Barriers to Providing Lactation Services and Support to Families in Appalachia: A Mixed-Methods Study With Lactation Professionals and Supporters

Emily R. Seiger, BS, Heather M. Wasser, PhD, MPH, RD, Stephanie A. Hutchinson, MBA, BS, IBCLC, Grace Foster, BSPH, Ruwaydah Sideek, BSPH, and Stephanie L. Martin, PhD, MEd

Objectives. To understand the barriers and facilitators that lactation professionals and supporters (LPSs) in the Appalachian region of the United States experience when providing services and support to families.

Methods. We used a mixed-methods explanatory sequential design with a survey of LPSs in Appalachia (March–July 2019), followed by semistructured interviews with LPSs (January–April 2020). We summarized survey responses descriptively and analyzed interview transcripts thematically.

Results. The survey was completed by 89 LPSs in Appalachia. We conducted semistructured interviews with 20 LPSs. Survey participants most commonly identified challenges with other health care providers, hospital practices, and non-medically indicated supplementation as barriers. Interview participants described challenges with clients’ families not supporting breastfeeding, difficulty reaching clients, limited numbers of LPSs, and lack of racial/ethnic diversity among LPSs. LPSs identified the need for training in lactation and substance use, mental health, and birth trauma, and supporting lesbian, gay, bisexual, transgender, queer or questioning, plus (LGBTQ+) families. LPSs described social media and telehealth as both facilitators and barriers. Social support from other LPSs was a facilitator.

Conclusions. LPSs in Appalachia face various challenges. Addressing these challenges has the potential to improve the lactation support and services families in Appalachia receive. (Am J Public Health. 2022;112(S8):S797–S806. https://doi.org/10.2105/AJPH.2022.307025)

The benefits of breastfeeding are well-documented and extend to the infant, breastfeeding parent, family, and society. As such, breastfeeding is a public health priority in the United States and is included in national health objectives, such as Healthy People 2030, and is emphasized in the latest Dietary Guidelines for Americans. Along with the American Academy of Pediatrics, the Dietary Guidelines for Americans recommend exclusive breastfeeding for the infant’s first 6 months, followed by continued breastfeeding alongside the introduction of complementary foods until 12 months or longer. In the United States, the majority of infants initiate breastfeeding (84.1%), but the prevalence of continued breastfeeding declines precipitously by 6 months (58.3%), with an even lower prevalence of exclusive breastfeeding at 6 months (25.6%).

Breastfeeding support provided by professionals or peer supporters can increase breastfeeding duration and exclusive breastfeeding. Lactation providers and supporters (LPSs) include International Board Certified Lactation Consultants (IBCLCs); other certified lactation providers (e.g., Certified Lactation Counselors, Lactation Specialists, Breastfeeding Counselors); and peer counselors through the Special Supplemental

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Nutrition Program for Women, Infants, and Children (WIC) or La Leche League (a breastfeeding training, advocacy, and education nongovernmental organization). Each category of LPS has unique training, areas of expertise, and scopes of practices.4

LPSs provide services and support in a variety of settings including home visits, hospitals, private practices, health departments, and nonprofit organizations. LPSs are important health care providers as labor and delivery staff, family physicians, and pediatricians may not be trained or confident to provide clinical or social support for breastfeeding.5,6 Interventions using LPSs have documented increases in breastfeeding initiation and an improved prevalence of any and exclusive breastfeeding.4 Despite evidence of the effectiveness of LPSs and their important role in public health efforts to improve breastfeeding in the United States, little is known about the experience of LPSs in providing support and the factors that facilitate or impede their success. Previous studies have described the experiences of IBCLCs in Florida; WIC breastfeeding peer counselors in Alaska; health care professionals, including some IBCLCs, in New York State; and health care professionals who supported lactation during the COVID-19 pandemic, but the experiences of LPSs in the Appalachian region of the United States have not been described in the literature.

