

Experiential Learning as a Path to Critical Consciousness in the Medical Curriculum: A Qualitative Study

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ABSTRACT

OBJECTIVES: Clinical settings are increasingly focused on addressing patients' social needs, thus medical education must prepare future clinicians for this task. Critical consciousness, an awareness that puts health within a broader social, historical, and cultural context, could help shape students' understanding of patient social needs. Our paper explores how experiential learning through participation in a social care intervention deepened students' critical consciousness, or their understanding of the systems and structures that make it difficult for patients to meet their basic needs.

METHODS: We conducted one-on-one semistructured interviews with all 24 students who served as advocates for the intervention. Of the 24 advocates, 75% ($n=18$) were first-year medical students, 17% ($n=4$) were public health students, and 8% ($n=2$) were social work students. Interviews were audiorecorded, transcribed verbatim, and analyzed using framework analysis.

RESULTS: We identified themes informed by critical consciousness, including individual (assumptions and biases), interpersonal (communication and relationship), and structural (organization and power) factors. Within these categories, advocates expressed deeper self-awareness of personal biases (individual), the importance of interpersonal communication to build trust with caregivers (interpersonal), and the identification of the structural factors that influence health, such as housing conditions (structural). The advocates highlighted the importance of experiential learning to help them understand social determinants of health. By witnessing multiple patients experiencing social needs, advocates saw the cascading effects of social needs, the structures that make it difficult to meet basic needs, and the effect on health and healthcare behavior.

CONCLUSION: Students engaged in the intervention demonstrated the development of critical consciousness. Although limited, our findings suggest that when students engage with patients around social needs, students can better understand the broader social context of patients' lives. Experiential learning through social care interventions may have the potential to influence critical consciousness development and shape the practice of future clinicians.

KEYWORDS: social determinants of health, undergraduate medical education, qualitative research

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Introduction

A decade ago, medical education emphasized cultural competency, or the knowledge, skills, and attitudes needed to provide patient care to a diverse patient population.¹ According to the Liaison Committee on Medical Education (LCME), the United States' accrediting body, schools currently must "ensure that the medical curriculum provides opportunities for medical students to learn, recognize, and appropriately address biases in themselves, in others, and in the healthcare delivery process."² Further, they must include curricular content on culturally competent healthcare and healthcare disparities (Standard 7.6).²

More recently, medical education emphasizes that a patient's social context matters to their health,³ resulting in the inclusion of social determinants of health (SDOH) in the U.S. medical school curriculum.^{4,5} This instruction is not required but is utilized by many schools to achieve requirements related to cultural competency training.⁶ The LCME reported that in the academic year 2018–2019, 87 U.S. medical schools

required content on SDOH in their curriculum at academic level 1.⁷

Many medical schools tackle SDOH through didactic learning, case-based learning, and peer teaching.⁸ Few medical school curriculums require or offer advanced SDOH coursework, likely due to limited curricular space. Programs that require students to apply SDOH knowledge through experiential learning do so through service learning or clerkships, often after the second year of medical education.^{8,9} According to one scoping review, students who complete SDOH training via experiential modalities rate the experience higher than didactic methods.¹⁰ Training students to engage with patients in the context of social determinants is increasingly important as social care interventions or interventions that screen for and address patients' social needs such as food and transportation, gain traction.¹¹ Further, the American Academy of Pediatrics recommends incorporating social screening, specifically related to food security, in medical education, as social



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determinants significantly affect child health outcomes.¹² Yet, due to age, education level, and health status, students may not share patients' experiences who disclose social needs.³ Therefore, it may be advantageous to use experiential learning strategies that challenge students to consider their lived experiences and the lived experiences of their patients in the context of SDOH to adequately prepare the healthcare workforce.

