Global healthcare needs in developing countries abound. The term global health is broad, but its impact is even more encompassing. A definition of global health includes “an area of study, research, and practice that places a priority on improving health and achieving health equity for all people worldwide.”¹ For developing countries, accessibility to and affordability of healthcare are 2 obstacles that can hinder health equity.

A lack of sufficient numbers of healthcare providers is another obstacle to providing adequate healthcare to underserved global populations. The World Health Organization (WHO) estimates that there is a shortage of more than 4 million physicians, nurses, midwives, and other healthcare workers.² The negative impact these critical shortages of personnel have on global health is felt the most in countries with the greatest need.² In a recent report, the WHO predicts that “2 billion people still have no access to basic surgical care.”³ An estimated 11% of the burden of global disease is treatable with surgery.³ Despite these statistics, surgery still remains “the neglected stepchild of global public health.”⁴ Short-term medical missions (STMMs) can address this need for surgical services. The growing use of STMMs has become an increasingly well-recognized avenue for healthcare professionals to extend their humanitarian services to developing countries.⁵ For example, Haiti depends on foreign volunteers as the main source of healthcare to their citizens.⁶ Since the 2010 Haiti earthquake, STMMs have improved recovery of the country.⁷

Volunteers are required for STMMs to exist. Volunteering may occur spontaneously, but the focus of this study was the continued and prepared effort from participants involved with a volunteer organization.

Short-term medical missions vary in length. Most trips last less than 1 month and encompass services provided by healthcare professionals to low- and middle-income countries.⁸ Short-term medical missions could help address the known global healthcare disparities in developing countries. With the increasing speed of globalization, it can be projected that there will be a higher number of STMMs available.⁹

Certified Registered Nurse Anesthetists (CRNAs) can play an essential role in addressing this disparity as members of STMMs. Steve James, a CRNA who started a nonprofit mission organization called Kenya Relief,
facilitated numerous STMMs through the organization. The faith-based mission has performed thousands of surgical procedures and provided medical care to 70,000 patients in Western Kenya, all with the help of more than 1,400 physicians, nurses, and pharmacists.10

The American Association of Nurse Anesthetists (AANA) Janice Drake CRNA Humanitarian Award provides monetary support to CRNAs. The purpose of the award is “to increase CRNA volunteerism in the United States and in countries that are in need of anesthesia training, education and/or research expertise.”11 Although our professional body deems this a worthy service, the literature contains only anecdotal articles about the CRNAs who provide anesthesia care to the underserved.

The authors performed a systematic literature review to identify the motivations and barriers of volunteers involved in STMMs. Articles in the literature addressed a range of personnel who participated in STMMs. These providers included physicians, residents, medical students, pharmacists, nurses, nursing students, optometrists, dentists, and public health personnel. However, a lack of articles addressing CRNAs and their motivation for attending STMMs was found. The articles that were related to STMMs and CRNAs or student registered nurse anesthetists (SRNAs) were narrative, not research-based.15,16 Even the WHO report failed to specifically identify CRNAs, categorizing healthcare personnel into only 4 groups: physicians, nursing and midwifery, dentistry personnel, and pharmaceutical personnel.2 To date, no research exists to describe the motivating factors or the barriers that CRNAs and SRNAs may experience concerning STMMs. The purpose of this study was to identify motivations and barriers specific to CRNAs’ participation in STMMs.

Review of Literature

Nine research studies were retrieved and analyzed. The most frequently mentioned providers in the studied literature were physicians, nurses, students, and community volunteers. Most articles focused primarily on physicians’ motivations and barriers to volunteerism. Only one Taiwanese study, with 222 professionals, investigated and compared each occupation’s specific motivations and expectations.12 This study looked at the differences among physicians, nurses, pharmacists, and public health professionals. Humanitarianism was the one common motivator to participation in STMMs among each group.12

Among physicians who volunteered for STMMs there was a pervasive humanitarian focus. They also believed that volunteering was an integral part of the inherent meaning of the practice of medicine. One article noted the importance of the Hippocratic Oath, in which physicians pledge themselves to serve humanity with honesty, purity, and beneficence, and without regard for personal gain.13 Personal motivators identified were self-gratification, desire for exotic travel, and social interaction with those from other cultures.13,16 Common barriers noted among physician volunteers included commitments at home and work, family obligations, and poor information about volunteer trips.13,17 Although there was less literature specific to nurses, these few articles reported similar motivations, including self-gratification, professional advancement, and a humanitarian focus.9,12,18 No explicit barriers were noted.9,12,18

