**Title Page**

**Discrimination and Structural Bias Against Sexual and Gender Minority Medical Trainees: A Qualitative Analysis**

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**Abstract**

**Discrimination and Structural Bias Against Sexual and Gender Minority Medical Trainees: A Qualitative Analysis**

Eva Chernoff, MPH

University of Pittsburgh, 2018

**Abstract**

**Background**: Sexual and gender minority (SGM) medical trainees may train and work in environments that are discriminatory towards both SGM patients as well as medical practitioners. Although some studies have been completed regarding SGM medical trainee discrimination, there remains a lack of current and relevant research on the subject of mistreatment of SGM medical trainees. Qualitative research informs the social and cultural context from which students experience discrimination, how they feel they should address it, and issues surrounding reporting. The main research question for this project is: What is the experience of medical training for medical trainees who identify as SGM? This question hopes to contribute to the public health knowledge of structural bias among underrepresented SGM medical trainees and the long-term effects that bias can potentially cause.

**Methodology**: Qualitative interviews were conducted with 6 medical students at the University of Pittsburgh School of Medicine who identify as SGM. Interviews were analyzed qualitatively using Nvivo software to identify and determine common themes among responses. The final themes identified will establish the current professional issues that SGM medical trainees face in today’s medical training environment.

**Results**: Participants described the following themes: 1) The medical training environment can be heteronormative, gender restricted; 2)There is an inability to be one’s “true” self in a professional setting such that participants need to “fit the mold” of conventional medicine; 3) Discrimination consisted mostly of microaggressions and covert comments; 4) Participants noted that their identity caused a large burden of stress for their medical training, which had negative effects on their mental health, as well as their physical health; 5) The reporting system was described as intimidating due to lack of transparency regarding what will happen if a report is made. Many students also worried about their anonymity after reporting.

**Conclusions**: The medical environment for SGM medical students is still one that requires additional resources, services, and change to be a positive learning environment. Recommendations for change include restructuring of the reporting system and an open medical school space and professionalism code that is more inclusive of queer ideas, personalities, dress codes, and values.

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# **Preface**

I would first like to thank all the participants who shared their stories for this project. It was a privilege to be able to hear your stories and I hope that this work will be helpful in moving forward with medical student wellness and promoting a positive culture within Pitt Med. Thank you my co-coder Anna Cohen for all of her help with data analysis. I would also like to acknowledge Dr Loren Roth and the Loren Roth Fellowship for supporting the funding of this project. Thank you to Dr Reis and Dr Defranco for supporting this initiative and your help with medical student health and wellness. And finally, thank you to my readers and mentors, Dr Mary Hawk, Dr James Egan, and Dr David Finegold for your guidance and support of this project.

Key Terms:

**SGM**: Sexual and Gender Minority

**LGBTQ**: Lesbian, Gay, Bisexual, Transgender, Queer

**Transgender**: a person whose gender identity differs from the sex the person had or was identified as having at birth

**Cisgender**: a person whose sense of personal identity and gender corresponds with their birth sex.

**Gender Nonconforming**: denoting or relating to a person whose behavior or appearance does not conform to prevailing cultural and social expectations about what is appropriate to their gender.

**Heteronormative**: denoting or relating to a world view that promotes heterosexuality as the normal or preferred sexual orientation.

# **Introduction**

Sexual and gender minority (SGM) medical trainees may train and work in environments that are discriminatory towards both SGM patients and as well as medical practitioners (Nama, MacPherson, Sampson, & McMillan, 2017). Sexual and gender minority or SGM “is an umbrella term that encompasses lesbian, gay, bisexual, and transgender populations as well as those whose sexual orientation, gender identity and expressions, or reproductive development varies from traditional, societal, cultural, or physiological norms” (National Institutes of Health, 2018). The Association of American Medical Colleges (AAMC) defines mistreatment of medical students as “either intentional or unintentional behavior that shows disrespect for the dignity of others and unreasonably interferes with the learning process” (Mavis, Sousa, Lipscomb, & Rappley, 2014). Although some studies exist regarding SGM medical trainee discrimination, particularly in the 1990s and early 2000s; there remains a lack of current and relevant research on the subject of mistreatment of SGM medical trainees.

