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**Russell A. Brewer, Typhanye Dyer,  
Christopher Chauncey Watson &  
Hyman Scott**

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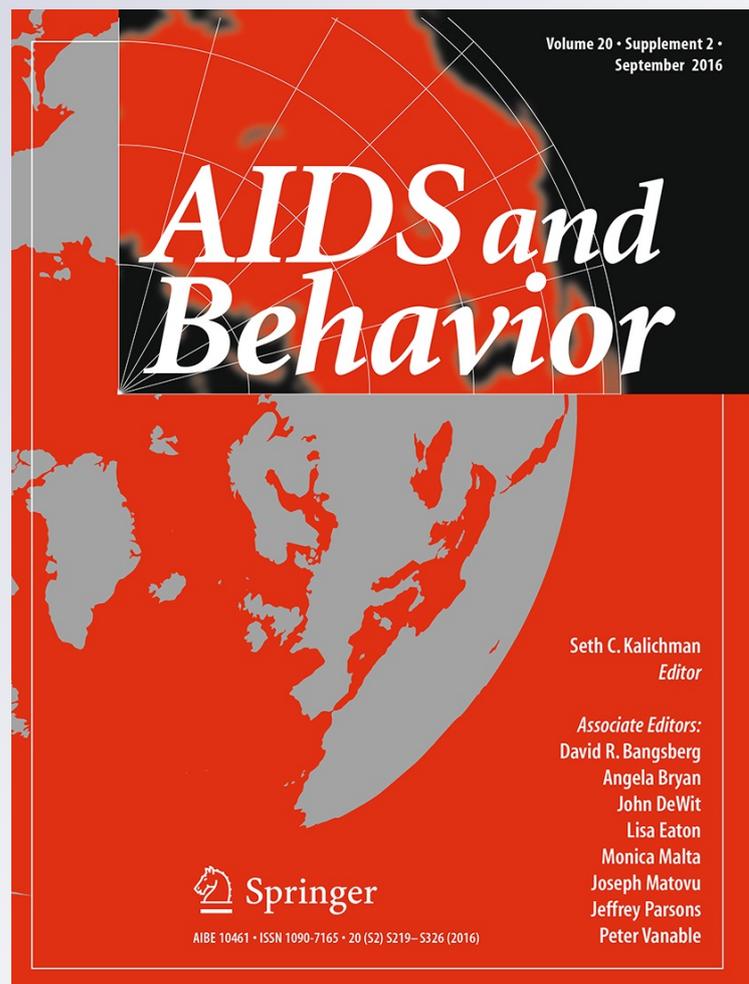
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# Navigating Opportunities, Learning and Potential Threats: Mentee Perspectives on Mentoring in HIV Research

Russell A. Brewer<sup>1</sup> · Typhanye Dyer<sup>2</sup> · Christopher Chauncey Watson<sup>3</sup> · Hyman Scott<sup>4</sup>

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**Abstract** Increasing the diversity of the HIV research workforce remains a priority for research and funding organizations in the US. Mentorship is a vital component for early-career investigators, especially for underrepresented racial/ethnic and sexual minority HIV investigators. These investigators face unique social and structural challenges to developing and fostering mentorship relationships, as well as building a solid foundation for a successful career in HIV research. This article provides a perspective from four Black early-career investigators, supplemented with comments from 15 underrepresented investigators in the US, as they reflect on their needs, challenges, contributions, and successes in finding the right mentor and mentorship environment, balancing the opportunities for, and “threats” to success, as well as providing mentorship to other underrepresented and aspiring HIV investigators. Mentorship programs must address these needs and challenges while building on the strengths of underrepresented HIV investigators in order to improve recruitment, retention and ultimately the pipeline of these researchers.