Withers and colleagues18 compiled the collective responses of students, residents, nurses, dentists, oral surgeons, and community volunteers who went to Mexico on an STMM. The common motivating factors among these providers included psychological and emotional rewards, the chance to serve disadvantaged communities, career-related benefits, and opportunity for social interaction. The main barrier to future volunteerism was feelings of being underused or not needed.18

Nurse anesthetists provide most anesthetics in many countries around the world, and they participate in medical and surgical trips internationally. However, there remains a gap of knowledge regarding the motivations and barriers specific to CRNAs’ participation in STMMs. The humanitarian provision of anesthesia services is an integral part of the practice of nurse anesthesia providers. Recruiting CRNAs into STMM work will provide the opportunity for them to uphold the AANA’s core values of quality, professionalism, compassion, collaboration, wellness, and diversity. More importantly, addressing this gap of knowledge likely will increase the participation of CRNAs in STMMs, resulting in a positive impact on global health equity for people worldwide.

Methods

The qualitative descriptive method was chosen to use narrative-based data to understand and explore the motivation of CRNAs in their participation in STMMs. Narrative-based data were gathered through purposive sampling. The CRNAs who had participated in at least one STMM constituted the focus of this study. After institutional review board approval, the research participants were recruited through flyers containing the lead researcher’s contact information. The flyers were distributed in one healthcare facility, located in the North Carolina Piedmont region, and in 2 nonprofit organizations. Research participants provided written consent to participate in the study. Because of purposive sampling and interviews as a method of acquiring data, anonymity could not be guaranteed; however, confidentiality was upheld. Participants’ identities were replaced by “CRNA” followed by a number.

The study was conducted over a 6-month period, from October 2015 until March 2016. Interviews were conducted in each participant’s preferred location, where
open-ended questions were administered and responses were recorded using a digital recorder. After professional transcription, the interviewers compared the written report with the digital recordings to ensure accuracy of the transcription.

The Colaizzi method was used to guide the analysis of data. This method includes the following: (1) multiple readings of the transcribed data; (2) extractions of important statements that describe the data; (3) identification of codes from the important statements; (4) category saturation and validation from the first step; (5) review and validation of the findings by research participants; and (6) incorporation of identified changes from the participants. Data analyses were guided by an expert in qualitative research. To decrease the possibility of researcher bias and to improve the overall quality of data, 2 authors analyzed the interviews individually. The authors read each transcribed interview to gain understanding into the individuals’ motivations and barriers to participation in an STMM. The analysis resulted in codes, themes, and categories, which were compared and merged by the authors. An expert in the field of qualitative research reviewed the study results before validation by the research participants. The CRNAs interviewed were homogeneous as a group; thus, data were saturated after 6 participants were interviewed, and no further participants were recruited.

Results

Participants came from 3 different organizations and represented the East South Central, South Atlantic, and East North Central regions of the United States. Participants ranged in age from 37 to 55 years, with a mean age of 46 years. There were 4 male and 3 female participants recruited; all were white.

Data from interviews were analyzed using content analysis. To discover commonalities among the CRNA participants’ interviews, the authors coded important statements, then placed them in themes, and then finally categories (Figure 1). Codes were summarized statements created by the authors associated with important statements that the study contributors made during their interviews. After analysis of the interviews, 37 codes were created related to the motivation of a CRNA to attend an STMM. Nineteen codes were determined to define the barriers to a CRNA participating in an STMM. The motivating factors were condensed into 7 themes and the barriers, into 5 themes. Finally, broad categories were

![Figure 1. Codes, Themes, and Categories](#)
generated. The motivating factors for a CRNA can be placed into 4 categories: values, growth, readiness, and teamwork. The barriers can simply be divided into 2 categories: internal and external (Figure 2).

• Motivations. The following are the categories for motivation with their supporting themes and representative participant responses. Codes, which generated the themes, are contained in Figure 1.

• Values. All participants attributed having strong values as to why they attended an STMM. The responses highlighted giving their valued time to a greater need in another country. The themes of selflessness and impact make up the category of values.

Selflessness: The giving of self without an expectation of receiving anything in return was a common motivator for the CRNAs who were interviewed. Several study participants referenced having so much, that they felt obligated to give back. The CRNAs reported they would sacrifice their own comforts to give to the community that they were serving.

"Well, it was kind of stressful [because] we were sleeping about 2 hours a night. [Because] then on top of ... doing all the work ... I was having to prepare for lectures."

"I hoped to accomplish as many operations as safely ... possible and I guess to help as many people as we could in the short period of time that we were there. And we usually do. We humped it, we worked long days, we try to get [done] as many ... surgeries as we can."