SGM medical trainees face many obstacles during their medical training based on their sexual orientation or gender identity (Mansh et al., 2015). Previous survey-based research has shown that more than half of SGM medical students have reported exposure to anti-SGM jokes, rumors, or comments made by both peers and faculty (Nama et al., 2017; Townsend, Wallick, & Cambre, 1996). Feelings of medical student mistreatment or abuse may increase long-term stress, place students at higher risk for burnout, depression, or negative coping mechanisms, and negatively impact specialty choice (Haviland et al., 2011; Heru, Gagne, & Strong, 2009). Although many SGM medical students report feeling comfortable disclosing their identity to peers, students may be more likely to hide their identity from faculty—who often control their grades (Mansh et al., 2015; Nama et al., 2017). Inability to disclose one’s identity may have negative effects on both one’s physical and mental wellbeing, including depression, anxiety, eating disorders, relationship problems, and substance abuse (Cook, Arora, Rasinski, Curlin, & Yoon, 2014; Frost, Lehavot, & Meyer, 2015; Sheehan, Sheehan, White, Leibowitz, & Baldwin, 1990). The safety of one’s learning environment has been found to be paramount to one’s decision to disclose one’s sexual or gender identity (Risdon, Cook, & Willms, 2000).

The perceived support that SGM medical trainees feel towards either their medical school or residency program is very important to their ability to disclose their own identity and their comfort in their training environments (Merchant, Jongco, & Woodward, 2005). When speaking of their desire to attend a residency program, SGM medical residents directly evaluated residency programs on their perceived acceptance of SGM individuals (Merchant et al., 2005). SGM medical students and residents identify their risk of disclosure to be lower if their program has identifiable supports, a curriculum that was inclusive of LGBTQ health issues, and non-discrimination policies based on sexual orientation (Risdon et al., 2000).

Although some schools include supports for individuals that identify as having been victimized during their medical training, these supports vary widely depending on the school or residency program (Association of American Medical Colleges, 2000). Some training environments may be indifferent and at worst hostile (Risdon et al., 2000). The AAMC completes a graduation questionnaire survey every year that examines the level of medical student abuse (Association of American Medical Colleges, 2017). While the AAMC collects sexual orientation of students, the survey just recently included options of gender identity (Trans male/Trans man, Trans female/Trans woman, Genderqueer/Gender non-conforming) to the form in 2016 (Association of American Medical Colleges, 2017).

After a student or resident experiences mistreatment, reporting an instance of abuse may be complicated and less accepted if the environment during which the abuse was made is thought to be “culturally normative” for abusive behaviors (Bruce, Battista, Plankey, Johnson, & Blair Marshall, 2015). For instance, some have cited surgical environments to be more hostile and unwelcoming than other clinical environments (Lee, Kelz, Dubé, & Morris, 2014).

Although quantitative data has previously been collected on this topic and published in the literature, qualitative research enables the understanding of the social and cultural context from which students experience discrimination, how they feel they should address it, and why they may not want to report it. Some qualitative work has been completed on this topic with Risdon et al qualitatively examining medical training for gay and lesbian physicians in training in 2000 (Risdon et al., 2000). The social and political climate towards SGM individuals has changed dramatically since 2000. As such, this study will allow for a more current qualitative examination into the medical training environment for SGM medical students. This study examines discrimination and structural bias against medical trainees (med students and residents) who identify as SGM.

Our objectives of the study were to: 1) identify factors leading to medical trainee discrimination, 2) identify potential barriers to reporting abuse for SGM medical trainees, and 3) to determine the effects of discrimination or structural bias on individual’s medical training experiences and potential long-term outcomes.

The main research question for this project was: What is the experience of medical training for medical trainees who identify as SGM?