The Appalachian region consists of 420 counties spanning 13 states in the eastern United States ranging from New York to Mississippi, including all of West Virginia.9 The Appalachian region is not a monolith and should not be defined by poverty or ethnicity.10 While substantial economic progress has been made over the last 5 decades, notable disparities and inequities persist. In a 2017 report of health disparities in Appalachia,11 the region performed better than the nation overall for 8 of 41 indicators (including the prevalence of HIV and excessive drinking), but poorer for 33 indicators, including a higher prevalence of poverty, mortality from all causes examined (e.g., heart disease, cancer), obesity, physical inactivity, infant mortality, and low birth weight. Several of these disparities (e.g., poverty, secondary education, obesity, and low birth weight) are associated with poorer breastfeeding outcomes, while others (e.g., risk of heart disease or cancer) may be reduced through increases in the prevalence of any and exclusive breastfeeding.4

Breastfeeding prevalence in Appalachian counties has historically been lower than in the rest of the United States.12 County-level data are not currently available. Using data from the 2020 US Breastfeeding Report Card, which reports feeding practices among infants born in 2017, the prevalence of exclusive breastfeeding at 3 months was 38% in states with counties in Appalachia compared with 47% in the United States overall and 21% versus 26% for exclusive breastfeeding at 6 months.3 The objective of this study was to comprehensively understand the barriers and facilitators that LPSs experience when providing lactation services and support to families in Appalachia.

Design

We used an explanatory sequential design,13 first conducting a quantitative cross-sectional survey followed by qualitative semistructured interviews. The survey provided a preliminary understanding of barriers LPSs in Appalachia face and findings informed the development of the semistructured interview guide to further explore topics identified in the survey.

Sample

ABN distributed the survey link via direct e-mail and ABN social media platforms (i.e., Facebook, Instagram, Twitter) to more than 400 ABN members; it received 130 responses. Of these, 13 were incomplete and 28 were from individuals outside of Appalachia, resulting in a final sample of 89 LPSs who were members of ABN and lived or worked in a county in Appalachia.
During the survey, participants were invited to participate in a follow-up, semistructured interview; 43 participants agreed to be contacted. Through frequent debriefings with the data collectors, we determined that after conducting 20 interviews we achieved a variety of perspectives from the study population and topic saturation had been reached. Interview participants received a $15 gift card.

**Data Collection**

We developed data collection tools based on ABN priorities and previous literature. The survey included 30 multiple-choice, ranking, and open-ended questions about sociodemographic characteristics, paid or volunteer breastfeeding and lactation support experience in Appalachia, barriers LPSs experience when supporting families, and perspectives on ABN initiatives. (The survey is available as a supplement to the online version of this article at [https://ajph.org](https://ajph.org).) The survey was administered between March 10, 2019, and July 17, 2019, using Qualtrics Online Survey Software (version March 2019, Qualtrics, Provo, UT). Informed consent was obtained electronically at the start of the survey. Research assistants with training in qualitative research conducted semi-structured phone interviews following an interview guide that was developed by using survey results (available as a supplement to the online version of this article at [https://ajph.org](https://ajph.org)). Interviews were conducted between January 2020 and April 2020, lasted between 30 and 75 minutes, and were audio-recorded and transcribed verbatim. Verbal consent was obtained at the start of the interview.

**Data Analysis**

Using survey data, we calculated descriptive statistics in Stata version 16 (StataCorp LP, College Station, TX) for all sociodemographic characteristics; we cross-tabulated barriers by WIC employment status (any vs none) and lactation certification. We categorized lactation certifications as (1) IBCLCs, who complete extensive coursework, training, and at least 300 clinical practice hours; (2) other lactation certifications including Certified Lactation Counselors, Certified Lactation Specialists, and Certified Breastfeeding Counselors, who complete 40 hours of training; WIC breastfeeding peer counselors and La Leche League Leaders, which requires training and personal breastfeeding experience; and (3) no lactation certification, which includes individuals who provide lactation support through their job or volunteer work but do not have a lactation credential (e.g., doula, home visitor, support group facilitator).

