



# Impact of Potential Accreditation and Certification in Family Medicine Maternity Care

Aimee R. Eden, PhD, MPH; Lars E. Peterson, MD, PhD

**BACKGROUND AND OBJECTIVES:** Advanced maternity care training in family medicine is highly variable at both the residency and fellowship levels. Declining numbers of family physicians providing maternity care services may exacerbate disparities in access to maternal and child care, especially in rural and other underserved communities. Accreditation of maternity care fellowships and board certification may be one potential avenue to address this trend. This study sought to understand the perceptions and beliefs of key family medicine stakeholders in advanced maternity care regarding the formalization of maternity care training through fellowship accreditation and the creation of a certificate of added qualification (CAQ).

**METHODS:** In 2014 and 2015, the authors conducted semi-structured interviews with 51 key stakeholders in family medicine maternity care. Transcribed interviews were coded using an iterative process to identify themes and patterns until saturation was reached.

**RESULTS:** Participants generally supported both maternity care fellowship accreditation and a CAQ and recognized multiple advantages such as legitimization of training. Many had concerns about potential negative unintended consequences such as a loss of curricular flexibility; however, most felt that these could be mediated. Only a few did not support one or both aspects of formalization.

**CONCLUSIONS:** Most participants interviewed support formalizing maternity care fellowship training in family medicine through accreditation and a subsequent CAQ, if implemented with attention to minimizing the potential negative consequences. Such formalization would recognize the advanced skill and training of family physicians practicing advanced maternity care and could address some access issues to essential maternity care services for rural and other underserved populations.

(Fam Med 2017;49(1):14-21.)

Family medicine promotes itself as the “cradle to grave” medical specialty, and maternity care is an integral aspect of such comprehensive care.<sup>1,2</sup> However, the percentage of family physicians

providing maternity care has declined substantially over the past few decades,<sup>3-5</sup> from 47% in 1986<sup>6</sup> to less than 10% in 2010.<sup>7</sup> Family physicians who continue to provide maternity care largely do so in rural

areas that lack obstetricians, thus providing a valuable public health service.<sup>5,8,9</sup> The decline of family physicians providing maternity care services has been attributed to the cost of medical malpractice insurance,<sup>10-13</sup> lifestyle interference,<sup>11,14-16</sup> and insufficient training.<sup>17-19</sup> Residencies that prioritize maternity care training produce more family physicians who provide deliveries after graduation,<sup>20-23</sup> which suggests that strengthening maternity care training with defined curricula and criteria could serve to halt or reverse this trend.

Despite current Review Committee (RC) program requirements, the amount, quality, and rigor of maternity care training in family medicine residencies varies greatly.<sup>24</sup> Most 3-year family medicine residency programs provide routine maternity care training, with some struggling to meet basic RC requirements. Other residencies that focus on training residents to work in rural or underserved communities offer training in advanced obstetrics or maternity care (which refers to full spectrum maternity care services including instrumented vaginal and surgical delivery/cesarean sections),<sup>2,25</sup> and a small number offer a fourth-year “track” or area of

---

From the American Board of Family Medicine, Lexington, KY (Drs Eden and Peterson) and Department of Family and Community Medicine, University of Kentucky (Dr Peterson).

concentration in advanced maternity care.<sup>26</sup> Such variation has led to calls for a tiered system for maternity care standards for family medicine residencies.<sup>24</sup>

Family medicine maternity care fellowships are another way for family physicians to obtain advanced obstetrical skills, but these fellowships lack an accrediting body and hence do not have standardized curricula.<sup>27,28</sup> There is also not an American Board of Medical Specialties (ABMS) certification available to fellowship graduates. A recent survey of maternity care fellowship program directors found that fellowships varied considerably in obstetrician involvement, requirements for the number and types of deliveries performed, and whether and how they tracked their graduates.<sup>28</sup> Surveys of fellowship graduates have shown that the amount and type of maternity care that graduates provide varied extensively.<sup>27,29-31</sup>

Certification in obstetrics for family physicians became an issue when the first maternity care fellowship was created in 1984.<sup>32,33</sup> A survey conducted in 2005 by the American Board of Physician Specialties (ABPS) prompted them to create the Board Certification in Family Medicine Obstetrics (BCFMO) in 2009.<sup>32</sup> Uptake of this certification appears to be minimal so far, despite a survey finding that a large majority of fellowship-trained physicians supported a Certificate of Added Qualification (CAQ) for advanced OB.<sup>27</sup>

With declining numbers of family physicians practicing maternity care, and their critical role in providing maternity care services in rural and urban underserved areas,<sup>5,7</sup> we aimed to explore whether key family medicine stakeholders in advanced maternity care believe that certification and accreditation of fellowships would address the variability in training and “support and promote family physician provision of maternity care.”<sup>7</sup> Ours is the first qualitative study designed to assess stakeholders’ views about

formalizing postgraduate maternity care training in family medicine.