"So, I always felt like we are so blessed in this country, and we really need to try to give back if we can, and so this is a great way to do it."

Impact: A key issue that concerned the study participants was the influence that they would impress on the population to which they were providing care. Some noted individual patient experiences that had touched them, whereas others saw an impact on the entire group.

The CRNAs wanted to know that what they did on the STMMs made a positive difference.

"And to be a part of something that really is moving in the right direction and really truly is ... changing the culture in an area so they can have better healthcare. And that is amazing to be a part of."

"It sounds very simple ... a tonsillectomy and the other surgeons doing very similar cases here, but these kids had the hugest tonsils I had ever seen in my life.... And these kids, they can't breathe, they get behind in school, they can't sleep.... [We] see some kids when they come back.... It is almost like a life-changing event for these kids.... I think [the surgeon] has gone back, and I think even the community has started to rebuild a little bit. Because now they have a little more access to healthcare."

"Just being able to change peoples' lives. It's very rewarding [because] most of the places that we go, if we didn't go, they would not have access to the type of care we provide. A lot of times it is life changing.... [A] guy... had webbed fingers [and] was so excited that he was finally going to be able to wear a wedding ring. Just little things like that."

• Growth. Even though the participants had a desire to give back, they found themselves as a recipient because they typically gained personal insight from the STMM. By participating in STMMs, CRNAs realized they acquired both personal and professional growth.

Personal growth: The STMMs are opportunities to reflect on the participants' lives. Some used the STMMs to confirm or enhance their personal values, whereas others sought opportunities to broaden their comfort level.

"[At] home there was a lot of stuff going on, and I am looking for changes in my life right now.... looking for changes to grow a little bit.... [The] first day we were driving down the road, and immediately I was completely sober. It got me out of my head, you know?"

"I honestly feel the most impact is on the person who goes. I feel that it is just so very humbling, and I felt like I brought back a lot more than I gave to the people there."

"Well, to a degree I did [achieve what I had hoped to on my first mission trip] because I did something that was out of my
comfort zone. So that was good for me because that’s what I wanted to do.”

Professional growth: Career development is intentionally enhancing clinical and cognitive skills or gaining new clinical experiences. A main goal of CRNAs participating in STMMs is to share or provide their anesthesia knowledge and skills to a population different from that in their daily work lives. However, they also participate in STMMs to practice skills they learned but do not often use in their careers.

“Because most of the time you don’t have what you are used to using, so you have to think out of the box and really go more with your gut.”

“So, this [STMM was] a great way to go and use our skills in another country.”

“It does make you appreciate what you have here, and as far as being a CRNA, it makes you think outside of the box, maybe a little bit. And maybe be a little more creative with how you do stuff.”

Gain perspective: The STMMs are an avenue for self-reflection among participants. Participants were conscious of the more important aspects of life that were outside themselves. They reflected on how much more appreciative they were for what they had. For one experienced CRNA, the key motivating factor for attending an STMM involved stepping back and realizing what truly matters to him (or her).

“It keeps things real for me. I don’t get excited about the stock market dropping, you know?… Or my kid not making a perfect grade on something. [It] keeps things more real, like you just realize that a lot of things don’t matter, like life and death in a lot of places that we see people, and it also reminds me of how fortunate we are. We have access to medical care, even people who don’t have it, they are still able to go to the emergency room and be taken care of, and that’s really not an option in a lot of places in the world. We have running water, and if you have been to Togo, you know that women walk for miles to get running water…. So, it does keep things in perspective…. I just don’t get as excited about things that don’t really matter in the long run.”

“It’s just such an eye-opening experience. It’s just so much about a country of culture that you just cannot learn until you are there. It’s very educational; it’s very eye opening. It’s just all for me! It’s not my intention. I just feel like that’s how it turned out.”

• Readiness. Preparations before STMMs were considered. Financial security and confidence in anesthesia management were recognized by the CRNA participants before STMMs.

“Well, this is a perfect time for me to go [because] I had been out of school for… 15 years. So, it wasn’t like I was new…. I had been thinking for a while that I would like to go on a mission trip to use my CRNA skills.”

“I make good money now, and you make more money and spend more money and end up not giving, I felt like I was not giving enough money…. So, I paid for the trip, as you know, and give my time, my skills and give a little to help out.”

• Teamwork. As an anesthesia provider, it is important to be able to work well in a team setting. Group cohesiveness is an important criterion to attend STMMs. The social aspect of the trip plays a major role in determining whether a CRNA decides to return on a trip; therefore, teamwork is displayed not only in the clinical aspects of the STMMs but also during socialization.