Alongside the growing attention to SDOH, recent literature has highlighted an increased focus on the benefits of critical consciousness development in medical education. Critical consciousness, developed by Brazilian educator Paolo Freire, is the ability to recognize and analyze systems of inequality and the commitment to act against these systems.¹³ Critical consciousness places health in social, cultural, and historical contexts rather than an individual construct. One scoping review found that since 2017, academic articles on critical consciousness in medical education have grown considerably.¹⁴ Potential impacts of critical consciousness development in medical education include fostering compassion in doctors, improving sociocultural responsibility, and promoting equity and social justice.^{15,16} Medical students who participated in workshops on critical consciousness were better able to define health disparities, identify how their values may shape their clinical decision-making, and feel motivated to address health disparities as future clinicians.¹⁷ The development of critical consciousness requires one to consider individual (assumptions, biases), interpersonal (communication, relationship), and structural (organization, power) factors that shape the patient experience.¹⁵ Importantly, developing critical consciousness allows students to understand the difference between social needs (individual) and social determinants of health (structural). While healthcare providers are presented with individual concerns (e.g., lack of food), critical consciousness helps students consider how a family's social context contributes to inadequate resources. To develop critical consciousness, individuals must connect with their own experiences, engage with others, and apply theory through practice or action with a focus on how inequities are rooted in society.¹⁶ This suggests that experiential learning may be a valuable approach to developing critical consciousness.

The purpose of this article is to explore students' experiences administering a social care intervention using a critical consciousness framework. We report qualitative findings from interviews conducted with the students that capture their understanding of patients' social needs and the social systems and structures that impede patients from meeting their basic needs. These findings are reported using the key components of critical consciousness at the individual, interpersonal, and structural levels.

Methods

Intervention and Advocate Training Program

Promoting Health and Social Equity (PHASE) is a pediatric social care intervention that screens for and addresses patients'

social needs in the pediatric clinic setting. By connecting families with social resources such as food pantries and housing support, clinic-based pediatric social care interventions improve well-child visit attendance and reduce emergency department visits, among other positive health outcomes.¹⁸ PHASE trains current and future healthcare providers to screen families for social needs during well-child visits, link families to community resources, and collaborate with community-based organizations to better serve families. We conducted PHASE at a pediatric center in St. Louis, MO that is associated with a medical school and children's hospital. The center employs approximately 20 healthcare providers and serves 9,400 patients with 24,000 patient visits annually. Medicaid covers 80% of patient visits. Most patients identify as Black (89%). Pilot data from 2016 show that 60% of families surveyed reported food insecurity.¹⁹ Families identified empathetic provider communication, normalization of social need discussions, and availability of resource referrals as ways to encourage participation in a social care intervention.²⁰ Therefore, the research team chose to incorporate medical students as part of the implementation staff of PHASE so that they could gain the necessary skills/competencies to treat patients with social needs in their future careers.

The PHASE implementation team included first- and second-year medical students and graduate public health and social work students, who served as PHASE advocates. Advocates participated as either part of a first-year medical school elective or as a volunteer. All advocates completed a seven-module training that targeted multiple levels of the Social-Ecological Model.²¹ At the individual level, advocates gained knowledge of the community-based resources available and skills to collect data from families ethically. At the interpersonal level, advocates learned motivational interviewing through role-play and shadowed a social worker during patient interactions. At the community and policy levels, students learned about regional history, social safety net programs, and SDOH. PHASE advocates in the health professions attended the clinic between twice a month and weekly. The advocates reported seeing patients from 60% to 80% of clinic time.

All families attending a well-child visit completed a questionnaire assessing resources related to food, housing, utilities, government assistance programs (e.g., Medicaid, Supplemental Nutrition Assistance Program [SNAP]), diapers, and clothes. Providers engaged in an initial discussion with all families who indicated one or more resource needs, and if the family desired support beyond their provider, families were referred to the PHASE program. Advocates then worked with PHASE families to identify immediate and long-term available resources to alleviate household resource strain. To do this, the advocate consulted with a social work team member, used a resource directory to identify community-based resources, and/or attained immediate resources from an on-site resource closet for food, infant formula, clothes, and diapers.

Advocates monitored referral outcomes by following up with families, either by phone or during the next visit.

Ethics Approval and Consent to Participate

This study covers 2 cohorts of PHASE advocates. The research team invited all advocates ($n=25$) to interview after their commitment as part of a process evaluation. The Saint Louis University Institutional Review Board (IRB) approved the study protocol (IRB #29235) on June 20, 2018. Informed consent was not necessary per the IRB because all study participants were included in the original PHASE project's approved protocol as key personnel. We conducted interviews in 2 time periods: once in April 2019 and again in April 2020. All advocates in both cohorts ($n=25$) received an email invitation to participate in an interview. Participants were excluded if they were not a PHASE advocate during either period. Twenty-four of 25 PHASE advocates participated in the interviews.