## Methods

We conducted semi-structured interviews with key family medicine stakeholders between May 2014 and February 2015 who would potentially be impacted by an ABMS family medicine maternity care certification. These stakeholders were directors of family medicine maternity care fellowships, past/current fellows, and residency directors or maternity care track directors of programs that offer advanced maternity care training. In this paper, maternity care refers to advanced maternity care and obstetrics that includes instrumented vaginal and surgical delivery/cesarean section; obstetrics and OB are used interchangeably. The American Academy of Family Physicians (AAFP) Institutional Review Board approved this study without restrictions.

## Sampling

We identified 32 fellowships from the AAFP Fellowship Directory<sup>34</sup> for obstetrics, as well as 26 fellowships recognized by the ABPS-BCFMO.<sup>35</sup> Eighteen programs were on both lists, and four on the ABPS list were no longer operational. This left a final sampling frame of 38 unique family medicine maternity care fellowships. Fellowship directors (FDs) were identified via the websites or by contacting the program. We identified and recruited past or current fellows via word of mouth, using purposive and snowball sampling. We used professional contacts and Internet searches to identify residency programs with advanced maternity care training, and located residency directors (RDs) or maternity care track directors in those 36 programs. We used thematic saturation<sup>36</sup> to determine the final sample size for each type of interviewee.

## Recruitment and Interview Protocol

Via email, we invited individuals who met inclusion criteria to

participate. The recruitment email contained a letter describing the study and its purpose. We sent up to three follow-up emails attempting to schedule an interview.

We used a semi-structured interview guide to ask each group a parallel set of questions about their fellowship/residency program curricula, the fellows/residents characteristics or fellow experience, and their thoughts about fellowship accreditation and an ABMS CAQ offered through the American Board of Family Medicine (ABFM). This report focuses on the results of the latter set of interview questions. After obtaining verbal informed consent, we conducted interviews by phone. A professional transcription service transcribed the audio-recordings.

## Data Analysis

A computer-assisted qualitative data analysis system, MAXQDA 11 (VERBI Software, Berlin, Germany), was used to facilitate coding and data analysis. We used an iterative coding process, allowing us to determine when thematic saturation was reached. We took a deductive/inductive approach to identify codes and themes (Appendix available on request from the corresponding author for a list of final codes). Deductively, we created a set of *a priori* codes based on interview questions and hypotheses; inductively, we identified emergent codes through immersion in the data. We defined a series of sub-codes for codes that were found to be overly broad. Two researchers (AE and ACH) independently coded interviews and met regularly to refine code definitions, discuss questionable text sections, and compare and come to agreement on code assignments.

## Results

### Respondent Demographics

We interviewed a total of 51 key family medicine stakeholders (Table 1), including 22 directors of currently operating family medicine maternity care fellowships (two of these were also interviewed as past fellows and

**Table 1: Participant Demographics**

	% (n)
<b>Maternity Care Fellowship Directors</b>	n=22
Female	45% (10)
Region	
Northeast	14% (3)
Southeast	27% (6)
Midwest	23% (5)
Southwest	9% (2)
West	27% (6)
<b>Current/Past Maternity Care Fellows</b>	n=21
Female	67% (14)
Region	
Northeast	14% (3)
Southeast	19% (4)
Midwest	14% (3)
Southwest	24% (5)
West	29% (6)
<b>Family Medicine Residency or Maternity Care Track Directors</b>	n=11
Female	55% (6)
Region	
Northeast	9% (1)
Southeast	9% (1)
Midwest	9% (1)
Southwest	9% (1)
West	64% (7)

one as a maternity care track director of a residency program). Most fellowship directors were family physicians, some were fellowship trained and others not, and most fellowships were 1-year programs.