“I like being a part of a team; doing my part in it. And then everybody is so appreciative… I’ll be there, everybody here…. I have got to know the people in Belize and make friends, and … it’s really kind of like a family.”

“And the anesthesia folks that were there, a CRNA and anesthesiologist. We kind of all teamed together and figured it all out. And so, it was great.”

• Barriers. Study participants also identified various barriers involved with their STMM participation. Interviews revealed 2 categories for barriers; internal and external. Internal barriers are intrapersonal conflicts that the CRNAs cited as reasons why they may not attend an STMM. External barriers are uncontrollable circumstances that can obstruct a CRNA from joining an STMM.

• Internal Barriers. Intrapersonal conflicts included personal discomfort, family and work obligations, apathy, and misplaced humanitarianism.

Personal discomfort: Personal discomfort was viewed as a barrier as it relates to fears of being sick, of the unknown, and for their safety. The reassurance of safety is a comforting knowledge when participating in STMMs. One participant identified cost involved with the STMMs as a hindrance. Too much socialization can also be viewed negatively.

“I had hoped not to get sick.”

“Twenty-eight other people, they have activities they want to do every night. And you have to be around all these people and make small talk, and that was the hardest and most frustrating [thing].”

“I think a lot of people are afraid to go on mission trips. It is a challenge, you are stepping out of your comfort zone so, I think that is one issue. And I think the cost, unfortunately the cost for a lot of mission trips, it’s really expensive to go, and I think that is a factor why people don’t.”

Obligations: Escape from the feeling of guilt for leaving families to attend the STMMs is a challenge. In developing countries, communication with family back home is not always reliable. Attending STMMs requires valuable time off work, and acquiring that time seemed to be the biggest hindrance for continued CRNA participation in STMMs.

“Well, the Wi-Fi service [is bad], so that’s pretty frustrating. So, if you want to text home or call home and … tell your wife or kids hi, it’s pretty hard to do sometimes.”

“Generally speaking, you need time off from work to do it.”

“I will trade or I’ll let my staff trade [workdays] or whatever they want to do to get off. But I do also feel that … it’s a mission, so if you have to use your vacation time, it’s not a big deal.”

Apathy: Extended time between STMMs may pose a difficulty in reminding what motivates an anesthesia provider to participate in STMMs.

“Probably just initiative, really. You know, like I said, you forget. You get back in the real world and you forget about those
Misplaced humanitarianism: An individual CRNA expressed concern whether the STMM was truly benefiting the people that they intended to serve or whether the activities during downtime were diminishing the humanitarian work that was the intended focus of the STMM. “I think on the first trip, I was just so excited to be able to do something for somebody that couldn’t have it otherwise, and that felt really good. And I think on the second trip, I started to feel a little uneasy about it, in that it was a little more aware of the tourism. And really wondering, am I really even being helpful here? Like, is this really meaningful? And yeah, if there was something backdoor going on, and also like where the hospital or surgeon was maybe charging for our services—even though we were volunteering [our services]. And I have no idea if that actually happened or not, but that came to mind.”

Discussion

The purpose of this study was to identify the motivations and barriers CRNAs encounter when participating in STMMs. Six core functions—values, understanding, social, career, protective, and enhancement—make up Clary’s theoretical framework for assessing the motivations of volunteers. Burns et al agreed with these functions, adding additional structure by linking altruism to each function. Applicable to the results of this study are the functions of values, understanding, social, and career; altruism was also frequently referenced by CRNAs during interviews.

The study confirmed that the most common motivations found in the literature were related to altruistic and humanitarian concerns. These themes identified were not only specific to values held by the participants, they were also seen in responses about personal growth, gaining insight, and even when discussing barriers. Altruism appears to play a strong role in many factors that motivate CRNAs to volunteer, similar to the work by Burns et al. A lasting impact on the population served was identified as a strong desire by participants, which supported Akintola’s study reflecting on community as a function served by volunteering. All participants shared sentiments about how they positively affected a community or specific person during their time on an STMM.

Relationships were important to participants’ decisions to volunteer on STMMs, both in the literature and in our study. Teamwork is a concept that was expressed by CRNA participants as a strong motivator in sustaining their involvement in STMMs. Although CRNAs are typically viewed as independent providers, this finding demonstrates CRNAs’ strong advocacy for team spirit. The literature showed that establishing relationships with other volunteers or patients was a motivator for participation. Volunteers were also motivated because of the opportunity to meet people from other cultures.