We uploaded interview transcripts to ATLAS.ti version 8 (Scientific Software Development, Berlin, Germany) and conducted thematic analysis. We developed deductive codes based on the interview guide and applied them to the transcripts. After this initial coding pass, the first author listened to the interviews and made memos of emerging themes and her positionality. These themes were discussed by the authors, additional inductive codes were created, and a second coding pass was made. A separate coding report was generated for each of the common barriers identified in the survey and each of the emergent barriers identified in the interviews. Next, the first author created a separate matrix for each barrier in which illustrative quotes were tabulated by certification type and employment in WIC. Study authors separately reviewed the coding reports and matrices and then met as a team to discuss key themes while periodically consulting the president of ABN.

**Reflexivity**

Most of the academic researchers are outsiders to Appalachia and benefit from systems of oppression and may fail to fully grasp structural and systemic barriers identified by participants. The members of the academic research team are predominately White, similar to the sample, but given that topics of racial/ethnic representation and systemic marginalization were identified, authors sought to situate the findings in context by discussing works by Black and Latinx LPSs and researchers. All academic researchers attended events hosted by Appalachian organizations to improve contextual understanding. One of the academic researchers was an IBCLC and another was a certified lactation counselor, improving the analysis and interpretation of LPS data. The ABN president co-designed the study and was engaged in the analysis and manuscript preparation to avoid misinterpretation or misrepresentation of participants’ experiences.

**RESULTS**

Participant characteristics are presented in Table 1. As part of their lactation work or volunteer activities, 92.1% of survey participants reported providing lactation counseling, support, and education to clients and families; 52.8% implemented breastfeeding programs; 47.2% trained other providers or program staff in lactation; and 4.5% conducted breastfeeding and lactation research.
Survey participants selected several barriers that influenced their ability to provide lactation support to families in Appalachia. The top 5 barriers selected were:

1. challenges with other providers (84.3%), which included lack of awareness about services, failing to support breastfeeding, or failing to refer to LPSs;
2. hospital-related challenges (84.3%), which included hospital practices and policies during labor, delivery, and postpartum;
3. non–medically indicated supplementation (77.5%);
4. clients’ partners, families, or social networks who were not supportive of breastfeeding (69.7%); and
5. addressing clients’ negative views about breastfeeding (61.8%; Figure 1).

Participants selected barriers differently on the basis of lactation certification type and WIC employment status (Table 2). IBCLCs more often reported challenges with reaching clients and time constraints. LPSs with other or no lactation certifications more often reported challenges with clinical aspects of lactation (e.g., preterm infants, clients with obesity, substance use), which IBCLCs are trained to support. Participants who worked at WIC more often reported challenges with clients’ partners, families, or social networks not supporting breastfeeding and clients’ negative breastfeeding views.

### Interview Themes Confirming Survey Results

Interview participants echoed and expounded on several barriers...
selected in the survey. Themes from the interviews confirming these barriers are presented in Box 1, and illustrative quotes (Q#) are in Table A (available as a supplement to the online version of this article at https://ajph.org). Differences by certification type and WIC employment status were less prominent in interviews compared with the survey. Across all categories, LPSs reported feeling undervalued by other health care providers who do not refer clients to LPSs (Q1) or who contradict the advice of LPSs. LPSs across certification types and WIC employment status also described challenges reaching clients (Q4–Q8) and referred to Appalachia as a “breastfeeding desert” because of the limited number of LPSs (Q6).

Many LPSs in this study described the challenges of being the sole LPS for multiple counties, which limited their time to adequately counsel every family and contributed to feelings of pressure to meet everyone’s needs (Q4). LPSs also reported the challenge of not being compensated for time spent supporting clients outside of working hours (Q8). A lack of support from clients’ partners, families, and social networks was particularly salient among WIC-employed LPSs but was also relevant for those not employed by WIC (Q2, Q3). Challenges with cross-cultural communication and language barriers (Q9) was most relevant for LPSs with other lactation certifications and non-WIC LPSs. Counseling clients about issues related to substance use and lactation was most relevant for LPSs with an IBCLC certification and in WIC (Q10).