Study Participants

Of the 24 advocates, 75% ($n=18$) were first-year medical students, 17% ($n=4$) were public health students, and 8% ($n=2$) were social work students. Most advocates reported no social needs as a child (67%, $n=16$), while 29% reported 1 social need, and 8% reported 2 or more social needs during childhood. For this study's purposes, social needs include food insecurity, housing instability, poverty, domestic violence/child abuse, maternal/caregiver depression or mental illness, and receipt of public benefits.

Study Design and Data Collection

The research team chose a qualitative approach (Figure 1) because the research is exploratory in nature and specific to students who participated in the PHASE social care intervention. Two public health-trained research team members conducted one-on-one semi-structured interviews. The first researcher is a faculty member with a PhD in public health and over 20 years of qualitative research experience. This researcher closely mentored the second researcher, who has a master's degree in public health and was a graduate research assistant at the time of data collection. The interviewers had previous engagement with interviewees through the PHASE intervention and training for the intervention. Interviewees did not know the interviewers personally and understood the interview's purpose was to explore their experience with the intervention. No interviewer assumptions or biases were disclosed.

Interviews explored advocates' learnings from administering the program. The research team developed an interview protocol based on the program process and outcome evaluation goals (Supplemental File S1). Question examples include, "Please tell us about a meaningful experience you had with one of the families in PHASE," "As a PHASE advocate, what did you learn

about the nonhealth-related needs of families?," and "Please tell me about an experience as a PHASE advocate when you recognized an implicit bias you hold." Interviews were audio-recorded using handheld recording devices, transcribed verbatim, and de-identified. Interviews were privately conducted at the researchers' office and were about 60 minutes in length. The research team used the Consolidated Criteria for Reporting Qualitative Research (COREQ), a tool to enhance quality reporting of qualitative data (Supplemental File S2).²² The completed COREQ tool captures specific details about the study design including a study sample description (transferability of data) and data collection procedures (reliability). Completion of the tool also details the analysis procedures and findings including who analyzed data, how data were analyzed, and how research discrepancies among the research team were handled, which enhances the research validity. Documenting these details clarifies the transferability, reliability, and validity of the study.²³

Data Analysis

Three researchers conducted framework analysis to analyze qualitative data.¹³ We initially conducted first-round open coding to determine the main patterns in the data. Once we completed open coding, we identified themes that were informed by concepts from critical consciousness, including individual (assumptions and biases), interpersonal (communication and relationship), and structural (organization and power). These concepts were the basis for an updated codebook and code definitions.^{23,24} One team member conducted a priori-focused coding and chunk checking to ensure that quotations assigned to each code fit the code definition. The entire research team, including 2 physicians, reviewed initial code summaries and themes to test assumptions. To enhance the validity of our findings, we focused on a researcher triangulation approach by engaging our research team's diverse expertise as part of the analysis.²⁵ As a team, we used constant comparison, discussed analytic discrepancies, revised the coding process as needed, and documented changes in the coding process.²³ We used Dedoose for data management (Dedoose, Version 8.1.8).

Results

When discussing their experience assisting families with social needs, many advocates reported, "there was not a common story." Families' situations ranged from "losing a job, to monetary problems ... to moving from overseas." Advocates reported that most families requested help with diapers, food, children's clothing, and housing.

Individual

Advocates gave examples of how they observed implicit bias during the PHASE program. They described implicit bias as an internal judgment or preconceived notion about another person or group that is "shaped by the contextual features of