# **2.0 Methods**

Semi-structured qualitative interviews were conducted with medical students and physicians post-training who either identify as SGM at the University of Pittsburgh School of Medicine or work in Pittsburgh. Recruitment was completed through University of Pittsburgh and UPMC listservs that reach individuals who identify as SGM. No incentives were offered for participation. Interviews took place in a private room in the University of Pittsburgh Graduate School of Public Health. Interviews typically lasted between 25 min and 1 hour and 30 minutes. The primary investigator Eva Chernoff conducted all interviews in an open-ended fashion with a set of 30 questions. Interview questions covered several different domains including: descriptive information, career choice, coming out, the environment, stress, discrimination, structural supports, long-term outcomes, career implications, specialty choice, recommendations for improvement, and resilience. These semi-structured interviews were used to explore discrimination and structural bias amongst medical students and residents. There was an initial goal of recruiting 10 participants for this study. However, due to time-constraints and lack of incentives offered for recruitment, only 6 participants were recruited. The content of these interviews was used to probe the state of medical training for SGM medical trainees. The interview protocol was developed after a thorough literature search of qualitative methodology within the topic of SGM medical trainees. The specific domains and questions were developed with the use of Risdon et al.’s qualitative interview questions as a guide (Risdon et al., 2000). Updated interview questions and wording were created for the use of this study to better fit our specific research aims.

Interviews were analyzed qualitatively to identify and determine common themes among responses. These interviews were first transcribed verbatim and then subsequently coded two times by two coders (Authors EC and AC) to identify common themes within the transcripts. To analyze the data qualitatively, line-by-line coding was completed in open, iterative fashion that was inductive in approach. Each transcript was coded independently at least two times by each coder to establish a priori theoretical framework. The coders then met and discussed the independent codes established. Each code is an interpretive label attached to the section of the text (Giacomini & Cook, 2000). The multiple codes within each interview were then used to establish overall themes within these interviews.

Coding data was managed through the Nvivo version 12 software which works to electrically organize codes and themes for easy retrieval (Richards, 2005). The final themes that are identified summarize the current professional issues that SGM medical trainees face in today’s medical training environment.

## **2.1 Ethical Considerations**

This study was determined to be exempt from review by the University of Pittsburgh IRB (PRO18040688).

# **3.0 Results**

A total of 6 interviews were completed with a total of 320 minutes of recorded interview time. Five participants were medical students and one participant was post-training but spoke about their medical school experience. The breakdown of participants’ sexual and gender identity is as follows: 4 participants identified as a gay male, 1 identified as a lesbian female, and 1 identified as gender nonconforming and straight. In terms of racial identity: 4 participants identified as white, 1 identified as South Asian, and 1 identified as mixed race (black/white). In terms of year in training, there were 3 fourth-year medical students, 1 third-year medical student, 1 second-year medical student, and 1 physician post training who spoke of their medical school experiences.

Regarding their perception of the current medical training environment for SGMs, participants described the following major themes:

1) The medical training environment can be heteronormative, gender restricted and one that treats LGBTQ individuals as risk factors in course material.

2) There is an inability to be one’s “true” self in a professional setting such that they need to “fit the mold” of conventional medicine and the stereotype of what a doctor looks or acts like.

3) Discrimination consisted mostly of microaggressions and covert comments that included: offensive comments/jokes made by peers or faculty; being called derogatory names; and inconsistent grading or treatment.

4) Participants noted that their identity caused a large burden of stress for their medical training, which had negative effects on their mental health in the form of depression and anxiety, as well as their physical health with increased substance use (smoking, drinking, partying) to cope with the stress.

5) The reporting system was described as intimidating due to lack of transparency regarding what will happen if a report is made. Many students also worried about their anonymity after reporting.

In the following sections, we will describe each of these themes in further detail and provide illustrative quotations.

## **3.1 Medical Training Environment: Theme 1**

**The medical training environment can be heteronormative, gender restricted and one that at times treats LGBTQ individuals as risk factors within the curriculum.**

Participants described the medical training environment as heteronormative and gender-restricted in terms of specific professional guidelines, course material, and structures within the curriculum. One example included descriptions of the required dress code prior to professional activities such as “white coat ceremony” or “pre-clerkship week” as gendered in their description with describing the appropriate dress for women being skirts and men being ties. This is described by the following participant:

…professional dress [in medical school] in itself is very binary and uncomfortable. I personally feel uncomfortable going to professional events in general. Suits are a little masculine for me, dresses are a little feminine for me, and things more in the middle are usually not considered that formal.