We interviewed 21 fellows, three currently enrolled in a fellowship program and 18 who had completed a fellowship (two of these were also currently FDs and were interviewed in that role as well). They were trained in 15 different fellowship programs: eight of which the FD was also interviewed, three of which are no longer operational, and four functioning programs of which the FD was not interviewed. These interviews provided a different (learner) perspective as well as information about seven additional currently or

formerly operating fellowship programs.

Of the 36 residency programs contacted, 10 responded and we interviewed 11 RDs or maternity care track directors. One maternity care track director was also interviewed as an FD.

#### *Potential Implications of Both Accreditation and Certification*

Despite broad support of fellowship accreditation and a CAQ, we found important differences in degree of support and concerns over negative consequences. While fellows and RDs supported fellowship accreditation and a CAQ in about equal numbers, FDs were much more supportive of a CAQ (73%) than of accreditation (41%). This indicates that FDs fear

losing control over program curricula with the added requirements that the accreditation process would bring, but they want their graduates to have the benefit of a CAQ.

A frequently cited possible negative consequence of fellowship accreditation and physician certification was the impact on non-fellowship trained family physicians already providing full spectrum maternity care, or on those in residency programs that receive advanced training who may not be eligible for the CAQ. Not surprisingly, RDs were particularly concerned about this (55%, n=6 of 11), worrying that such physicians may lose the ability to practice maternity care if hospitals would begin to prefer family physicians with a certification, causing potential further loss of access to maternity services in underserved areas. A few others believed that a CAQ would not impact credentialing as underserved regions are likely desperate for maternity care providers and will privilege easily, while other hospitals may not grant privileges to a family physician regardless of fellowship training or a CAQ. A past fellow explained:

I guess my biggest concern about the CAQ is that if hospitals look at that and say, 'This is the only way you can get privileges.' Like, just how many family physicians are providing great care to patients who can't get it otherwise, so we're restricting. ... I feel you can argue CAQs either way, but when hospital systems, in terms of granting privileges, hold on to those and then it becomes an exclusive thing instead of an inclusive thing, that's always my worry.

A few participants mentioned other implications. One issue, mentioned by three participants, was the fear of diluting family medicine as a discipline by more finely "chopping up" the specialty. Two RDs feared that residency programs may become less likely to provide strong maternity

care training if fellowship training will be required for family physicians to do maternity care anyway.

### *Accreditation of Maternity Care Fellowships*

When asked specifically what they thought about maternity care fellowships becoming accredited, 24 (47% of 51) participants liked the idea, while another 24 (47%) would support accreditation depending on how accreditation is implemented and how it will function (Figure 1). Only three interviewees (6%, all of whom were FDs, did not support accreditation. As a group, fellows were more supportive of accreditation (52%, 11 of 21) than were FDs (41%, 9 of 22).

**Benefits of Fellowship Accreditation.** Several themes emerged when participants discussed the potential advantages of maternity care fellowship accreditation (see Table 2 for themes, illustrative quotes, and total number of interviewees who discussed each theme). FDs most often mentioned standardization of programs as a benefit of accreditation (64%, n=14 of 22). While FDs were generally confident in their own program's training quality, many were

suspicious of other programs' quality, and common standards would help alleviate those doubts. Another important advantage of accreditation identified by FDs was the increased credibility of these programs, including improving how this training is perceived by obstetricians and others (55%, n=12 of 22).

Over 70% of the fellows (n=15 of 21) and RDs (n=8 of 11) discussed the positive impact accreditation would have on fellows, while only 32% (n=7 of 22) of FDs mentioned this. Half of all participants said that better employment options and easier privileging in cesarean delivery and other advanced obstetrical procedures could be important outcomes of fellowship accreditation.