Emergent Barriers Reported During Interviews

Interview participants noted additional barriers that were not represented in the survey. Emergent themes are presented in Box 1 and illustrative quotes are in Table B (available as a supplement to the online version of this article at https://ajph.org). Systemic lack of racial/ethnic representation among LPSs (Q11) was identified as a barrier, especially by non-WIC LPSs and those with other lactation certifications. LPSs also mentioned the need for contextually relevant counseling materials. LPSs with IBCLCs or other lactation certifications identified challenges supporting clients that experienced previous trauma or health challenges, birth trauma, and mental health challenges (Q12).

LPSs also described their lack of experience and preparation to counsel lesbian, gay, bisexual, transgender, queer or questioning, plus (LGBTQ+) families about chestfeeding, relactation, and induced lactation. LPSs with other lactation certifications noted that breastfeeding classes fail to train or train incorrectly about how to support all families to feed human milk (Q13). LPSs across all certification types and WIC-employment status shared wanting to support LGBTQ+ clients, but not knowing how (Q14).

LPSs with other lactation certifications talked about wanting to pursue the IBCLC certification but described the barriers to obtaining the credential (Q18). IBCLCs discussed how challenges obtaining funding for breastfeeding support in their county make it difficult to provide sustainable care to their clients (Q19).

Facilitators Reported During Interviews

While LPSs were asked about facilitators, the discussion of barriers was more salient. A facilitator that was reported across all LPS categories was relying on the informal social network of LPSs when LPSs encounter challenges or need advice (Q20). Social media, call lines, and telehealth were discussed as potential facilitators in places where care is spread out or difficult to access, acknowledging the benefit of the ABN 24-hour hotline (Q15). However, LPSs also noted limitations when hands-on care is needed (Q16) and social media’s potential to spread false information (Q17).

DISCUSSION

This mixed-methods study reveals challenges LPSs experience providing

TABLE 1—Continued

<table>
<thead>
<tr>
<th>County coverage</th>
<th>Survey Respondents (n = 89), No. (%) or Mean ± SD</th>
<th>Interview Respondents (n = 20), No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serves more than 1 county</td>
<td>43 (48.3)</td>
<td>. . .</td>
</tr>
<tr>
<td>No. of counties served</td>
<td>3.8 ±0.6</td>
<td>. . .</td>
</tr>
</tbody>
</table>

Note. IBCLC = International Board Certified Lactation Consultant. We only included survey data in our analysis from participants who completed all relevant survey questions. It is possible that participants who did not complete all survey questions indicated they were interested in being interviewed and therefore were included in the interview data but not the survey data.

*Only 19 interview participants reported their age.

*Participants were asked to select from a list during the interview. During interviews, it was an open-ended question. We chose to group interview participants to protect their anonymity when they identified more specifically (e.g., country of origin).

*Participants were able to select more than 1 certification.
breastfeeding and lactation support to families in Appalachia and contributes to the limited literature that has explored the perspectives of LPSs. While our findings reinforce barriers that have been documented among LPSs in other contexts, such as challenges with other health care providers and hospital practices and difficulty reaching clients, unique themes related to providing breastfeeding support in Appalachia emerged, which include limited numbers of LPSs in the region, systemic lack of racial/ethnic representation among LPSs, and training needs related to supporting clients who experienced birth trauma or have mental health issues, supporting LGBTQ+ families, and counseling clients about substance use and lactation.

LPSs described challenges with other health care providers who undervalue and undermine their expertise or delay clients' access to skilled lactation support. Failure of other providers to properly refer clients to lactation services has been documented in other studies. Incorporating breastfeeding and lactation content into medical and nursing school curricula may improve feeding recommendations and referrals.