Multiple participants brought up the advanced physical exam course in which the class is split into gender-segregated groups to practice physical exam. This was found to be particularly isolating to many SGM individuals who felt ‘out-of-place’ due to their sexual or gender identity in these gender-segregated groups as described by the following quote:

Someone asked about the APE [advanced physical exam course] groups and the professor said, ‘There are gonna be male and female groups, so as to make it more comfortable, so that it wouldn't be creepy’...And so now immediately [as a gay woman], I feel creepy and it's just, the whole thing was just very uncomfortable just being in this female groups so that people wouldn't have men's prying eyes or whatever. And then I'm sitting there being gay and it's like, ‘Sorry, but I don't want to help you with this, but I definitely don't want to be an all men's group because [as a woman] I don't think I'm a man, I don't feel like a man.’

Many participants also brought up lecture material as an issue when SGM individuals were described in medical settings. During course lectures, the lecturer may describe SGM individuals as a risk factor for specific illnesses without speaking to the broader social context in which risks are associated with illness. Due to the way LGBTQ individuals were frequently described in lectures, participants believed some lecture material to be stigmatizing. This was described by the following participant:

I think that in first and second year, the preclinical years, it was more I felt not represented when we would have lectures, [lecturers would] talk about the LGBT community in ways that were semi-derogatory, and boiling them down to statistics, and just saying ... It is that same feeling of you [the speaker] are so disconnected from this other huge community that how could you [the speaker] possibly understand what you're reading, understand the bigger picture. And how could you dare teach me about it?

Some participants also described the complete lack of LGBT inclusion in some health topics such as family planning. Others spoke about the use of the cisgender, heterosexual male as the “norm” when describing how disease can affect an individual with lack of consideration into other patient populations of different genders, races, or sexual orientations.

## **3.2 Medical Training Environment: Theme 2**

**Inability to be one’s “true” self in a professional setting such that they need to “fit the mold” of conventional medicine and the stereotype of what a doctor looks or acts like. This causes the feeling of being singled-out for simply ‘being themselves.’**

 A theme that was reintroduced multiple times throughout the interviews for all of the participants was a disconnect between each one’s true self and the field of medicine such that they felt “singled-out” for not fitting that traditional motif of what I physician “should look or act like.” One’s true self is defined in the Merriam Webster dictionary as “the type of person one really is” (Merriam-Webster Dictionary, 2018). In this setting one’s true self was synonymous with the participants’ queer identity that they feel truly defines who they are as an individual. The disconnect between one’s true self and medicine was described by the following participant saying, “one thing that it [medical school] almost made me think [is that] this profession may not be my place which, in my personal opinion is a huge loss for this profession.” The concept of “not belonging” within a structure of medicine was continually brought up. Medicine as an institution was described by participants as historically being a conservative field with historically white, cisgender, heterosexual men. Although medicine is more diverse than it has been in the past, the culture and leaders of that culture, may not have changed to fit the influx of diversity amongst medical trainees (Saha, Guiton, Wimmers, & Wilkerson, 2008). This inability for one medical student to empathize with the experience of another LGBTQ medical student was described by one individual saying:

I remember talking to a third colleague who knew all of us and I remember saying I really think that this person would have been different if they didn't feel like their identity was being attacked and they were like ‘I don't know, I think that's just them’ and I'm like no, honey, I think some of its them and some of it is just the psychic stress of like ‘I don't belong and now I'm responsible for making the environment adapt for me, to accept me’.

Another participant spoke of this same feeling of isolation saying, “so, it was kind of me standing there essentially being an awkward individual while they're all doing whatever they do in their [straight] culture.”

When one participant spoke of how their sexual identity and medicine fit together, they described the following:

My initial reaction is, like, scared [about the future of being gay in their medical career]. Because I guess, you know, historically it's been a very male-dominated and cis straight, white, male-dominated field. There's a lot of me that is not in line with that. And so, my initial reaction is concern about how hard I'm going to have to fight for my opportunities compared to my peers.

## **3.3 Discrimination**

**Discrimination consisted mostly of microaggressions and covert comments that included offensive comments/jokes made by peers or faculty; being called derogatory names; and inconsistent grading or treatment.**

Discrimination existed in many forms but was mainly described as microaggressions, or more covert comments. Experiences of discrimination were especially true for participants who identified as both a sexual or gender minority and another underrepresented group within medicine (non-white or female). The instances of discrimination were described by one participant saying, “I mean, my one friend was called a c\*\*\* sucker. I think if I gave too much more context to that, it would kind of give away the story there that isn't really mine to give. My other friend was called, "entitled," for bringing some of these [complaints regarding the medical school environment] up [to the administration] and thinking that they should be addressed.” Another participant described how faculty can make discriminatory comments in their presence that were found to be offensive. The participant described the following:

It's [faculty making inappropriate comments] definitely happened before, whatever it's like we have a trans patient and they are blasé about their use of…pronouns. Or, being too quick to jump to a certain health outcome is because this person is part of the LGBT community, and almost saying we can't do anything about that because that's just who they are, and they're at a higher risk, and therefore that's what they have to live with.

