



# Emergency Obstetric Training Needed in Rural Hospitals without Obstetric Units

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## Key Findings

- In a survey of rural hospital nurse managers and emergency department administrators, 47 respondents described the types of trainings and/or resources that would be needed to help better prepare their hospital to handle obstetric emergencies.
- The most frequently described need (n=17, 36.1%) was simulation training, which offers hands-on practice for different types of obstetric procedures and skills (e.g. labor and delivery, cesarean sections, neonatal resuscitation training, etc.)
- Ten (21.2%) respondents cited specific types of clinical training that would benefit their hospital in managing emergency obstetric situations, some of which included neonatal resuscitation training, precipitate delivery training, post-partum hemorrhage management and others.

## Purpose

In 2014, 54% of rural counties nationwide did not have hospital-based obstetric units.<sup>1</sup> This trend of loss has continued; between 2014-2018, approximately 3% lost hospital-based obstetric units.<sup>1</sup> Hospitals that remain open after obstetric services close may encounter challenges providing emergency births or managing other obstetric complications.<sup>2</sup> As part of a larger survey to understand local capacity for emergency obstetric services, we asked nurse manager and emergency department administrators from rural hospitals without elective labor and delivery care (referred to throughout the remainder of this brief as “respondents”) to describe the types of trainings and/or resources that would be needed to help better prepare their hospital to handle obstetric emergencies. In this policy brief, we discuss the types of training identified by respondents and how those trainings may or may not meet the needs of those managing emergency obstetric situations in rural communities.

## Background and Approach

There are a number of serious potential health risks associated with the loss of hospital-based obstetric care.<sup>3</sup> While severe maternal mortality and morbidity has increased in both rural and urban counties, pregnant residents residing in rural counties face a greater probability of severe maternal morbidity and mortality compared to their urban counterparts.<sup>4</sup> Further, non-Hispanic Black, American Indian and Alaska Native, and low-income women residing in rural areas are at an even higher risk of severe maternal mortality and morbidity than their non-Hispanic white, higher income, and urban counterparts.<sup>5-7</sup> As such, it is increasingly important to ensure rural residents have a safe place to give birth and local hospitals have capacity, tools and skills needed for potential emergency births, especially as rural, hospital-based obstetric units continue to close nationwide.<sup>2</sup>

Using data from the 2018 American Hospital Association (AHA) Annual Survey, we identified rural hospitals with emergency departments that do not have an obstetric unit or offer obstetric services, and surveyed a

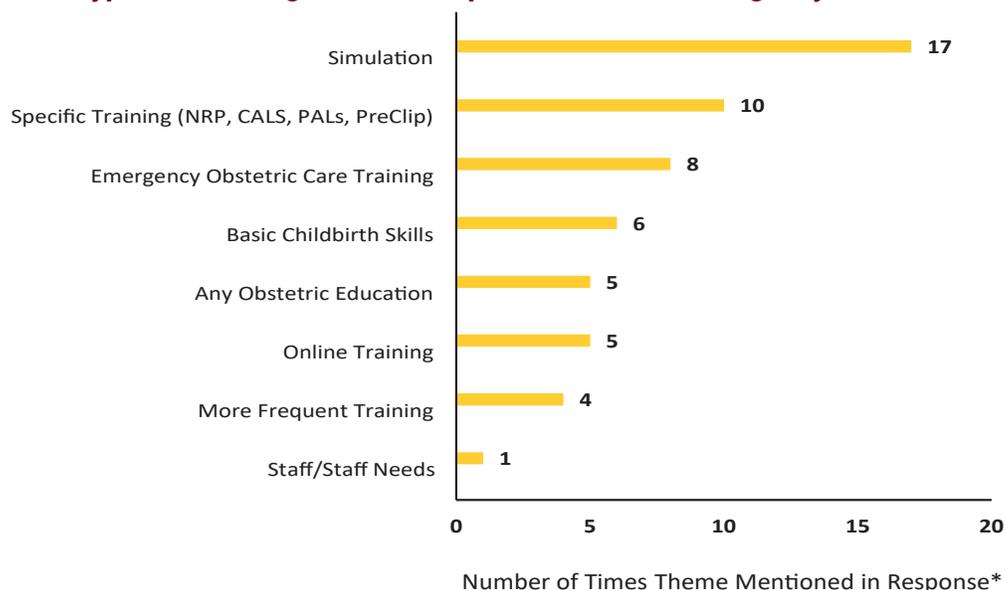
random sample of 200 hospitals (approximately 19% of all rural hospitals without obstetric services) that met initial inclusion criteria.<sup>1</sup> Forty-four hospitals were subsequently excluded after determining that the hospital either: 1) had an obstetric unit (i.e. incorrectly identified in our sample identification algorithm, n=9), 2) did not have an emergency room (n=29), 3) closed services after 2018 (n=4), or 4) had a disconnected phone number (n=2).<sup>1</sup> Of the 144 remaining hospitals contacted (14% of all rural hospitals without obstetric services), 69 hospitals' nurse managers or emergency department managers completed the survey. The sample included respondents from all geographic regions, with the strongest representation from the Midwest region. Results from these 69 hospitals provide a crucial first look at this underresearched issue.