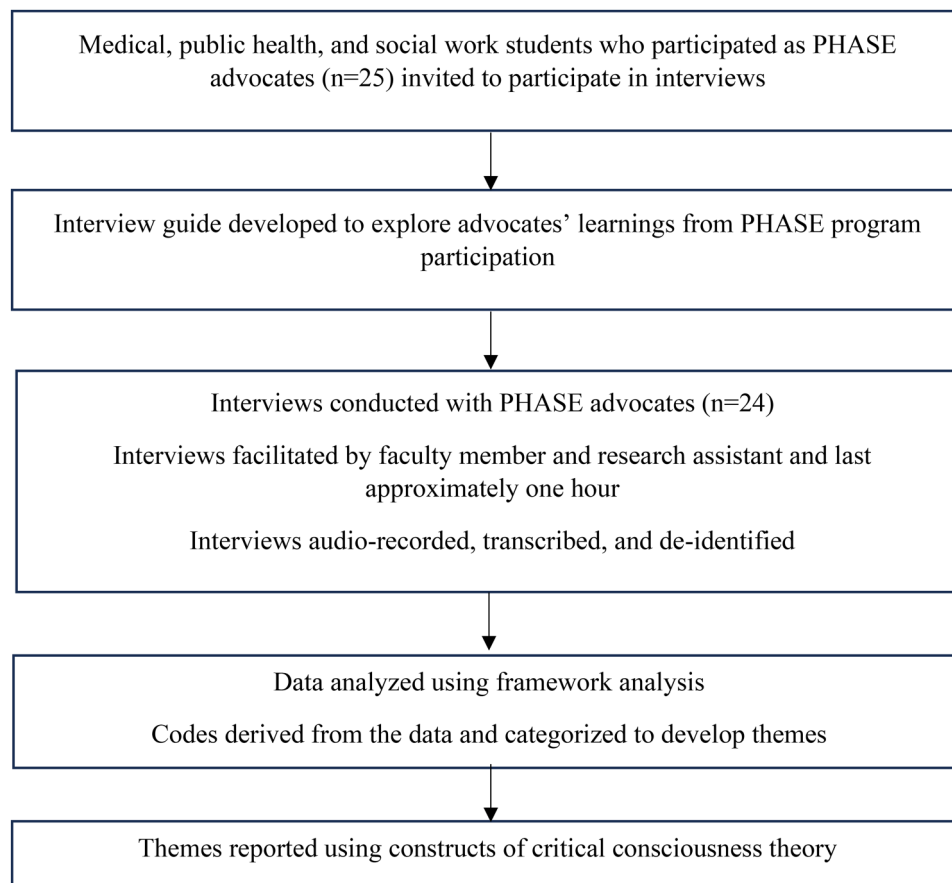


Figure 1. Qualitative flow diagram.

our lives. Like how we were raised, what society expects of us, what society and the media show us.” Examples included assumptions about why a caregiver missed a clinic visit, a parent with drug addiction’s ability to care for her kids, and a family with multiple children having trouble feeding their children. Several advocates expressed biases about families’ following through with doctors’ recommendations. One stated, “if you’re recommending that a patient does something, and it’s for the good of their child, and they don’t follow through with that, it’s kind of easy to have the first thought be, why wouldn’t they do that if it’s so important for their kid?”

Advocates also cited biases about resource needs. Advocates described the importance of not assuming certain families have needs and others do not. For example, a woman wanted to move out of her mother’s house, and the advocate wondered why she asked for help with housing if she had housing. Another advocate noted that it was important not to assume a person’s feelings about their circumstances so that they do not make “the [caregiver] feel that it’s a bigger issue than they had kind of originally planned to deal with.”

Advocates noticed other care team members’ biases. An advocate noted she felt that providers can be quick to “hotline” a family when they miss appointments. She noted

the concern is appropriate and there are often important reasons a family does not show up. A few advocates noted that they overheard residents and doctors talking about caregivers’ appearance and saying things like, “they don’t need food.” One advocate described an experience with a peer student. She explained that the student said to her, “oh, the lady had her hair done and nails done. Clearly, her priorities aren’t straight. She should be able to save the money to pay for those things.” The advocate noted they knew what the other student said was wrong, but they were not sure they wanted to be the one to let her know why it was wrong.

Advocates shared their methods for overcoming bias, noting it is a gradual process. Two advocates recognized that having “split-second judgments” is expected. Noticing and keeping an open mind to new experiences and people were noted as places to begin. Advocates emphasized starting interactions with positive assumptions, keeping potential bias in the back of their minds, and remembering that you do not know the family situation helps address bias. One noted she tried not to assume that families “had a car, easy transportation, a consistent phone, access to the internet. It seemed like second nature, at least for me, and the life that I’ve had. I have always had access to those things.”

Interpersonal

Interpersonal communication was the most discussed topic among all advocates. Advocates recognized that what they said mattered, especially with framing. One advocate explained that assuring families that their issues are common and they are not alone in their experience was necessary for engaging in conversation. Another advocate avoided saying, “I am here to help you with this.” She explained that she let the families talk first and then shared what the clinic had available.