**Keywords** Minority investigators · HIV research · Mentorship · HIV workforce

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✉ Russell A. Brewer  
rbrewer@lphi.org

<sup>1</sup> Louisiana Public Health Institute, 1515 Poydras, Suite 1200, New Orleans, LA 70112, USA

<sup>2</sup> Department of Epidemiology and Biostatistics, University of Maryland, College Park, MD, USA

<sup>3</sup> Gilead Sciences, Foster City, CA, USA

<sup>4</sup> Bridge HIV, San Francisco Department of Public Health, San Francisco, CA, USA

## Introduction

Throughout this supplement the impact of the multiple aspects of mentoring underrepresented HIV investigators is well articulated, from defining and measuring mentoring, to the ways that mentoring is accomplished across multiple settings (e.g., McGee, this supplement) [1]. However, an important perspective that is often times excluded is that of the underrepresented mentee or investigator—specifically, what works, what does not, what is helpful, and what impediments exist. This perspective can inform the overall framework of mentorship, the actual mentorship activities, diversity mentorship programs, and ultimately the outcomes of mentorship.

In this analytic essay, four early career black investigators share valuable insights into mentoring, in response to very common questions asked about mentoring, including, (1) Why is mentorship needed in HIV research?, (2) What are the mentorship challenges experienced by early-career underrepresented investigators?, (3) What are the characteristics of successful mentorship?, and (4) What are the benefits of mentorship?

The authors reflect on these common questions within the context of finding the right mentoring environment, balancing the opportunities for, and “threats” to, academic and research success, as well as providing mentorship to other underrepresented investigators. Mentorship programs that address these unique challenges through mentoring and structural changes are needed to improve the recruitment and retention of underrepresented HIV investigators, as well as contribute to the diversity of the future HIV research workforce. This article also includes narratives from informal discussions with 15 underrepresented early-career investigators representing several well-known HIV-mentoring and diversity training programs such as the

NIAID-supported HIV Prevention Trials Network (HPTN) Scholars Program [2]. The discussions with these investigators were confidential, whereas the authors share their perspectives with attribution.

### Why is Mentorship Needed in HIV Research for Underrepresented Early-Career Investigators?

Underrepresented early-career investigators face unique social and structural challenges to developing and fostering mentorship relationships that are essential for career success [3, 4]. While mentorship is important for the success of all early-career investigators, developing and fostering a supportive mentorship relationship can be challenging for underrepresented investigators with different perspectives and approaches attributed to their personal and cultural experiences. Keller and colleagues conducted focus groups to examine the mentorship challenges of early-career investigators who received career development awards, focusing on the mentor–mentee relationship [5]. The range of mentee challenges from thematic analysis were reflected in five main categories: finding the appropriate network of mentors; structuring mentorship opportunities; negotiating the mentorship relationships; managing mentorship mismatches; and developing institutional supports for success [5]. These challenges are reflected in the current article and as we discuss our own experiences and those of other underrepresented investigators. Furthermore, these challenges may be exacerbated with the shortage of senior mentors from underrepresented racial/ethnic and sexual minority groups [6, 7].

Despite efforts to increase diversity in the HIV research workforce, racial/ethnic and sexual minority researchers continue to be underrepresented in scientific leadership positions in the US [8–10]. Quality mentorship is essential for the career development of many early-career investigators, however finding quality mentorship is even more challenging for underrepresented early-career investigators [11, 12]. As a self-identified gay Black physician-scientist focused on domestic HIV prevention research with young Black men who have sex with men (BMSM), the experiences of one of the authors (H.S.) mirror these findings; that identifying the right mentor was particularly difficult (H. Scott, personal communication, June 15, 2016).

The same factors that drive HIV-related racial/ethnic disparities (i.e., social and structural barriers) [13] present as barriers for establishing an HIV research career [14]. These disparities have potential downstream implications for clinical research, namely the ability to recruit diverse participants into HIV clinical trials, which rarely reflect the racial/ethnic composition of communities disproportionately impacted by HIV, and studies suggest that representation among investigators is a facilitator for participation [15].

### What Are the Mentorship Challenges Experienced by Early-Career Underrepresented Investigators?

The authors found that the experiences described in the informal discussions with other underrepresented HIV investigators mirrored their own individual research career challenges. These common challenges included: (1) finding the right mentor and mentoring environment, (2) developing a coherent and innovative program of research, (3) balancing career/research opportunities and “threats” to career development and (4) giving back and making time to mentor others in a meaningful way.

#### *Finding the Right Mentor and Environment*

For underrepresented early-career investigators focused on domestic HIV disparities research with populations most impacted by HIV in the US, finding the right mentor is an important barrier [15, 16]. Finding a senior mentor with content expertise and mentorship skills is often elusive. As a result, some early-career investigators find a network of mentors, as opposed to a single mentor, to collectively provide the needed research and career development mentorship, such as navigating academic and research opportunities.