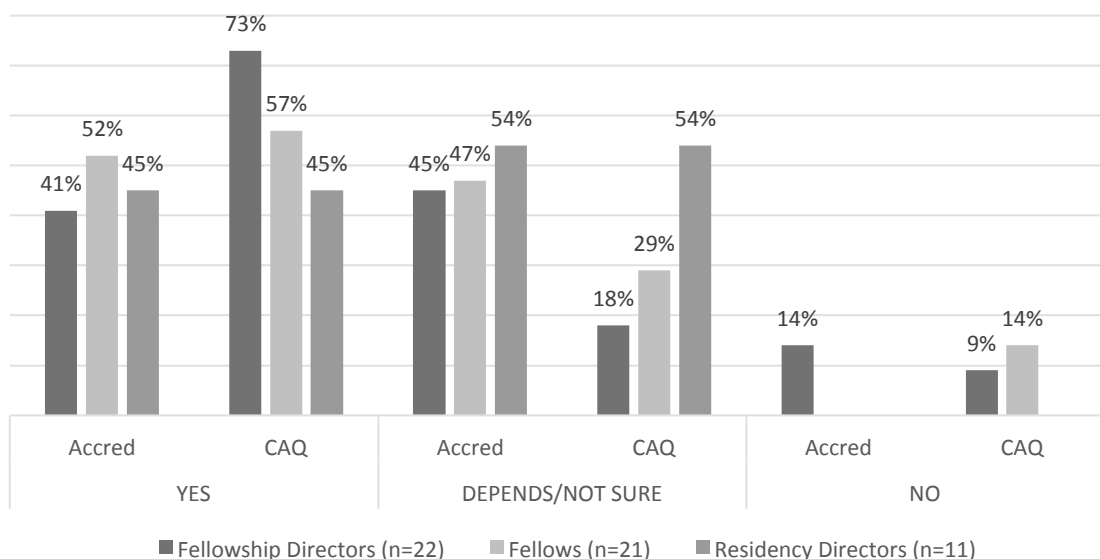
**Disadvantages to Fellowship Accreditation.** Interviewees noted several potential negative impacts of accreditation, which help explain the tentative support of accreditation mentioned above (see Table 3 for themes and illustrative quotes). For the programs, loss of flexibility in program curriculum was discussed as a risk of fellowship accreditation by 33% (n=17 of 51) of all interviewees but was of most concern to FDs

(45%, n=10 of 22). The impact on fellows was also noted; many interviewees (29%, n=15 of 51) thought that accreditation criteria may also reduce the ability to tailor the fellowship to their fellows' needs and interests. Another disadvantage of accreditation noted by many FDs (36%, n=8 of 22) and RDs (45%, n=5 of 11) was the increased administrative burden, closely followed by the financial burden associated with obtaining and maintaining accreditation, noted exclusively by FDs (27%, n=6 of 22). Some respondents (20%, n=10 of 51) mentioned trouble meeting potential Accreditation Council for Graduate Medical Education (ACGME) requirements (ie, cesarean volume, qualified faculty) as a barrier to becoming accredited, but most that did believed this would be a problem for other programs, not for their own.

### *ABFM Certificate of Added Qualification*

Most interviewees (61%, n=31 of 51) viewed an ABFM CAQ in advanced maternity care/OB as a positive development (Figure 1). Reasons for supporting a CAQ were similar to those discussed for fellowship