Advocates talked about their uncertainty when talking with patients. One student noted that it is hard to talk to families about difficult situations. She explained, “having a lecture about social determinants of health, it’s easy to say, ‘Oh, yeah, there’s people with food insecurities,’ but then when you’re working with a family with food insecurities, you’re like, how do I bring it up without offending them?” The advocates expressed that it was easier to talk about the material things, like diapers and food, available in the clinic. Advocates noted SNAP, various health insurance programs, and housing were resources they were less sure of handling.

A few advocates mentioned the importance of listening and empathy in conversations with families, specifically citing that it makes families feel heard and cared for and potentially “comply” more with your recommendations. Other advocates mentioned patience in interactions with families, especially when you disagree with their choices. One advocate demonstrated empathy by putting themselves in the families’ shoes by saying,

If somebody comes and asks me, like, is your job giving you a good life? Is your salary enough for you? Why are you wearing these clothes? I would feel uncomfortable discussing all those things with some stranger. I should understand that barrier, and I should be more patient and let them talk rather than telling them things and just getting out of there.

Structural

While the advocates spoke at greater length at the individual and interpersonal levels, they described a change in their understanding of how social circumstances affect families and children’s health. They realized that basic, nonhealth-related needs go a long way for child health, and social factors are intertwined and pervasive. One advocate used the example, “I’ve got \$35 left. Do I pay electrical bills or be there for my yearly physical?” Another advocate expressed that when there are other needs, it makes sense that medical care is not prioritized even when other families go out of their way to prioritize it.

While the advocates were not always specific about the “factors,” a few advocates made concrete connections to structural barriers. One explained the importance of free and reduced-price school lunches to children’s health and behavior. Another advocate provided a detailed example of systems being intertwined. She said,

A couple of families had complained about rodents and conditions of their homes (mold). The low-income housing that they were subjected to because they are unemployed, or they have very low-paying jobs. The reason why they have those jobs are the bigger reasons. It’s all systemic, and it trickles down We think if we give children opportunities, things like education, we can help them better themselves. But if we’re not fixing the underlying issues that can be related to health. So, if you put kids in homes that have high lead, chances of giving them respiratory issues. If you put them in places where there’s high infestation of bugs and all that we’re possibly creating health problems for these children. That might have nothing to do with ... they might get the best education, but for dealing these underlying health issues, because of where they grew up And it’s not just one isolated thing. It’s all intertwined, and it’s often connected.

Advocates commented that the PHASE training modules about local history and community resource availability helped them understand patients’ experiences. Advocates said the session on local history gave them local context and “what families might be struggling with.” The history aided the understanding of racial segregation as explained by one advocate.

I had lived previously on the West Coast. The African American population isn’t as great there as it is here. And, so, thinking about segregation and all the deep-rooted history that’s going on here. There is a lot of context. You know why families may not trust health providers, or they may not trust the system.

Bridging Levels Through Experiential Learning

The PHASE advocates discussed that exposure to families with social needs helped them understand social determinants of health. Several stated that they learned about social determinants in class but learning from people experiencing social needs reinforced classroom learning. An advocate explained that seeing disparities in real-time had her asking questions that she never would ask in a lecture-based class. Another advocate explained that he thought he would learn the material to be a good doctor. Yet, he noted that working with PHASE, he was “surprised how much nonhealth-related factors play a part.”

A few advocates also discussed how working with families allowed them to see macro and micro issues. An advocate explained, “It seems like this huge macro problem, you know, but then when you actually are in the clinic, and you’re speaking to families, it’s more a personal thing.” Another advocate noted that she did not always understand the families’ experiences. She shared learning how much diapers cost opened her eyes. She explained that hearing the diaper bank explain how diapers were integral in a child “feeling safe and cared for” allowed her to see the connection between health and social determinants of health.

Time in the clinic allowed advocates to notice how PHASE leaders created personal relationships with families. Many advocates discussed watching how PHASE leaders, including

clinicians and social workers, encouraged caregivers to disclose social needs in a helpful, empathetic way and how PHASE leaders established trust with families. One advocate noted that the leaders were able to make families feel like asking for help was “no big deal” and that “everyone deals with these things.” One of the most common pieces of feedback from advocates was about how PHASE social work team members made families feel “comfortable and understood” and “like they weren’t alone.” A few advocates noted that the leaders did this by using “common” language that was not imposing. Further, witnessing social work team members engage with families was the “most meaningful experience” for some advocates. The advocates likened a social worker to a specialist in the field (social determinants). Unlike physicians, they explained that the social worker had time to talk with families and connect on a personal level, asking the right questions and identifying the resources available.

