primary practice site with urban codes 1–3, micropolitan 4–5, large rural 6–7, and small rural 8–9. The US Department of Agriculture's Economic Research Service, which created this scale, defines urban as codes 1–3 and rural as codes 4–9.

areas.[7] Maintaining and potentially augmenting the rural FP obstetric workforce will require increasing FP preparedness to provide cesarean sections by supporting obstetric fellowship training in family medicine, providing retraining opportunities for practicing FPs and promoting policies that facilitate obstetric credentialing of FPs with adequate training.[4] These efforts could reverse the trend of closing obstetric units in rural hospitals[8] and help improve obstetric outcomes in rural communities.

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References

1. Grzybowski S, Stoll K, Kornelsen J. Distance matters: a population based study examining access to maternity services for rural women. BMC Health Serv Res 2011;11:147.
2. Nesbitt TS, Larson EH, Rosenblatt RA, Hart LG. Access to maternity care in rural Washington: its effect on neonatal outcomes and resource use. Am J Public Health 1997;87:85–90.
3. American Congress of Obstetricians and Gynecologists. The Obstetrician-Gynecologist Workforce in the United States: facts, figures, and implications, 2017. Washington, DC: American Congress of Obstetricians and Gynecologists; 2017.
4. American Academy of Family Physicians. Cesarean Delivery in Family Medicine (Position Paper). 2016. Available from: https://www.aafp.org/about/policies/all/cesarean-delivery.html. Accessed March 25, 2020.
5. Peterson L, Fang B, Phillips R, Jr, Avant R, Puffer J. A certification board's tracking of their specialty: the American Board of Family Medicine's data collection strategy. J Am Board Fam Med 2019;32:89–95.
6. Health Resources & Services Administration. Area Health Resources Files (AHRF): National, State and County Health Resources Information Database. 2019.
7. Tong ST, Makaroff LA, Xierali IM, et al. Proportion of family physicians providing maternity care continues to decline. J Am Board Fam Med 2012;25:270–1.
8. Hung P, Henning-Smith CE, Casey MM, Kozhimannil KB. Access to obstetric services in rural counties still declining, with 9 percent losing services, 2004–14. Health Aff (Millwood) 2017;36:1663–71.