 Typically, inconsistent treatment as a medical student was described as cancelation of meetings without explanation, inconsistent grading between older faculty and younger faculty, and lack of opportunities that straight peers would have received such as mentorship or the ability to work on research projects that could potentially be advantageous. This was described in detail by the following participant:

…the concern about grading for sure is a level of discrimination that I am concerned about. Have I not been allowed in a patient room because I'm gay? No. Have I not been allowed in a procedure because I'm gay? Maybe. Have I been afforded less opportunities? Quite possibly.

 These experiences were single-cases for some but had additive effects for others who experienced them multiple times. Generally, the experiences were diverse, but all participants spoke of some situation where they felt that their sexual or gender identity was a reason for them feeling singled-out or victimized in some way.

## **3.4 Stress/Long-term Outcomes**

**All participants noted that their identity caused a large burden of stress for their medical training which had negative effects on their mental health in the form of depression and anxiety, as well as their physical health with increased substance use (smoking, drinking, partying) to cope with the stress.**

All participants spoke of their sexual or gender identity as causing increased stress in their life within medical training. Those that described themselves as “low-stress” individuals who did not experience much stress in medical school, described stressful situations that occurred secondary to their sexual or gender identity. When asked about the effect of the medical training environment on their level of stress, one participant said:

It's [medical school has] been pretty awful I would say. To that point where I was like, I don't even know if medicine is the right thing for me. I feel like so much of why I wanted to be a doctor is so core to who I am. The fact that I got to that point, is very telling for me. Super isolating.

Another participant spoke about the effects of their training in the context of their identity on their mental health saying, “Yeah. Mostly my mental health [has been affected] …it gives me anxiety, gives me feelings of inadequacy, and it's draining.” Negative mental health effects experienced secondary to one’s medical training in the context of their identity was mirrored by another participant who responded:

It's [medical school has] been awful. I've gained a ton of weight. I stopped exercising completely for a long time, now I'm back on that. I was miserable. Totally, totally, totally depressed for most of the year. I've had depression before, but most of this year was just awful in a way that, I've never felt in my life. I felt scared, I felt hated. I felt completely unwelcome, and med school is really stressful.

The effects on one’s physical health within the LGBTQ community in medical school were described as secondary to substance use with smoking, drinking, or partying. The effects of smoking were described by one participant, “Yeah, a lot of people have started smoking. I haven't but a lot of people have started smoking as a coping strategy [to being SGM in medical school]. And then those of us that haven't are getting exposed to a lot of secondhand smoke.”

## **3.4 Reporting System**

**The reporting system was described as intimidating due to lack of transparency regarding what will happen if a report is made. Many students also worried about their anonymity after reporting.**

During interviews, a large emphasis was placed on the reporting system used by medical students to file complaints about discrimination or unfair treatment within the medical training environment. The reporting system described by participants consisted of an online anonymous website where one can write their experience in a “free-text” format with a specified word count. Many students spoke about a lack of transparency of what the reporting system was when they entered medical school, which made reporting feel intimidating as described by one participant: “I didn't feel brave enough, and it would be like so much time and effort that I didn't know if I felt like it would be useful.” Many students described a lack of follow-up after reporting in some instances. The fear of reporting was escalated with no promise for follow-up by the administration as described by one participant: “It's sort of this weird thing that you put something [the report] into this void, you don't know what's going to happen, either nothing, or something really extreme. And it's like, does that person not work with students anymore? Will it fix the problem? Do they still see patients? Is someone talking to them about how to make this right?”
 Some participants spoke about being discouraged or feeling as though it would be pointless to report mistreatment or create change within the system. This was outlined in detail by the following participant:

I would say another narrative that I felt very strongly here is the 'wait until you have more authority, and then you can make a fuss, then you can change something. Your job right now is to be a student.' I think this comes the fact that it's very challenging to make it through this environment, and if you're distracted by making all these changes, especially for underrepresented students, it's everything just to make it through. So, a lot of the advising is, ‘you just gotta make it through, so just focus on being a student and make it through, and then you can do what you want after it.’ I can't really accept that, because there's always a later, and there's always a different reason why your authority isn't big enough. So, I see where it comes from, and I think it's necessary for some kinds of people and it's also squishes down other things.