In addition, given the limited number of mentors from underrepresented backgrounds in HIV research, it is unlikely for underrepresented investigators to find a senior mentor from the same racial/ethnic background. This point was reflected in the discussions with underrepresented HIV investigators with 80 % reporting that their primary mentor was Caucasian [17]. Despite the lack of a racial/ethnic match, there are several important characteristics of good mentors which foster a positive, supportive mentor–mentee relationship as described by Chan and colleagues [18]. The researchers outlined five major categories which lead to multicultural, ecological, and relational model of mentoring underrepresented early-career investigators [18]. These categories include (1) tailored career support and guidance; (2) relationality between mentors and mentees; (3) significance of contexts; (4) interconnections across contexts; and (5) multi-directionality of interactions between contexts. Mentors who possess racial/ethnic, cultural and contextual humility while recognizing the experiences of many underrepresented faculty (e.g., unequal access to resources and “othering”) are able to provide more tailored career guidance [18]. Mentors who respect the unique experience and background that underrepresented early-career investigators bring to HIV research and community engagement activities, create an environment that is both supportive and challenging to facilitate continued career growth. It should be noted that there are very good mentors regardless of whether they are a racial/ethnic match with

their mentee, that have the ability to foster a positive, supportive mentor–mentee relationship. This sentiment is also reflected in the informal discussions with underrepresented HIV investigators as they focused less on the race/ethnicity or sex/gender of their mentors and more on their skills, knowledge, and networks [17]. Finally, through mentoring others, underrepresented investigators can provide a unique mentor perspective to more junior colleagues, and increase the pool of early-career investigators.

As examples, the National Research Service Award (NRSA) pre-doctoral fellowship provided one of the authors (H.S.) the opportunity to develop a relationship with his primary research mentor and protected time to develop his research portfolio. Working on several projects with his mentor, he was able to refine his research focus (H. Scott, personal communication, June 15, 2016). These projects later provided a mentored leadership opportunity on a collaborative multi-site pilot study, as well as preliminary data to support a career development award application (H. Scott, personal communication, June 15, 2016). Building on these projects, H.S. successfully applied for a National Institutes of Health (NIH) K23 Career Development Award focused on developing and testing a mobile- phone application- home based HIV and sexually transmitted infection testing strategy for young BMSM (H. Scott, personal communication, June 15, 2016). The protected research support provided by the post-doctoral research fellowship was invaluable for developing his research portfolio with mentored guidance, publishing in peer-reviewed journals, presenting at national conferences, and completing grant applications (H. Scott, personal communication, June 15, 2016). Similarly, for another author on this manuscript (T.P.), her projects and mentorship experiences connected her with several NIH program officers who offered support and guidance, culminating in a successful NIMHD-supported Loan Repayment Program Award, a NIDA-supported Diversity Supplement and NIDA-funded RO3 that utilizes data collected from her mentored research projects with the HPTN (T. Dyer, personal communication, June 15, 2016). For C.W., the opportunity to work alongside his mentors enhanced his ability to chair a national think tank of multidisciplinary scholars focusing on developing culturally and racially relevant research through the HPTN (C. Watson, personal communication, June 15, 2016). In addition, the mentorship he received provided the developmental foundation for him to become co-investigator of a national HIV prevention study protocol at a local clinical research site, enhancing his ability to lead and conduct large scale study research projects (C. Watson, personal communication, June 15, 2016). For R.B., his participation in the HPTN Scholars Program, provided the opportunity for him to interact with two mentors from different settings (i.e.,

university and community health center), access and build relationships within a global network of HIV investigators, and establish a body of research focused on the relationship between incarceration and HIV among BMSM living with and at risk for HIV infection in the US (R. Brewer, personal communication, June 15, 2016).