**Figure 1: Support for Fellowship Accreditation and CAQ**



**Table 2: Participant Perspectives of Potential Benefits of Family Medicine Maternity Care Fellowship Accreditation**

Theme/Frequency	Theme Definition	Illustrative Quotes
Standardization 61% (n=31 of 51)	Fellowship training will be more consistent across programs and regions; confidence that every program meets at least a minimal criteria—internal validity (within the specialty).	<p>“If you and I just sat down and just set us up a little training program we thought is good, ... that’s well and good, but having a national standard that everybody does the same, you meet the minimums, everything is done in the standardized fashion—that’s what’s worth something.” (FD)</p> <p>“... right now I have no idea what other programs are doing. I don’t know how many people, how many deliveries other programs are getting, or how many primary assists are getting out of their programs.... I know that we have a good program but I don’t know what the program two or three states away looks like.” (FD)</p>
Positive impact on fellows 59% (n=30 of 51)	Fellows will know what to expect; they will graduate with a certain level of skill; they may receive protections (work hours) and benefits.	<p>“I really wish that there had been some sort of certification or something like that for the fellowship. I kind of feel like I would have known better what I was going into and maybe had a little bit more of a formal curriculum or at least some expectations. As part of the accreditation, the fellow has to do certain didactic sessions or something like that. At least I would have known what I needed to do even if they didn’t have a formal process for me to do it....” (PF)</p>
Privileging 51% (n=26 of 51)	Increased ability to obtain privileges; fellows will more easily find positions where they can practice full spectrum care.	<p>“I think that there could be some benefits ... for certain individuals who are having troubles with proving that they have the skill and in attaining privileges at hospitals.” (PF)</p> <p>“We know that fewer and fewer family doctors are doing obstetrics nationally, and that seems to be a pretty strong trend. So, there’s a part of me that thinks, ‘Well, maybe if these fellowships can ensure the quality of family doctors [who] actually are doing obstetrics, maybe that’s the price to pay to show the rest of the world that this rare doc, a family doc that can do a caesarian, is actually well-qualified and well-trained.’ That may help fight a privileging battle.” (RD)</p>
Credibility 51% (n=26 of 51)	Legitimization of the training; increased external credibility among OB-GYNs, hospitals, and others.	<p>“I think politically, if a fellowship was accredited by ACGME it’d be widely more respected. Hospitals and maybe even academic departments would be more willing to sponsor that fellowship, and we might actually see a growth of fellowships.” (PF)</p> <p>“Well, I know that a lot of places have a very contentious relationship between FPs and obstetricians. Hopefully having accreditation would make that a little better.” (RD)</p>
Positive impact on programs 24% (n=12 of 51)	Positive impacts on the program in terms of funding, maintaining the program, or improving recruitment of potential fellows/residents.	<p>“I think these days probably the funding would be of help because we don’t have extra ACGME slots. ... if money opened up, I suppose that could be a potential pro, too, that we can put ACGME money toward the fellowship training.” (FD)</p> <p>“So yes, if there was an accreditation, I think we would definitely apply for it, mostly because it makes the fellowship sound better to potential applicants to know that we’re certified.” (FD)</p>
Positive impact on patients 10% (n=5 of 51)	Broader positive impact on patients or the public.	<p>“If they do it, then it will be a tremendous victory for a logical thought on behalf of patient care and that’s the positive.” (FD)</p> <p>“I think the advantages of it are mostly to the public kind of a guarantee to people what we’re doing.” (RD)</p>

FD—Fellowship director, PF—Past fellow, RD—Residency director



**Table 3: Participant Perspectives of Potential Disadvantages of Family Medicine Maternity Care Fellowship Accreditation**

Theme/Frequency	Theme Definition	Illustrative Quotes
Negative impact on program flexibility 33% (n=17 of 51)	Programs will lose flexibility to tailor curricula to fellow needs, practice setting, population.	<p>"I am sure that what we can offer to somebody who wants to do a fellowship is quite different than what [X Program] can offer.... The experience is going to be different, and so I would hate to see good fellowship programs getting their hands tied because they were unable to offer every component of what somebody had decided was required." (FD)</p> <p>"I suppose the biggest con that I would think is it would limit flexibility of the fellowships to tailor their training for what they think the fellows need or what the fellows want out of them because if you accredit someone then you say that this is exactly the way we asked to do it, and this is exactly what has to come out of it and it really does limit the flexibility." (PF)</p>
Administrative burden 33% (n=17 of 51)	Increased administrative burden on fellowship directors and faculty.	"It would mean that there would probably be one or more site visit and another test, and all the other stuff that comes along with ACGME certification. So that's like you asking me if I'd like to do more paperwork." (FD)
Negative impact on physicians 31% (n=16 of 51)	Family physicians currently providing advanced maternity care or being trained in maternity care during residency may have difficulty obtaining/maintaining privileges.	"... in order for family practitioners to continue to deliver non-surgical OB services, low risk OB services, I'm concerned that this may further diminish a family physician's ability to deliver obstetric services if we get to a point where it says, 'Now you'd have to be fellowship trained in surgery' in order to be able to deliver essentially midwife type services which is what family physicians who are not doing surgery are essentially doing. I think it could end up taking most folks out entirely which would be a huge thing and the disservice to many young women who don't have access to care otherwise." (FD)
Negative impact on fellows 29% (n=15 of 51)	Fellows will no longer receive tailored training or be negatively impacted in some way.	"The drawbacks of that: it's not as flexible. So for example if you have a fellow that has a strong background from their residency in C-sections and they say they don't need as many C-sections but they need more experience with—I don't know, gestational diabetes for example. The flexibility is that they actually sort of tailor that program to their individual needs." (FD)
Inability to meet requirements 20% (n=10 of 51)	Programs may not be able to meet accreditation requirements and have to close.	"The con that may affect some programs—where they have a lot of fellows and maybe they don't have a sufficient number of C-sections for all the fellows or some programs that only have a 3-month training program." (FD)
Financial burden 12% (n=6 of 51)	Negative financial impact on program due to costs of obtaining/maintaining accreditation.	"The reason it'll be bad is they couldn't bill anymore. ... That would become challenging honestly. Our fellows are able to bill for the normal range of things they do, being normal deliveries or precepting in the clinic. My understanding is that if they become an ACGME then they can't independently bill. We'd have to figure out how to pay for the program and that would be a challenge." (FD)