Influence on Future

When asked how this new understanding will shape their future career, advocates discussed how recognizing access to resources or the families’ situations would help them address their biases. One advocate discussed this by saying:

When you hear of a problem that a family is having, you’re like ‘oh, well that’s easy to fix.’ You know what I mean? Like, why aren’t you just doing this? You have to be like ... okay. Because they don’t have access to a domino effect of things that trickle down to that symptom.

Another noted that they will be inclined to ask why a patient is not following their treatment plan as opposed to assigning blame. Further, the advocates wondered about fixing the structural problems. One noted, “how are we actually helping (patients) at the end of the day? If we’re not fixing these basic problems at the end of the day, it just is mind-boggling to me how these issues build off each other.” While another noted the importance of building trust considering the history of racism in healthcare. She explains,

It also provides a lot of context on how they (patients) view the healthcare system because I guess that history hasn’t always been very good. So, the importance of trying to build trust in patients with our current healthcare system is something I think is really important.

Discussion

The development of critical consciousness requires consideration of individual, interpersonal, and structural factors that shape experience,¹⁵ in addition to attention to self-reflection. The PHASE advocates reflected on implicit biases, interpersonal communication and relationships, and environmental factors that affect patient health (eg, lead in homes). Advocates identified the in-clinic experience as the facilitator

of these connections, emphasizing the importance of experiential learning.

Advocates demonstrated considerable understanding of their *individual* biases and the biases held by others in the clinic (ie, healthcare providers). They recognized when they made “split-second judgements” about patients and learned how to second guess these assumptions. They also noticed when healthcare providers judged patients specifically about body size and food insecurity. A recent study found that pre-clinical medical students who participated in a workshop series focusing on critical consciousness showed an improved ability to define implicit bias and identify and address one’s own bias, among other outcomes.¹⁷ Developing this first component of critical consciousness is important because teaching students to pay attention to these biases can improve care and health outcomes for patients.²⁶ A Johns Hopkins survey conducted with first-year medical students found that a majority of those surveyed showed an implicit preference toward White people (66%) and high-income individuals (86%), and that physicians were less likely to address diseases in Black patients than in White patients showing the same symptoms.²⁷ Advocates’ recognition of their biases and the biases of healthcare providers allowed them to consider their behavior and approach to interactions with patients, which may affect their future clinical practice.

Quality healthcare depends on the *interpersonal* relationship between patient and provider. These relationships occur within the context of historical mistrust, differential power dynamics between patient and provider, and social and economic systems. While the advocates did not articulate these factors specifically, they did provide examples of how asking direct questions about job loss or hunger might feel for the patient, which suggests an awareness of socioeconomic status. In previous work conducted in the study clinic, patients also identified the importance of interpersonal communication around social needs.²⁰ Caregivers shared that providers’ body language and communication styles that destigmatize social needs encourage more open dialog.²⁰ Advocates also acknowledged the importance of allowing patients to self-identify their needs which recognizes empowerment. However, advocates expressed a belief they can or should “fix” problems for patients which suggests traditional power dynamics at play between patients and providers.²⁸ Yet, as physicians have,^{29,30} the advocates acknowledged that they lacked the skills and confidence to address social needs with patients and recognized the need for partners. They identified social workers as specialists in social care and were aware of how social workers codeveloped care plans that consider the patient context, a fundamental building block of sharing power in patient and provider relationships. This finding is consistent with other studies acknowledging social workers as appropriate team members to screen and address social needs.³¹

Although all advocates recognized biases and interpersonal dynamics, these are only 2 components of building critical consciousness. Critical consciousness in medicine also emphasizes how systems of inequality impact the health outcomes of individual patients. Only a handful of advocates were able to connect individual and interpersonal factors with social narratives and policies, or *structural-level constructs*, that reinforced bias. For example, several advocates recognized assumptions about the conditions of Black caregivers' hair and nails and questioned whether the household needed food. Although they recognized the bias, they did not connect it with historical narratives like that of the 1980s that depicted Black female-headed households receiving government assistance as "welfare queens," a narrative that continues to shape policy regarding the deservedness of social safety net resources.³² Understanding an individual patient's social needs is essential for providing quality care, however, to reduce health inequities, health professionals also must consider the upstream causes that create conditions in which individuals get ill.³³ When learning focuses on understanding social determinants of health as the structures and policies that shape opportunity, students can connect individual bias to greater social forces, such as racism.