The fact that the reporting system is online was a drawback for some participants who wanted a more systemic, cultural change with a thoughtful and humanistic approach to medical student mistreatment or misconduct as described by one participant:

I don't think this kind of website portal idea where you have someone put it in there, works, this is conversational kind of issue, and the fact that you need anonymity means that people aren't safe, feel safe telling you with their name attached to it. So ideally in my setting, like my medical school, you would have longitudinal discussion experiences...You can't have a website with anonymous reporting work with a culture issue, and it has to be something that's continuous and that's respectful, and that has ground rules.

Fear of anonymity and repercussions for reporting was a major issue for some participants in terms of feeling as though they could not report an incident or complaint without repercussions of the reported faculty member finding out. This was described by on participant saying, “Confidentiality and anonymity are not real. It's not a thing as much as you want it to be. It's not…. Docs are smart. They can put two and two together.”

Of students who did report, this fear of repercussions and impact on one’s medical career is still very strong as described by the following participant:

And I did wind up reporting it [the incidence of mistreatment] after my grade came out, because I felt so attacked. I felt so discriminated against. I felt so hurt by the actions of this person, that I felt that it was necessary. Not for my own sake but for other sakes to speak up and say something. Because I think I'm a pretty strong person, but it really hit me hard. And after I reported it, I was concerned, and I still am concerned about its repercussions on my image. On my ability to match. On my ability to get mentorship. On my ability to be part of the team because of this incidence, and who knows what that person said about me? Who knows how that's going to affect me years down the line? ...You know, there's all these other things that initially deterred me from reporting the incident, and still haunt me about reporting the incident.

# **4.0 Discussion**

For our study, 6 interviews were completed with medical students who identify as SGM to explore the current state of the medical training environment for SGM medical trainees. Discrimination and structural bias within the training environment have been a critical issue documented in other studies; however, a qualitative approach to analysis enables understanding of the nuanced challenges in the medical training environment and in reporting incidents that SGM students may experience. Experiences were described in detail regarding the medical training environment, discrimination, long-term health outcomes, and structural support of the reporting system. The participants described the medical training environment as sometimes heteronormative and gender restricted. They found it difficult to be one’s “true” self in a professional setting such that they need to “fit the mold” of conventional medicine and the stereotype of what a doctor looks or acts like. Discrimination experienced by SGM medical students consisted mostly of microaggressions and covert comments. All participants felt that their sexual or gender identity caused a large burden of stress for their medical training which had negative effects on their mental health and sometimes physical health. The reporting system was described as intimidating due to lack of transparency regarding what will happen if a report is made. Many students also worried about their anonymity after reporting. Our findings expand upon the data published from previous studies regarding the medical training environment for SGM trainees.

## **4.1 The Medical Environment**

Regarding the medical training environment, Murphy found in their ethnography of Buena Vista Medical School that a heteronormative environment is embedded into a culture of a school through a “hidden curriculum” or one that presents inadvertently, latent messages within curricula (Hafferty, Frederic W. Castellani, 2009; Murphy, 2014). Challenging the heteronormative culture within medical education may be particularly challenging as the culture within medical education represents the broader culture of the surrounding society (Murphy, 2014). Turbes et al., suggest challenging heteronormativity by naming heterosexuality as a sexuality option instead of making the assumption that it is the normative (Turbes, Krebs, & Axtell, 2002). This in turn will challenge the heteronormative assumptions set into place (Turbes et al., 2002).

The issue of prevention of pathologizing individuals who identify as LGBTQ within curriculum is a larger issue within medical education (Dubin et al., 2018). To begin addressing a heteronormative education environment, Desrosiers et al. proposed that instead of teaching the health of LQBTQ individuals as a medicalized “other,” a larger evaluation of the structural and social causes of health inequities should be presented in the context of SGM health (Desrosiers, Wilkinson, Abel, & Pitama, 2016).