Lack of social support from family and community members is a well-documented barrier to breastfeeding. LPSs in this study described challenges providing lactation support to clients when partners and family members were not supportive or engaged. There are limited examples from the United States in the peer-reviewed literature of interventions to engage fathers and grandmothers to support breastfeeding, and none are in Appalachia. Effective, contextually
appropriate strategies that LPSs can use to engage families to support breastfeeding and lactation are needed.

In the survey, more than half of LPSs selected difficulty reaching clients as a challenge, which was also a prominent theme in the interviews. Appalachia is predominately rural, and clients have reported barriers to accessing breastfeeding care. Other studies have reported that LPSs experience time constraints, but serving large geographic, and especially rural, areas likely exacerbates this challenge. LPSs described telehealth and social media as helpful for reaching clients and addressing access challenges, as well as challenging for providing lactation support.

Participants in the current study have similar feelings to WIC breastfeeding peer counselors in Alaska, who described the benefits of texting and online support groups in improving their clients’ breastfeeding success but also wanted to have in-person contact with clients. In a meta-analysis of studies examining digital health interventions versus usual care, Web-based technologies significantly improved exclusive breastfeeding initiation and duration, and breastfeeding attitudes and knowledge. Telehealth has the potential to address the distance-to-care barrier faced by many individuals in Appalachia but comes with its own barriers including limited Internet access and availability of services outside of usual business hours. The COVID-19 pandemic necessitated the use of remote lactation support.

### TABLE 2 — Barriers Experienced by Survey Respondents Providing Lactation and Breastfeeding Support to Clients in Appalachia, United States, by WIC Employment Status and Lactation Certification: March–July 2019

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Total (n = 89), %</th>
<th>WIC (n = 31), %</th>
<th>Non-WIC (n = 58), %</th>
<th>IBCLC (n = 29), %</th>
<th>Other (n = 42), %</th>
<th>None (n = 18), %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenges with other providers (e.g., nurses, pediatricians)</td>
<td>84.3</td>
<td>90.3</td>
<td>81.0</td>
<td>89.7</td>
<td>85.7</td>
<td>72.2</td>
</tr>
<tr>
<td>Hospital practices and policies during labor and delivery and postpartum</td>
<td>84.3</td>
<td>87.1</td>
<td>82.8</td>
<td>79.3</td>
<td>83.3</td>
<td>94.4</td>
</tr>
<tr>
<td>Non-medically indicated supplementation</td>
<td>77.5</td>
<td>77.4</td>
<td>77.6</td>
<td>72.4</td>
<td>81.0</td>
<td>77.8</td>
</tr>
<tr>
<td>Clients’ partners, families, or social networks are not supportive of breastfeeding</td>
<td>69.7</td>
<td>83.9</td>
<td>62.1</td>
<td>65.5</td>
<td>78.6</td>
<td>55.6</td>
</tr>
<tr>
<td>Clients’ negative breastfeeding views (e.g., not interested in breastfeeding, breastfeeding is not normal way to feed infants)</td>
<td>61.8</td>
<td>74.2</td>
<td>55.2</td>
<td>55.2</td>
<td>69.0</td>
<td>55.6</td>
</tr>
<tr>
<td>Clinical care challenges (e.g., preterm, low birth weight, clients with obesity, multiples)</td>
<td>57.3</td>
<td>61.3</td>
<td>55.2</td>
<td>37.9</td>
<td>69.0</td>
<td>61.1</td>
</tr>
<tr>
<td>Challenges connecting with, reaching, and following up with clients</td>
<td>57.3</td>
<td>61.3</td>
<td>55.2</td>
<td>65.5</td>
<td>54.8</td>
<td>50.0</td>
</tr>
<tr>
<td>Lack of training on counseling clients about substance use and lactation</td>
<td>51.7</td>
<td>51.6</td>
<td>51.7</td>
<td>34.5</td>
<td>64.3</td>
<td>50.0</td>
</tr>
<tr>
<td>Lack of administrative support and adequate staffing</td>
<td>44.9</td>
<td>45.2</td>
<td>44.8</td>
<td>44.8</td>
<td>47.6</td>
<td>38.9</td>
</tr>
<tr>
<td>Time constraints</td>
<td>39.3</td>
<td>41.9</td>
<td>37.9</td>
<td>51.7</td>
<td>35.7</td>
<td>27.8</td>
</tr>
<tr>
<td>Difficulty supporting clients with concerns about milk supply</td>
<td>39.3</td>
<td>35.5</td>
<td>41.4</td>
<td>20.7</td>
<td>40.4</td>
<td>44.4</td>
</tr>
<tr>
<td>Lack of knowledge, confidence, or skills to support clients effectively</td>
<td>37.1</td>
<td>41.9</td>
<td>34.5</td>
<td>10.3</td>
<td>57.1</td>
<td>33.3</td>
</tr>
<tr>
<td>Challenges with cross-cultural communication or language barriers</td>
<td>36.0</td>
<td>38.7</td>
<td>34.5</td>
<td>44.8</td>
<td>38.1</td>
<td>16.7</td>
</tr>
<tr>
<td>My lactation and breastfeeding expertise is not valued</td>
<td>33.7</td>
<td>25.8</td>
<td>37.9</td>
<td>41.4</td>
<td>23.8</td>
<td>44.4</td>
</tr>
<tr>
<td>Challenges supporting families with sharing, acquiring, or donating human milk</td>
<td>25.8</td>
<td>19.4</td>
<td>29.3</td>
<td>17.2</td>
<td>33.3</td>
<td>22.2</td>
</tr>
<tr>
<td>Challenges supporting clients with expressing, storing, handling, and feeding human milk</td>
<td>24.7</td>
<td>19.4</td>
<td>27.6</td>
<td>17.2</td>
<td>38.1</td>
<td>5.6</td>
</tr>
</tbody>
</table>