After respondents answered questions about obstetric emergencies, interviewers said, *"Please describe the types of trainings and/or resources [needed] to better prepare this hospital to handle emergency obstetric situations."* Some respondents provided multiple responses, while others did not respond, and as such, total responses displayed in Figures 1 and 2 do not necessarily reflect the exact number of individual respondents. Members of the research team coded themes for responses independently, then met to discuss any instances of difference and came to consensus. The results highlight different types of training clinicians from rural hospitals without obstetric units identified as potentially helpful in their delivery of emergency obstetric services.

## Results

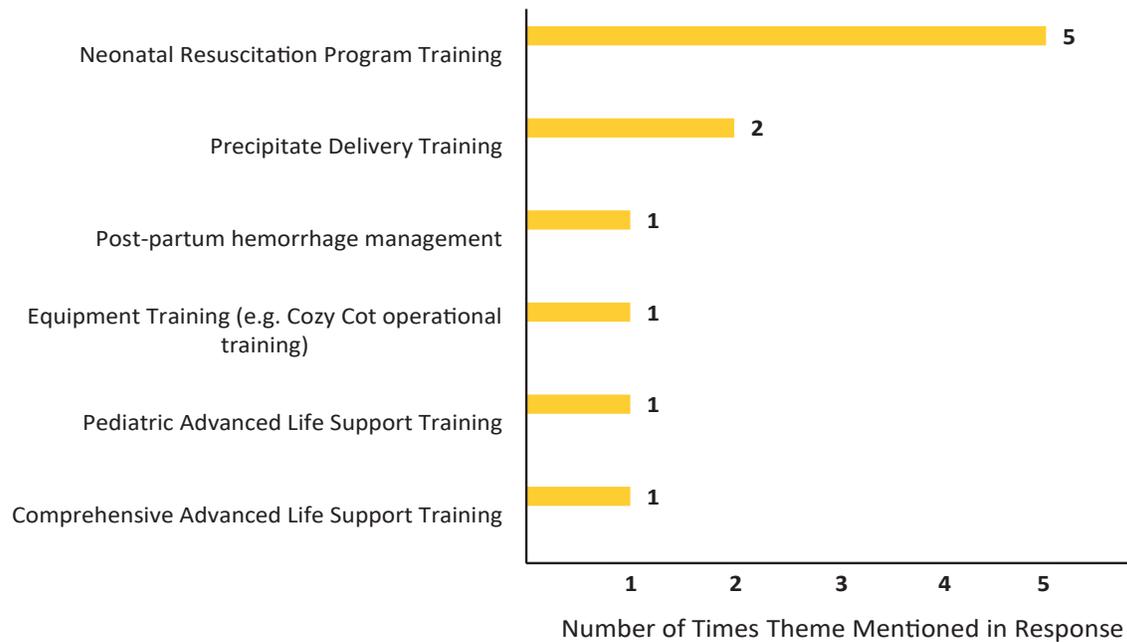
While 69.6% of survey respondents stated there were some trainings and resources available for local clinicians on emergency obstetric care, many (79.7%) stated that additional trainings or resources are needed to better prepare them to handle emergency obstetric situations. Forty-seven survey respondents described the type of trainings and/or resources that would help better prepare their hospital to handle emergency obstetric situations (n=47). Eight respondents identified more than one type of training needed to better prepare their hospitals to handle emergency obstetric situations, and as such, the total number of responses included in this analysis is n=56. Figure 1 provides an overview of the survey responses. The most frequently described need was simulation training (n=17, 36.1%), which offers hands-on practice for different types of obstetric services (e.g. labor and delivery, cesarean sections, neonatal resuscitation training, etc.). Eight respondents (17%) indicated that they could benefit from emergency obstetric care training, which includes but is not limited to precipitate delivery training. Six respondents (12.7%) requested basic childbirth skills and five respondents (10.6%) indicate they could benefit from any kind of obstetric education. Five respondents (10.6%) requested online training access and four respondents (8.5%) requested more frequent training. Ten respondents (21.2%) cited specific types of training that would benefit their hospital in managing emergency obstetric situations, which are broken out and displayed in Figure 2.