When focusing on potential interventions addressing the academic medical environment for SGM individuals, some researchers suggest a multi-focused approach. Burke et al suggests a focus on targeted research on empathetic concern and perspective taking. Increased research and teaching of results of such studies would provide medicine faculty and staff with increased perspective taking skills (Burke et al., 2015). These skill sets could potentially increase empathy for many different underrepresented minorities within the medical field—including patients. Burke et al also highlights the importance of visibility and respect for SGM individuals in medicine potentially pointing to a need for increased SGM faculty and overall representation within medicine (Burke et al., 2015). A greater focus on perspective taking and empathetic concern of potentially difficult situations for SGM medical trainees in the context of this study, for example, would include creation of a gender-neutral advanced physical exam course option and changing spaces for students prior to anatomy lab. In addition, participants discussed the inclusion of more LGBTQ representation in mentorship, faculty, and curriculum. Overall when thinking of an ideal medical school environment, participants wanted an open professionalism code and medical school space that is more inclusive of queer ideas, personalities, dress codes, and values.

 The themes of isolation and inability to be one’s true self within the medical environment were introduced by many participants. This feeling of isolation among sexual minority students was found to be present to a much larger extent than heterosexual peers in a national longitudinal cohort study completed by Przedworski et al in the CHANGE study (Przedworski et al., 2015). Fear of presenting one’s self in a way that will expose them to being stereotyped for their identity is found to be the case not only in the medical learning environment but in many health-care training fields (Fairtlough, Bernard, Fletcher, & Ahmet, 2013). Based on participant’s fears, there seemed to be an overall disconnect between feelings that one could be ‘queer’ and ‘professional’ at the same time. Participants did not feel comfortable with that given the current medical training culture.

## **4.2 Long Term Outcomes: A focus on medical student health**

 Participant’s feelings of increased stress within medical training due to their sexual or gender identity was in line with the current literature that reports many SGM medical students are more likely to report depressive symptoms, anxiety symptoms, and low rated health (Przedworski et al., 2015). These additional stressors on SGM students’ mental and physical health may exacerbate the baseline stress experienced by medical students overall (Przedworski et al., 2015). It has been found that medical students and medical professionals experience greater levels of depression and anxiety than the general population (Dahlin, Joneborg, & Runeson, 2005; Jadoon, Yaqoob, Raza, Shehzad, & Choudhry, 2010; Rosal et al., 1997).

## **4.3 Discrimination**

Participants describing discrimination as covert is in line with the literature suggesting that implicit bias against LGQTQ individuals in academic medicine contexts continues to exist and is perpetuated by the cycle of bias within the academic environment (Burke et al., 2015). According to the CHANGE study, SGM medical students were also more likely to report being called names or insulted in comparison to heterosexual or cisgender peers (Przedworski et al., 2015). Experiences of discrimination were especially true for participants who identified as both a sexual or gender minority and another unrepresented group within medicine (non-white or female). This finding is also supported within the current literature findings, outlining the need to focus on intersectionality within the population of individuals who identify as LGBTQ (Hardeman et al., 2015).

## **4.4 The Reporting System**

Different individuals may have varying viewpoints on how they would like to report complaints. Recommendations for an improved reporting system include the use of a variety of types of mechanisms so that the process can is as accessible to as many students as possible. In addition to the anonymous online system, additional recommended modalities include having a faculty representative who remains an objective observer for the incident or additional anonymous surveys sent several times yearly. Pitt Med currently has the Student Health Advocacy Resource Program (SHARP) system in place which is a confidential (peer-counseling) referral system for medical students (Karp & Levine, 2018). Although this process may be appropriate for some, faculty should question the utility of student-run reporting systems and their safety for minority students who may not feel comfortable being “out” among their peers.

Medicine has historically been and still is a hierarchical institution (Conrad et al., 2010). Within the training environment, attending (faculty) physicians are at the top, and medical students are at the bottom (Conrad et al., 2010). Due to this hierarchical structure, there is a disproportionate amount of power that the faculty member has by controlling the student’s grades and overall course outcomes (Conrad et al., 2010). Fear of anonymity and repercussions for reporting was a major issue for some participants in terms of feeling as though they could not report an incident or complaint without repercussions of the reported faculty member finding out. Increased transparency about the reporting process was described by participants as a potential change to the current system. In addition, participants identified that a follow-up with the student about the outcome of their report is incredibly important in a student’s decision whether to disclose regarding mistreatment.