FD—Fellowship director, PF—Past fellow, RD—Residency director

accreditation: legitimization of their advanced training and an enhanced ability to obtain privileges, as one FD mentioned:

... [a certification] validates their qualifications. There should be no question that they would be able to then be credentialed or privileged to do C-sections, I think, as opposed

to somebody just coming out of residency training with no additional experience.

RDs, as a group, were a little more tentative about whether they support a CAQ. A handful of participants (three fellows and two FDs) did not think a CAQ is a good idea, for a few reasons. One reason was

related to the idea that a CAQ will not carry or add value:

If they're not going to credential you based on the numbers that you have, a certificate is not going to matter. It's not. It's not going to matter at all because it's the hospital's, it's their choice not to credential you. Whether or not you have

a certificate does not matter. ... Because if they're not going to allow me to practice without that certificate, guess what? They're not going to allow me to practice with that certificate." (PF)

A second reason had to do with the concern that a maternity care CAQ would further splinter family medicine:

We've got a huge rift in family medicine. I know that only about 10%, 14% of family medicine doctors are practicing OB and I think that's bad. It seems like I'm of that feeling that OB is an integral part of family medicine, and so I don't want to see it split off. ... I don't care whether [fellowships are] accredited or not, what I'm concerned about is whether or not it's going to lead to a CAQ at the ABFM. (FD)

## Discussion

We found general support for both accreditation and an ABFM CAQ in maternity care among diverse stakeholders in family medicine maternity care training. However, standardization of fellowship training was seen as a double-edged sword by our participants. Positives included increased credibility of programs and fellows, more transparency for potential fellows, and better opportunities for obtaining maternity care privileges. For family physicians unable to get advanced maternity care training during residency, maternity care fellowships are an important mechanism to develop such skills. However, interviewees worried about negative impacts including unduly constraining the flexibility of current programs, increasing administrative and financial burdens, and unintended negative consequences for family physicians who currently provide varying levels of maternity care.

Physician credentialing is a local decision made by an individual hospitals' credentialing board, so it is difficult to predict what impact fellowship accreditation/CAQ will

have on non-fellowship trained family physicians who already provide maternity care services. Even across rural hospitals, maternity care privileging requirements for family physicians are highly variable.<sup>37</sup> Existing AAFP policy states that "Certification should not be a requirement for privileges in routine obstetric care and should not be mandatory for certification in advanced maternity care skills such as high-risk obstetrics and cesarean delivery. It is merely one of several mechanisms for verification of training and competency in this area."<sup>26</sup> Such competency-based credentialing, if implemented across institutions, may alleviate concerns about a maternity care CAQ harming family physicians already practicing advanced maternity care. Other well-established CAQs in geriatrics and sports medicine have not precluded those without fellowship training or a CAQ from treating elderly patients or athletes, but hospital privileging is generally not required in these areas. In addition, to gain approval for a new CAQ from the American Board of Medical Specialties (ABMS), the CAQ must be offered in conjunction with the appropriate specialty board. Because support from the American Board of Obstetrics and Gynecology (ABOG) would be necessary, a CAQ in advanced maternity care may enhance the ability of family physicians with the CAQ to more easily obtain privileges, which are often determined by a credentialing board with at least one OB member. Overall, participants felt that the positive impact on family physicians' ability to obtain privileges would be greater than the possible negative impact resulting from formalization of advanced maternity care training in family medicine.

Our study is subject to limitations. Most importantly, not all stakeholder voices were represented in this study. Two groups are most notably missing: family physicians without fellowship training who practice advanced maternity care and

individuals who make decisions on hospital credentialing boards. Without these perspectives, it is difficult to make assertions about how impactful a CAQ may be in terms of its ability to improve or constrain maternity care privileging. This is an area where future research would be welcome. In terms of the stakeholder perspectives that were collected for this study, sampling bias was possible with fellows and RDs, as these physicians were identified through purposive and snowballing methods. There may have been response bias in the FD sample, as those who agreed to be interviewed may have stronger opinions about accreditation and CAQ.