Informal discussions with other underrepresented investigators also revealed that they wished they had received more assistance on how to select the right mentor and an environment that was aligned with their professional goals. Comments such as: “a bit more about how to pick a mentor in order to set me up for the trajectory I wanted to be on [17] ” suggest that this is an important missing component from many mentorship programs. Selecting a mentor, negotiating a good fit between their own research interests and those of their mentors and managing up is one of the most important initial steps in an investigator’s success [17]. Exposure to a mentor who is not a good fit may discourage many underrepresented early-career investigators from pursuing careers in HIV research. One investigator stated that she had “been lucky to have good mentors [17].” Another investigator stated that she had “been lucky to have good mentor”; adding “You don’t know what the good ones [mentors] have until you have a bad one [17].” More structured training for underserved investigators on how to select a mentor and nourish the mentee/mentorship relationship would be beneficial. For example, in order to identify their own needs and expectations, underserved investigators should conduct regular self-assessments of their skills and identify areas for professional growth [6]. After completing these self-assessments, minority investigators can seek out additional opportunities to acquire new skills, or build upon existing skills in areas such as professional networking, teaching, writing manuscripts, abstracts, and grant applications [6].

#### *Balancing Opportunities and “Threats”*

Being a member of the community that is the focus of research certainly affords important opportunities, but it also brings potential threats to career success. During the time dedicated to refining a research focus and completing manuscripts, underrepresented early-career investigators are often approached to work on new projects, especially projects relevant to the communities in which they work. Access to these data and collaborative research opportunities are essential for early-career success and research productivity, leading to new networking opportunities and publication opportunities. However, being an underrepresented investigator also brings a host of “threats” to academic success. As a member of an important “target population,” underrepresented investigators are often invited to join projects,

conferences, or administrative efforts that focus on diversity. While interesting and important, these tasks often place undue burden on the limited number of underrepresented racial/ethnic faculty in most academic institutions sometimes referred to as the “minority tax” [19]. This is especially challenging for early-career investigators attempting to develop a research niche. However, the politics involved with balancing the opportunities and threats require navigational skills that can be enhanced with assistance of good mentors in helping the underrepresented investigator understand the political overtones and how to balance them. This theme was noted from one of the informal discussions, “I was naïve but I didn’t realize how much politics and science are intertwined. That was a hard lesson to learn but one that was taught by my mentors. And that I didn’t have to say yes to everything simply because I was being asked [17].”

Having a strong mentorship team has been extraordinarily helpful in managing this “tax” and provides an important sounding board. Being aware of this important threat to career development and research success, it is helpful to proactively discuss these concerns with mentors on a regular basis. Underrepresented faculty are often asked to join, or chair, a disproportionate number of these committees, taking away valuable time away from scholarly work and manuscript preparation. Mentors can provide an important sounding board to discuss such opportunities, offer guidance on time management, and assist mentees in identifying the cost versus benefit of engaging in such projects (risk to achieving important short-term academic goals such as completion of manuscripts, grant applications, educational pursuits, etc.). Discussing these threats during mentorship meetings will also help to prioritize commitments with respect to leadership development, as well as discuss how to effectively communicate limits with colleagues. These discussions can also be extremely useful to mentors by providing them additional insights into the challenges to be navigated to support the career development of underrepresented early-career investigators. When asked to participate in activities by other senior investigators, these prior discussions can provide a framework to elicit mentors’ guidance on how to manage requests, especially given the ever present competing demands for time.

Finally, some opportunities are focused on providing a perspective of diversity and inclusion without clear evidence that inclusion of the perspective is valued. Some of these invitations serve to “tokenize” underrepresented investigators, taking advantage of their early-career status. For example, on several occasions, H.S., has received invitations to join teams where his membership was an attempt to appease well-founded criticisms regarding a lack of diversity, rather than to truly integrate his opinions (H.

Scott, personal communication, June 15, 2016). Although these experiences have been rare for H.S., they minimize the value of his contribution and populations most impacted by HIV/AIDS are not benefitting from his expertise (H. Scott, personal communication, June 15, 2016). These activities also detract from the investigators time to engage in other scholarly activities, as well as pursue meaningful relationships with mentors, colleagues, and community partners. Supportive mentors also serve as a powerful counterbalance to an academic cultural environment that is neutral at best, and which allows these “threats” to persist and potentially derail the success of underrepresented investigators. Indeed H.S. credits his mentors with helping him navigate these “threats” to early academic success (H. Scott, personal communication, June 15, 2016). Hassouneh and colleagues describe experiences of exclusion that many underrepresented faculty face in academic settings that undermine and jeopardize their academic success through three primary processes: invalidation of self, “othering”, and unequal access to resources [20]. Together these processes create an academic culture that is unsupportive for these investigators and undermines attempts to recruit and retain them.