## **4.5 Limitations**

This study has some limitations that may affect interpretation of results. As with all interviews, participants may hesitate to disclose certain thoughts or feelings due to respondent bias or social desirability bias in order to answer questions in a way that they feel is most socially acceptable. Our findings are limited by sample size. Although we felt that 6 participants gave a great degree of knowledge with themes found across all participants, a larger sample size would have allowed for even more certainty of the established themes for this project. The range of SGM identities could have been greater in this study as most of the participants identified as gay men with less representation of other gender and sexual identity variation. In addition, this study was only completed at one site, so results may not be generalizable to all medical training environments. As there was no compensation for participation, there may have been a self-selection bias from those who agreed to participate in the study as having stronger opinions or being more interested in creating change within the medical school.

## **4.6 Future Directions**

 This study focused on medical student trainees and their experiences of structural bias within their training. Future studies are necessary to expand upon this work and examine a wider range of viewpoints—including an increased representation of transgender voices and more varying racial background. In addition, the perspective in this study were of medical students; however, studies examining medical resident’s points of view during their training would provide even further depth into this topic. As this study was completed at one site, a multi-site comparison of perspectives and viewpoints would allow for a more widespread commentary on this current issue in medical schools nationwide.

## **4.7 Updates to Pitt Med: Where are we now?**

Since the beginning of this project, major changes have been made to the University of Pittsburgh School of Medicine (Pitt Med) curriculum. At the beginning of 2018, a new Dean for the Learning Environment was established at Pitt Med whose role is particularly to deal with issues of medical student mistreatment. In terms of the reporting system, the restricted word count has been removed and there is now an unlimited space for reporting of incidents. These changes were made due to students speaking out regarding these barriers to medical training in addition to feedback from the results of this study. In addition to the anonymous system that is in place, there will now be a learning evaluation and medical training environment survey that is sent to students three-times per year which gives students an additional opportunity to speak of any mistreatment, misconduct, or complaints during clerkships.

The advanced physical exam course’s use of gender-segregated groups has changed with the current update of all groups now being gender-neutral. There will no longer be the separation of genders during physical exam courses. Currently at Pitt Med there is a free therapist that is available to all medical students free of charge (Karp & Levine, 2018). The administration has recently hired an additional therapist due to high demand of the therapy services. As there are a variety of psychotherapy modalities and teachings, an additional therapist will also have increased ability to address a greater variety of psychological needs of different students.

 The results of this study were shared with the Dean for the Learning Environment who has taken all these results into serious consideration in the creation of sustainable action and change. The results of this study are consistent with the current literature acknowledging the fact that structural bias and discrimination continue to exist for SGM medical trainees. Acknowledgment of this issue is the first step in moving forward toward creating a medical environment that not only protects students from diverse backgrounds but will also work to improve how LGBTQ health and patients are taught within the medical curriculum. This focus will hopefully lead to improving health outcomes for SGM individuals both within academic medicine and the larger community.

# **Appendix: IRB Approval**

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|   | **University of Pittsburgh*****Institutional Review Board*** | 3500 Fifth AvenuePittsburgh, PA 15213(412) 383-1480(412) 383-1508 (fax)[http://www.irb.pitt.edu](http://www.irb.pitt.edu/) |

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| --- |
| **Memorandum** |
|   |   |
| To: | Eva Chernoff |
| From: | IRB Office |
| Date: | 6/28/2018 |
| IRB#: | [PRO18040688](https://www.osiris.pitt.edu/osiris/Rooms/DisplayPages/LayoutInitial?Container=com.webridge.entity.Entity%5bOID%5b97EEEDCF6DC4BE46B16D7655A2ACF199%5d%5d) |
| Subject: | Discrimination and Structural Bias Against Sexual and Gender Minority Medical Trainees: A Qualitative Analysis |

The above-referenced project has been reviewed by the Institutional Review Board.  Based on the information provided, this project meets all the necessary criteria for an exemption, and is hereby designated as "exempt" under section

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| 45 CFR 46.101(b)(2) |
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