The advocates were clear that *experiential learning* in the clinical setting facilitated their understanding of patterns in patient stories. Kumagai et al's findings corroborate this, suggesting that developing critical consciousness through individual and structural analysis requires an experiential learning component that goes beyond lecture.³ Engaging in experiential learning allows health professional students to be in relational situations that elicit bias and, when paired with reflection, has the potential to challenge students to consider the origin of the bias. Recognizing and naming biases are the first steps in improving healthcare for everyone, particularly those most vulnerable to poor health and social outcomes. To transform society, we need to see how individual circumstances result from the inequitable distribution of social determinants of health through experiences with patients.¹⁴ As the *future* of medical education evolves, pushing students to question their experiences with patients could lead to deeper analysis and transformational learning.³⁴

As noted, not all PHASE advocates were able to connect individual and interpersonal factors to structural factors. One reason may be the limited time interacting with families during the intervention. Medical students reported only being in the clinic 2 to 4 times a month and when they were in clinic, only interacted with families 60% to 80% of the time. Perhaps if students had more exposure to families, along with more opportunities for active reflection, they may have noticed more patterns and made connections to broader structural barriers their patients face in addressing their social and healthcare needs. Additionally, providing regional historical context during the PHASE training was noted as facilitating

a connection between individual patient experiences and structural factors for some advocates. Sharing regional healthcare history including racial segregation of care provided context-specific historical and social perspectives to advocates. Manca et al emphasize that providing historical and social context in medical education can balance power between the knowledge of institutions and the knowledge of communities.¹⁴ While this context-specific learning occurred at the beginning of the program, formal critical reflection did not occur throughout the PHASE experience. Creating more intentional opportunities for PHASE advocates to discuss historical and social context prior to their PHASE experience may aid advocates' understanding of the structural component of critical consciousness.

Limitations

While our study adds to an understanding of how critical consciousness develops incrementally to consider how structural factors shape individual access to resources and opportunities, our design is limited. We only collected data from 24 advocates. The ultimate sampling goal of qualitative research is data saturation. Given our fixed sample size, data saturation may not have occurred. Further, while the response rate was 96%, our results likely do not represent all students who participate in social care interventions. On top of this, 75% of participants were first-year medical students, therefore the results may be limited to specific populations, including students early in their medical education. We also recognize the contextual nature of qualitative research means that these results are not necessarily generalizable to all medical students or social care interventions. Further, we did not pilot-test the interview protocol due to our limited advocate group. We developed the protocol in consultation with experts in social work, public health, and medicine.

Conclusions

Medical education is evolving to emphasize critical consciousness. We found that health professional students described their experience in a social care intervention as helping them to consider their biases about social care needs and recognize interpersonal dynamics that impede addressing social needs. However, fewer advocates were able to describe how individual and interpersonal experiences were related to broader social structures that limit necessary resources for health. With the growing attention to social care interventions in the clinic, exposure to families with social needs paired with reflection may help students develop individual and interpersonal components of critical consciousness. More research is needed to explore the relationship between experiential learning and critical consciousness, emphasizing the deeper connection between individual social needs to structural factors. Our research posits that both may be important components of medical education.

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Author Contributions

EB designed the protocol and interview guide, coded and analyzed data, and developed the manuscript. AT conducted interviews, coded and analyzed data, and edited the manuscript. GL and JA consulted on study design, led the medical student intervention, and edited the manuscript.

Availability of Data and Materials

The raw data of the current study are not publicly available due to the qualitative nature of the research but are available from the corresponding author upon reasonable request.

Ethics Approval and Consent to Participate

The overall study was approved by the Saint Louis University Institutional Review Board. The IRB approval number is 29235. All methods were carried out in accordance with relevant guidelines and regulations. Informed consent was not necessary per the IRB because all study participants were included in the original PHASE project's approved protocol as key personnel.

Supplemental Material

Supplemental material for this article is available online.

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