If implemented with attention to minimize the stakeholder-identified potential negative consequences, formalization of advanced maternity care training (official fellowship accreditation and a CAQ) is one possible avenue to ensure maternity care remains a core part of family medicine. Based on our data, we suggest that the potential negative effects can be diminished by (1) allowing a practice pathway to obtain a CAQ for family physicians with demonstrated training and experience in advanced maternity care and (2) ensuring that accreditation criteria allows for reasonable program flexibility. This alternative to recognizing the advanced skill and training of family physicians practicing maternity care may alleviate the decline of family physicians providing maternity care and may ultimately improve access to essential maternity care services for rural and other underserved populations.

**ACKNOWLEDGMENTS:** Some portion of this research was presented at the 2015 Society of Teachers of Family Medicine Annual Spring Conference in Orlando, FL.

Conflicts disclosure: Drs Eden and Peterson are employed by the ABFM.

The authors thank Dr Jim Puffer for initial guidance, Dr Bob Phillips and Dr Mike Hagen for reviewing the manuscript, and Anneli Cochrane-Horn for data analysis assistance.

**CORRESPONDING AUTHOR:** Address correspondence to Dr Eden, American Board of Family Medicine, 1648 McGrathiana Blvd., Suite 550, Lexington, KY 40511. 859-269-5626, ext. 1308. Fax: 859-335-7501. aeden@theabfm.org.