#### *Making Time to Mentor Others*

Serving as a mentor for trainees and other professionals is often easily incorporated into ongoing clinical and teaching responsibilities, given the structure of academic settings and clinical training. However, finding time for meaningful mentorship while also making the transition to a research career can be very challenging. The metrics for academic success, discussed in more detail in this supplement by Pfund et al. [21], describe publications and successful career or independent investigator grant applications as important priorities, while the provision of mentorship as an early-career investigator is often viewed as a distraction from these high priorities. For H.S., providing mentorship is an opportunity to give back, as well as learn valuable leadership skills to further his career development (H. Scott, personal communication, June 15, 2016). Based on his past experience and understanding that access to mentors is often more difficult for trainees underrepresented in research, he has focused on developing opportunities to engage with underrepresented trainees to provide mentorship and advice (H. Scott, personal communication, June 15, 2016). Similarly, for another author (T.D.), she continues to attend annual meetings and mentor new HPTN Scholars (a program designed to provide its underrepresented early-career investigators with the knowledge, skills and connections to further their careers as independent investigators in the HIV prevention research field) (T. Dyer, personal communication, June 15, 2016). In particular she provides mentorship to those who may be

seeking additional guidance in both navigating the mentored scientist experience, as well as launching a career at the conclusion of the HPTN Program. For C.W., he has served as a founding member of the Young Black Gay Mens Leadership Initiative [22], developed to build leadership capacity of young black gay men under 30 seeking entry into leadership roles in HIV research, advocacy, and policy (C. Watson, personal communication, June 15, 2016). For R.B., he provides mentorship in a non-academic setting and at a local level with young Black men and community partners interested in building their research literacy and capacity to conduct community-engaged research (R. Brewer, personal communication, June 15, 2016).

With the paucity of Black academic role-models, mentorship to underrepresented trainees through the various mentorship programs described by Fuchs et al. [23] in this supplement is vital to improving the diversity of the research work force. Mentorship is a critical step when supporting the development of a new cadre of underrepresented early-career investigators, who may not have a clear idea of what their needs may be, but can be supported/nurtured by junior or secondary mentors. Moreover, this can be done in such a way that further develops the mentoring capabilities of underrepresented investigators and helps the next generation of investigators and professionals navigate their career. These important themes were also expressed in the informal discussions with other underrepresented HIV investigators: “how do you have a conversation about what do you need...what do you expect...never taught...or received guidance on what to ask for a mentor, develop a mentorship plan, establish relationship upfront [17]?” Junior or secondary mentorship can be a useful tool in helping to address these questions. Underrepresented investigators must seek out and maintain primary and secondary mentorship support in order to help advance their research careers [17]. These formal and informal types of mentoring can be useful in navigating the careers of both the mentors and the mentees, as well as further developing the HIV research workforce.

### What Are the Characteristics of Successful Mentorship?

Underrepresented investigators have identified three main characteristics of an ideal mentorship relationship. The first two characteristics include: (1) a mentor who has *knowledge* about the investigator's research area, and (2) a mentor who was *invested* in the success of the investigator [17]. This investment was demonstrated by making or taking the time to meet with the mentee during scheduled and ad hoc meetings, responding to any questions/concerns in real-time as they arise, and providing input on specific concepts/materials. This was articulated by one of the early-career investigators: “[a good mentor needs to be]

invested, invested in their work, in the science and me. Someone who will read my manuscript, read my preliminary data, invested to spend their time, read it, provide feedback and be available if there are questions [17].”

The third characteristic of an ideal mentorship relationship centers on *honesty and creating opportunities for growth* [17]. This includes a mentor who provided constructive and honest feedback in order to encourage the investigator to rise to the challenge, grow professionally, personally and as a scholar as described by one investigator—“someone who can help me along my path and if my path happens to be not the way to go and they [the mentor] know that based on experience then have the ability to say that.....Help me understand from a scientific perspective why that path may be incorrect [17].” The appreciation of honest and constructive feedback was further articulated by another investigator. He appreciated a mentor who was willing to “advise me, and is willing to tell me even the things I may not want to hear [17].”