**Figure 1. Types of Training in Rural Hospitals to Handle Emergency Obstetric Situations**



\*Note: Eight respondents provided information on more than one type of training needed to effectively manage obstetric emergencies, so total number of responses (n=56) is greater than total number of respondents (n=47).

**Figure 2. Specific Types of Training for Obstetric Emergencies in Rural Hospitals**



## Discussion

Rural emergency department administrators and nurse managers most frequently indicated that in order to be prepared for emergency obstetric situations, they need access to the hands-on practice of critical procedures and skills (e.g. labor and delivery, neonatal resuscitation training, etc.) offered by simulation training (n=17, 36.1%).<sup>8</sup> The identified need for simulation training is worth prioritizing as a possible means of preparing rural hospitals for obstetric emergencies. Increased access to simulation training may mean garnering resources like low-cost simulation mannequins, or finding ways to share more costly types of mannequins or other simulation technology between Critical Access Hospitals (CAHs) or across a state or region. It could also merit looking at 1) standardizing templates for running codes and scenarios specific for rural emergency departments, 2) generally running emergency obstetric scenarios in an overall rural emergency department training plan, and 3) reviewing examples from international settings, which may be instructive in this regard.

It is worth noting that a substantial number of rural hospitals answered that “any obstetric training” or “basic childbirth skills” would better prepare them to provide emergency obstetric services, showing the need for an increase in basic obstetric training generally. Finally, as Figure 2 denotes, respondents requested specific types of training, most commonly neonatal resuscitation program training (n=5, 10.6%), which provides training for nurses to support newborn infants breathe after they are

born.<sup>9</sup> One respondent referenced Pediatric Advanced Life Support Training, which is a training that focuses on infants. This may indicate a training need outside the scope of emergency obstetric situations or a lack of clinical understanding regarding training certifications. One type of training noticeably absent from explicit responses was Advanced Life Support in Obstetrics (ALSO), which is a type of training that addresses a number of the topic needs identified in Figure 1;<sup>10</sup> the fact that none of the respondents mentioned this may mean there is a lack of awareness or perhaps lack of availability for this training or preference for other training. Admittedly, respondents were not directly queried about this type of training. Altogether, the responses suggests that rural hospitals are in need of more frequent and accessible obstetric training to better handle emergency obstetric situations. This is especially critical given the continued trend of hospital-based obstetric unit closures in rural communities nationwide.<sup>1</sup>

### Limitations

This analysis is subject to several limitations. First, as a result of the COVID-19 pandemic, survey collection ended early to minimize burdens on rural hospital capacity and time, which limited the sample size to 69 respondents, a 48% response rate (n=144). Responding hospitals were more often CAHs, rather than prospective payment system hospitals. Responding hospitals were more likely located in the Midwest, where non-responding hospitals were more often located in the South. Second, not all survey respondents answered the

open-ended questions on training that are discussed in this policy brief, as answering all questions in the survey was not required. Third, while we collected a number of titles from survey respondents, the survey structure did not allow for systematic assessment of specific titles/roles for each of the respondents. The aim was to connect with a hospital staff member with substantive knowledge of the handling of childbirth care in the emergency department, which amounted to the same or a similar role depending on the hospital with some variance. Fourth, some of the trainings identified by respondents did not appear to be related to the period of childbirth and immediately thereafter. Without following up with these respondents, it is unclear if there is a lack of awareness about types of training provided, if respondents were confused by the question, rushed through the survey, or if there are other areas of obstetrics for which they require support.

### Conclusion

The continued loss of hospital-based obstetric services in rural hospitals across the nation poses a potential threat to safe and healthy childbirth for rural residents.<sup>3</sup> This policy brief highlights training needs that nurse managers and emergency department administrators in rural emergency departments identify as important for supporting their capacity to provide emergency obstetric services to pregnant residents and families. Simulation training was the most frequently identified need, while other respondents referenced a need for basic, emergency or any childbirth training. Some respondents cited specific types of training as necessary in managing emergency birth situations, including neonatal resuscitation and precipitate delivery training. Respondents also cited pediatric trainings that were not related to childbirth but were more relevant to ages post-neonatal. This may expose a gap in training needs and availability of resources for rural hospitals to provide obstetric services that are not fully identified (such as postpartum and neonatal care), which may be an area for future investigation. To ensure pregnant residents, regardless of geography or demographics, are able to experience a safe and healthy birth, rural hospitals without obstetric

units need access to training that supports clinicians to safely provide these services. Training needs referenced by respondents in this research are worth consideration for policy investment in maternal and child health.

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