## REFERENCES

- Lynch DA. Obstetrics in family practice: a model for residency training. *J Fam Pract* 1978;7:723-7.
- Mehl LE, Bruce C, Renner JH. Importance of obstetrics in a comprehensive family practice. *J Fam Pract* 1976;3(4):385-9.
- Long R. Obstetrics in family practice. *Medicine and Health* 2000;83:15-18.
- Nesbitt TS. Obstetrics in family medicine: can it survive? *J Am Board Fam Pract* 2002; 15(1):77-9.
- Rayburn WF, Klagholz JC, Murray-Krezan C, Dowell LE, Strunk AL. Distribution of American Congress of Obstetricians and Gynecologists fellows and junior fellows in practice in the United States. *Obstet Gynecol* 2012;119:1017-22.
- American Academy of Family Physicians. Family physicians and obstetrics: a professional liability study. Kansas City, MO: American Academy of Family Physicians, 1987.
- Tong ST, Makaroff LA, Xierali IM, Puffer JC, Newton WP, Bazemore AW. Family physicians in the maternity care workforce: factors influencing declining trends. *Matern Child Health J* 2013;17(9):1576-81.
- Probst JC, Moore CG, Baxley EG, Lammie JJ. Rural-urban differences in visits to primary care physicians. *Fam Med* 2002;34(8):609-15.
- Kozhimannil K, Casey M, Hung P, Prasad S, Moscovice I. The obstetric care workforce in critical access hospitals (CAHs) and rural non-CAHs. University of Minnesota Rural Health Research Center Policy Brief, November 2014. [http://rhrc.umn.edu/wp-content/files\\_mf/ob-workforcepolicybrief.pdf](http://rhrc.umn.edu/wp-content/files_mf/ob-workforcepolicybrief.pdf). Accessed March 11, 2016.
- Larimore WL, Sapolsky BS. Maternity care in family medicine: economics and malpractice. *J Fam Pract* 1995;40(2):153-60.
- Nesbitt TS, Scherger JE, Tanji JL. The impact of obstetrical liability on access to perinatal care in the rural United States. *J Rural Health* 1989;5:321-35.
- Smits AK, King VJ, Rdesinski RE, Dodson LG, Saultz JW. Change in Oregon maternity care workforce after malpractice premium subsidy implementation. *Health Serv Res* 2009;44(4):1253-70.
- Tietze PE, Gaskins SE, McGinnis MJ. Attrition from obstetrical practice among family practice residency graduates. *J Fam Pract* 1988;26(2):204-5.
- Fletcher JL, Schwartz MP. Why family practice residents choose not to practice obstetrics. *J Med Assoc GA* 1989;78:559-61.
- Klein MC, Kelly A, Spence A, Kaczorowski J, Grzybowski S. In for the long haul. Which family physicians plan to continue delivering babies? *Can Fam Physician* 2002;48:1216-22.
- Larimore WL. Assessing the risks and benefits of including obstetrics in family practice. *Fam Pract Recert* 1991;13:18-29.
- Buckle D. Obstetrical practice after a family medicine residency. *Can Fam Physician* 1994;40:261-8.
- Chen FM, Huntington J, Kim S, Phillips WR, Stevens NG. Prepared but not practicing: declining pregnancy care among recent family medicine residency graduates. *Fam Med* 2006;38(6):423-6.
- Tucker W, Diaz V, Carek PJ, Geesey ME. Influence of residency training on procedures performed by South Carolina family medicine graduates. *Fam Med* 2007;39(10):724-9.
- Hartman S, Borus Z, Carter D, et al. Qualitative study of faculty supervision in family medicine maternity care education. Presented at the 2015 Society of Teachers of Family Medicine Annual Spring Conference in Orlando, FL.
- Helton M, Skinner B, Denniston C. A maternal and child health curriculum for family practice residents: results of an intervention at the University of North Carolina. *Fam Med* 2003;35(3):174-80.
- Ratcliffe SD, Newman SR, Stone MB. Obstetric care in family practice residencies: a five-year follow-up survey. *J Am Board Fam Pract* 2002;15:20-4.
- Sutter MB, Prasad R, Roberts MB, Magee SR. Teaching maternity care in family medicine residencies: what factors predict graduate continuation of obstetrics? A 2013 CERA Program Directors Study. *Fam Med* 2015;47(6):459-65.
- Coonrod RA, Kelly BF, Ellert W, Loeliger SF, Rodney WM, Deutchman M. Tiered maternity care training in family medicine. *Fam Med* 2011;43(9):631-7.
- Eidson-Ton WS, Nuovo J, Solis B, Ewing K, Diaz H, Smith LH. An enhanced obstetrics track for a family practice residency program: results from the first 6 years. *J Am Board Fam Pract* 2005;18(3):223-8.
- American Academy of Family Physicians. Cesarean delivery in family medicine (Position Paper). AAFP policies. <http://www.aafp.org/about/policies/all/cesarean-delivery.html>. Accessed March 11, 2016.
- Chang Pecci C, Leeman L, Wilkinson J. Family medicine obstetrics fellowship graduates: training and post-fellowship experience. *Fam Med* 2008;40(5):326-32.
- Peterson LE, Blackburn B, Phillips RL Jr, Puffer JC. Structure and characteristics of family medicine maternity care fellowships. *Fam Med* 2014;46(5):354-9.
- Avery DM, Marshall E, Hooper DE, Parton JM. University of Alabama Family Medicine Obstetrics Fellowship: results and outcomes, 1986-2011. *Journal of Family Medicine Obstetrics* 2013;7(1). <http://jfmo.cchs.ua.edu/files/2013/02/avery-editorial.pdf>. Accessed July 10, 2015.
- Rodney WM, Martinez C, Collins M, Laurence G, Pean C, Stallings J. OB fellowship outcomes 1992-2010: where do they go, who stops delivering, and why? *Fam Med* 2010;42(10):712-6.
- Magee SR, Radlinski H, Nothnagle M. Maternal-child health fellowship: maintaining the rigor of family medicine obstetrics. *Fam Med* 2015;47(1):48-50.
- Avery DM. The history of board certification of family medicine obstetricians. *American Journal of Clinical Medicine* 2009;6(2):8-10.
- Avery DM, Loafman M. The board of certification in family medicine obstetrics (BCFMO): creation of a new board. *Journal of Family Medicine Obstetrics* 2012;6(1).
- American Academy of Family Physicians. Fellowship directory. <https://nf.aafp.org/FellowshipDirectory/search>. Accessed April 3, 2014.
- American Board of Physician Specialties. BFMO fellowship programs. <http://www.abpsus.org/userfiles/files/FMOfollow.pdf>. Accessed April 3, 2014.
- Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods* 2006;18(1):59-82.
- Kester K, Young R. Demographics of rural hospitals and obstetric care. Presented at the 2015 Society of Teachers of Family Medicine Annual Spring Conference, Orlando, FL.