Note. IBCLC = International Board Certified Lactation Consultant; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children. Survey respondents could select multiple barriers.
services and identified promising strategies, but concerns about the need for in-person support continued.\(^8\)

Participants described the lack of racial/ethnic diversity and representation among LPSs as barriers to providing lactation support to families of color in Appalachia. Racism, discrimination, and bias have a negative impact on the provision of and access to lactation support throughout the United States.\(^{25,26}\) All categories of interview participants discussed the need for LPSs who reflect the clients they are serving. This need was especially prominent among non-WIC interview participants, which may be because WIC breastfeeding peer counselors are meant to reflect the communities they serve.\(^7\) Increasing the number of LPSs of color, and specifically IBCLCs of color, is a priority,\(^{16,27,28}\) and barriers to IBCLC certification rooted in systemic racism must be eliminated.\(^{26}\) Black-led community-based organizations have made immense contributions to narrowing breastfeeding disparities,\(^{26}\) and efforts are underway to increase the number of Black IBCLCs.\(^{27}\) The number of Black and Latinx residents of Appalachia is increasing, fueling much of the population growth in the region.\(^{29}\) Continued and expanded efforts to address

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**BOX 1— Themes and Key Findings From Semistructured Interviews With Lactation Professionals and Supporters (LPSs): Appalachia, United States, January–April 2020**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Key Findings From Interviews*</th>
</tr>
</thead>
<tbody>
<tr>
<td>My lactation expertise is not valued</td>
<td>Other health care providers undervalue LPSs and fail to refer, which leads to confusion for clients or prevents clients from receiving services (Q1)</td>
</tr>
<tr>
<td>Clients’ partners, families, or social networks do not support breastfeeding</td>
<td>Partners and family members are highly influential, but often do not support breastfeeding (Q2) Difficulty establishing rapport with families, particularly grandparents, when client is the first in the family to breastfeed (Q3)</td>
</tr>
<tr>
<td>Connecting with, reaching, or retaining clients</td>
<td>One LPS often serves multiple counties, which constrains the number of clients they can see and contributes to ‘breastfeeding deserts’(^{14}) (Q4, Q6) Inconvenient and limited hours for lactation services (e.g., WIC agency hours, timing of support groups) limit ability of LPSs to provide support (Q7) Clients do not always answer phones and numbers change often (Q5) LPSs have to balance tradeoffs between wanting to do more within context of low compensation and other family and life demands (Q8)</td>
</tr>
<tr>
<td>Cross-cultural communication and language barriers</td>
<td>Lack of LPSs who speak Spanish, limited availability of translators, and challenges using translators (Q9)</td>
</tr>
<tr>
<td>Counseling clients about substance use and lactation</td>
<td>Lack of data, knowledge, resources, and experience counseling clients about substance use and lactation (Q10)</td>
</tr>
</tbody>
</table>

*Additional themes that emerged from interviews*

| Systemic lack of racial/ethnic representation       | Limited numbers of LPSs and other health care providers of color (Q11) Poor outreach to families of color; LPSs do not look like clients (Q11) Support groups perceived as not welcoming to families of color (Q11) |