Self-development in the form of personal and professional growth was identified by CRNA participants as a motivator. The realization of the resources they had access to compared with the community’s lack of resources, especially in healthcare, heightened the CRNA participants’ appreciation of life. The opportunity for professional growth was an opportunity to share and provide their anesthesia knowledge and skills to a population different from their daily work lives. One way participants identified this professional growth was in adapting already learned skills by having to think “outside the box.” For other professions, STMMs may assist in career development. Among residents and students, the volunteer experience was seen as an opportunity to strengthen a school application or add value to a résumé.

A concept unique to the CRNA participants was readiness. The study participants were professionals established in their careers. They were financially and professionally equipped to serve on STMMs. Their preparation and confidence in their skill set made them willing participants, effective patient advocates, and valuable team members.

The barriers addressed in the literature that could hinder participation in STMMs were as follows: family obligations, lack of appreciation, inconvenient volunteer times, lack of knowledge of opportunities, and concern for personal well-being. The CRNA participants had similar barriers to those noted in the literature. Some of these barriers were self-imposed, whereas others were out of their control. Common barriers among CRNA participants included family and work obligations and being underused and unappreciated on a previous STMM. Other barriers voiced by participants were concern for personal safety and poorly organized websites, which made it difficult to find CRNA-friendly STMMs.

The common altruistic and humanitarian focus pro-
vides an initial base for actively recruiting CRNA volunteers into STMMs. In this study, CRNAs were motivated to participate in STMMs when the areas of values, understanding, social, and readiness were engaged. Knowledge of barriers specific to CRNAs allows for specific strategies to be engaged to address these obstacles. These findings are helpful for recruitment of CRNAs’ participation in STMMs, and the implications of these results could extend beyond recruiting CRNAs into STMMs.

• **Limitations.** Although this study provides important insight concerning the motivations and barriers specific to the CRNA population, the limitations of this study are those inherent in the methods. The study used purposive, convenience sampling. A purposive sampling method was used, limiting the region size of the sample. In this study, all 6 participants whose data were analyzed (4 men and 2 women) were white. Expanding this sample to include participants from differing regions of the United States and other demographic characteristics will increase diversity and include a range of CRNA practice environments.

The questions for the semistructured interview were reviewed by the authors; however, during the interviews, the questions were not presented in any defined order. The thoughts could have been more streamlined in a more logical fashion, with questions grouped according to each area of focus. Also, the interviewers did not have extensive experience in conducting interviews. Reflection on the transcription of the interviews, however, exhibited that the interviewers demonstrated empathy and active listening.

• **Recommendations.** This qualitative research study provides opportunity for additional research. Expansion of this study to include more participants in different geographical regions may reveal additional or differing motivations and barriers that apply to CRNAs attending STMMs. Employment of focus groups would be another avenue to increase the validity of this study. A quantitative survey tool can be created using this qualitative research to further discover the motivations and barriers to CRNAs attending STMMs.

There were several barriers to STMM participation identified by participants in this study. For organizations involved with STMM, they may have to review their process of preparation and information dissemination to participants, particularly in the area of safety. An evaluation from the STMM participants may address any deficiencies. Enhancement of the organization’s website may attract or recruit more CRNA participants and use the website as a tool to highlight the impact of CRNAs and their team-based approach. Their websites can be used as an educational avenue to assist prospective CRNA participants with skills necessary for STMM engagement. Another barrier is conflicts with work schedules. The STMMs provide personal and professional growth to CRNA participants similar to the end goal of educational meetings. Therefore, it can be suggested that STMMs be considered educational meetings. Employers may view this as an advantage because it may prevent job burnout, help market their institution, and have CRNAs with added personal and professional growth.

Finally, although the study’s findings are helpful for recruitment of CRNAs in STMMs, the implications of these results could extend beyond recruiting CRNAs into STMMs. The care rendered by CRNAs on STMMs is often autonomous and nonsupervised—a similar model to the care provided by CRNAs in rural hospitals in the United States. Perhaps recruitment to rural healthcare settings can be supported by the results of this study.

### Conclusion

The literature lacks description of experiences of CRNAs with STMMs, particularly their motivations and what limits them in participating STMMs. The study’s objective was to identify motivations and barriers specific to CRNAs’ participation in STMMs. Semistructured interviews with CRNAs who had participated in at least one STMM experience revealed 4 motivational categories: values, growth, readiness, and teamwork. The study also found 2 categories for barriers: internal and external. Results of this study yield a greater understanding of what can draw increased participation in STMMs from CRNAs, which may lead to more effective recruitment and better satisfaction of CRNA participants in STMM work.

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**DISCLOSURES**

The authors have declared no financial relationships with any commercial entity related to the content of this article. The authors did not discuss off-label use within the article.