### What Are the Benefits of Mentorship for Underrepresented HIV Investigators?

#### *Achieving Clarity*

A common positive outcome of mentorship from the informal discussions with underrepresented early-career investigators was the ability of mentors to help mentees gain clarity on their research area and population [17]. For example, one underrepresented HIV investigator mentioned that “it allowed me to build a foundation for the work I wanted to do related to HIV research, allowed me to identify specific areas I want to focus on [17].”

#### *Mentors as Gatekeepers*

High quality mentorship has been shown to cultivate networking opportunities for mentees [6, 24, 25]. Informal discussions with underrepresented early-career investigators revealed that one of the most important benefits of mentorship was the gatekeeping function of mentors. Mentors served as gatekeepers to resources (people, information [e.g., about specific studies], publications, grants, and job opportunities) [17]. An investigator described being invited to participate in manuscript development process as a result of her mentor. “My primary mentor .....introduced me to the HIV Prevention Trials Network. Pulled me in on papers through multiple collaborations. I was very fortunate that I had someone who understood what it was to be a mentor [17].” Another described the gatekeeping functions of his mentor as having high social capital. “I can't stress enough the importance of the social capital component of mentorship—

especially being a Black researcher in an arena where there are not many Black researchers ..... For investigators from diverse backgrounds that social capital is important [17].” He goes on to stress the importance of articulating that as an expectation of mentors. “Using that social capital at different meetings, email introductions, etc. Those are the emails [from the mentors] that get more attention. Having a mentor that does that for early stage investigators is huge and that is something I have never heard explicitly talked about [17].”

Mentorship in HIV research is crucial for early-career underrepresented investigators [26]. Bozeman and Feeney define mentoring as a process for the transmission of knowledge, social capital, and psychosocial support relevant to work, career, and/or professional development [27]. High-quality mentoring nurtures and cultivates the skills necessary for productive research careers; these include conducting research, publishing papers, securing external funding, teaching, and professional networking. [6, 24, 26]. Quality mentoring therefore sets the stage for future success and accomplishments [6, 28–30]. As several studies demonstrate that underrepresented investigators receive less mentorship than their peers [31–33], it is critical that this mentorship gap be addressed to ensure the future success of underrepresented investigators conducting HIV research.

#### *Mentors Help Navigate Conflict/Political Landscape*

Mentors were described as playing an important role in helping underrepresented investigators navigate conflict and/or the political landscape of their university institutions [17]. As an example, for one investigator, science and politics were intertwined and she learned this lesson from her mentors. “I was naïve but I didn’t realize how much politics and science are intertwined. That was a hard lesson to learn but one that was taught by my mentors [17].” This support also extended to helping early-career investigators navigate the political landscape of their mentorship programs [17]. For one investigator, his mentor helped him frame his response to a specific conflict within his mentorship program in order to get it resolved. “There may be a conflict with other researchers.....can come up with different ways (your mentor)....how to best navigate them and have their support in responding and framing the response so that it leads to solutions [17].”

#### **Conclusions**

Developing and nurturing underrepresented early-career investigators in HIV research is critical to ending the HIV epidemic in the United States. As the U.S. epidemic continues to disproportionately impact Black and Latino

communities, especially MSM of color [34] there is a growing need for investigators with diverse perspectives, interdisciplinary training, innovative ideas, values, and cultural experiences to help advance the field and address health disparities [35].

Finding the right mentor, or combination of mentors, is important for fostering success and providing guidance to early-career investigators who are attempting to establish a research career. Programs that link these early-career investigators with career development support and experienced mentors [36] with contextual and cultural humility, as well as an understanding of the unique challenges (i.e., the “minority tax”) for investigators from underrepresented groups are needed to increase the diversity of the HIV research workforce. Finally, underrepresented investigators should take the time to mentor subsequent underrepresented investigators in order to continue that cycle of service and expand the HIV research workforce.

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#### **Compliance with Ethical Standards**

**Conflict of Interest** No conflicts of interest to report.

**Ethical Approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Institutional Review Board approval was obtained for the study.

**Informed Consent** Verbal informed consent was obtained from all interviewed participants in the study.

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