| Challenges supporting mental health, abuse, and birth trauma\(^a\) | Lack of training and resources for how to discuss or refer to mental health services (Q12) |
| Desire to support LGBTQ+ families                   | Lack of experience (Q14) and training (Q13) counseling LGBTQ+ clients about chestfeeding, relactation, and induced lactation |
| Social media and telehealth are facilitators and barriers | Social media, call lines, and telehealth facilitate support in places where care is spread out or difficult to access; ABN has a 24-hour hotline (Q15) Telehealth has limitations when “hands on” care is needed (Q16) Social media can be a source of false information (Q17) |
| Strong peer networks are facilitators               | LPSs are able to contact other LPSs in their area or through ABN to troubleshoot challenges they face (Q20) |
| Limited funding influences support provided        | Limited grant funding available for offices where LPSs work (Q19) Among non-IBCLCs, the time and expense of pursuing advanced lactation education and training (i.e., IBCLC certification) is time- and cost-prohibitive (Q18) |

Note. ABN = Appalachian Breastfeeding Network; IBCLC = International Board Certified Lactation Consultant; LGBTQ+ = lesbian, gay, bisexual, transgender, queer or questioning, plus; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

*Illustrative quotes are represented as “(Q#)” and presented in Tables A and B (available as supplements to the online version of this article at https://ajph.org). \(^a\)Participants used the term “breastfeeding deserts” to refer to the lack of LPSs and lactation services in their area. \(^b\)Leinweber et al. (2020) define birth trauma as an “experience of interactions and/or events directly related to childbirth that caused overwhelming distressing emotions and reactions; leading to short and/or long term negative impacts on a woman’s health and wellbeing.”\(^{16,27,28}\)
inequities faced by Black, Latinx, and other systemically excluded families in Appalachia are essential. LPSs identified 3 areas in which they need further training, resources, and support: counseling about substance use and lactation (particularly among IBCLCs working in WIC), supporting clients with mental health challenges and birth trauma, and counseling LGBTQ+ families about chestfeeding, induced lactation, and relactation. While LPSs were compassionate and wanted to help address these challenges, an important piece to appropriate care,\(^\text{30}\) they did not have the expertise or knowledge of where to seek information. There is a lack of research to inform evidence-based guidelines for providing care around substance use and lactation, and more research that focuses on counseling is needed.\(^\text{31}\) Trauma-informed approaches to lactation care are needed,\(^\text{32}\) but not widely used. Appropriate training and resources are also needed to ensure the care and advice provided to LGBTQ+ clients who want to chestfeed or breastfeed is accurate and caring.\(^\text{33,34}\) The current guidelines provided by the Academy of Breastfeeding Medicine\(^\text{35}\) provide an important starting point for LPSs to educate themselves and be reminded of the importance of affirming counseling, but the majority of resources for lactation are hetero- and cisnormative.\(^\text{36}\) LPSs need training on each of these topics that reflect their role and scope of practice.

**Limitations**

Study limitations include the use of a convenience sample of ABN members, which may not reflect the experiences of LPSs in Appalachia who are not affiliated with ABN or did not participate in our survey. This study lacked diversity in participants as the majority of LPSs in our study were White. Our findings are missing important details about the experiences and needs of LPSs from systemically excluded groups. Future research in Appalachia should prioritize the experiences of LPSs of color.

The study’s strengths include that it was conducted in partnership with and according to the goals of the ABN and included perspectives from a variety of LPSs from different states. The use of mixed methods allowed for a more holistic understanding of the barriers faced by LPSs in Appalachia. The quantitative data highlight potential priority concerns, and the qualitative data provide critical first-hand experience and a more in-depth understanding of the barriers LPSs experience. Finally, this study focused on the experiences of LPSs, which are often left out of breastfeeding research despite playing an integral role.\(^\text{5,7}\)

In this study, LPSs identified several barriers to providing lactation and breastfeeding services and support to families in Appalachia that must be addressed. This includes increasing the number of LPSs in rural areas and LPSs of color, as well as addressing barriers to IBCLC certification. The experiences of LPSs with telehealth suggest the need to test the effectiveness of digital health interventions, developed in partnership with communities, to increase access to and use of lactation support in “breastfeeding deserts.” LPSs also need continuing education to support families dealing with substance use and mental health issues and provide appropriate counseling to LGBTQ+ families. Some LPSs benefited from informal support from other LPSs; formalizing networks of support within states and regions could extend this support to other LPSs. Addressing the barriers that LPSs identified has the potential to improve the lactation support and services that families in Appalachia receive.

**Public Health Implications**

Despite myriad benefits of breastfeeding, families face multilevel barriers to meeting their infant feeding goals, particularly in Appalachia. Services and support from LPSs can improve breastfeeding practices, but this research documents critical barriers LPSs face in providing such care in Appalachia. These barriers limit efforts to improve infant feeding practices. There is a need to increase the number of LPSs in Appalachia, increase the number of Black and Latinx LPSs, and provide training in mental health, counseling LGBTQ+ families, and substance use disorders for LPSs at every level.\(^\text{APh}\)

**ABOUT THE AUTHORS**

Emily R. Seiger, Stephanie L. Martin, Heather M. Wasser, Grace Foster, and Ruwaydah Sideek are with the Department of Nutrition, Gillings School of Global Public Health, University of North Carolina at Chapel Hill. Stephanie A. Hutchinson is with the Appalachian Breastfeeding Network, Gallipolis, Ohio.

**CORRESPONDENCE**

Correspondence should be sent to Stephanie L. Martin, PhD, MEd, Department of Nutrition, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, 2003 Michael Hooker Research Center, CB #7461, Chapel Hill, NC 27599-7461 (e-mail: slmartin@unc.edu).

Reprints can be ordered at [https://aph.org](https://aph.org) by clicking the “Reprints” link.

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**CONTRIBUTORS**

S. L. Martin and S. A. Hutchinson designed this research. G. Foster and R. Sideek collected the data. E. R. Seiger, S. L. Martin, H. M. Wasser, G. Foster, and
R. Sideek analyzed the data. S. A. Hutchinson contributed to data interpretation. E. R. Seiger, S. L. Martin, H. M. Wasser drafted the article. All authors reviewed, revised, and approved of the article.

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CONFLICTS OF INTEREST

S. A. Hutchinson is the administrator of Appalachian Breastfeeding Network’s 24-hour breastfeeding hotline and receives a salary via grant funding from the Ohio Department of Health. All other authors report no conflicts of interest.

HUMAN PARTICIPANT PROTECTION

This study was reviewed by the University of North Carolina at Chapel Hill institutional review board and determined to be exempt from further review. All human participants provided informed consent.

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