

Attitudes of Medical Students on Transgender People in Vietnam: A Survey of Medical Students at Hanoi Medical University

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The transgender community faces disproportionate healthcare disparities; stigma and poorly trained providers are likely factors. The objectives of this study were to evaluate the attitudes and opinions of medical students regarding transgender people and to examine which demographic variables correlate with positive attitudes towards transgender people. This cross-sectional study surveyed 561 medical students, across all years of study, at Hanoi Medical University (HMU) in Hanoi, Vietnam. Students were surveyed in December 2018. The survey included demographic data collection and Attitudes Towards Transsexualism Survey. The survey demonstrated adequate internal consistency with a Cronbach's alpha of 0.86. Overall, 78.6% of participants held positive or very positive attitudes towards transgender people. Most students reported there should be more LGBT-related content added to the curriculum. On multivariate regression, identifying as female and wanting more LGBT topics in the school curriculum were significantly associated with positive attitudes towards transgender people. Medical students at HMU held positive views of transgender

people. They would benefit from, and widely accept, more LGBT content, particularly regarding transgender health, in HMU's curriculum.

KEYWORDS medical students; transgender; attitudes; education; Vietnam

DOI [tbd](#)

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Transgender communities face disease burden as well as healthcare disparities disproportionate to their population size (Hafeez et al. 2017). For example, according to the Centers for Disease Control and Prevention (2019), in 2019–20, the prevalence of HIV in transgender women across seven American cities was 42%, while transgender people only accounted for less than 1% of the total US population. Disparities such as these persist in other parts of the world as well, such as Vietnam. Though not directly comparable, it is still illuminating that a study from 2016 found that the prevalence of HIV among 205 transgender women in Ho Chi Minh City was 18.0% while the prevalence of HIV in the general population was only .4% (Colby et al. 2016; UNAIDS n.d.). Stigma in healthcare is a well-studied influence on healthcare disparities, including HIV care in particular (Hatzenbuehler, Phelan, and Link 2013; Maman et al. 2009). Healthcare professionals across the globe are not exempt from its influence; societal stigma (not adhering to a gender binary in Vietnam was previously considered to be a “social evil”) and poor training have been cited as potential contributors to poorer health outcomes for transgender patients globally and Vietnam in particular (Hunt et al. 2017; Lyons et al. 2015; Vijay et al. 2018; Do and Nguyen 2020).

Most of the research examining the attitudes, knowledge, and training of healthcare workers regarding transgender patients has been conducted in high-income countries; there is a modest body of research in Asia, but virtually no peer-reviewed studies have been conducted solely in Vietnam (Kortes-Miller, Wilson, and Stinchcombe 2019; Vijay et al. 2018; Martins et al. 2020). While there are currently no agreed-upon guidelines regarding how transgender health education should be conducted, consensus in the literature suggests integrated, longitudinal, clinical skills-based interventions as ideal for improving knowledge and patient outcomes in the long-term (S. N. Dubin et al. 2018).

The Vietnamese government continues to address many health problems that disproportionately affect transgender people, but there have been no studies that have sought to understand medical student attitudes towards trans people. It has been suggested that one way to combat the stigmatization of marginalized communities is to examine the attitudes of medical students and subsequently provide training and exposure in order to change negative attitudes before they graduate and begin practicing (R. E. Dubin et al. 2017).

Hanoi Medical University (HMU) is the oldest medical university in Vietnam, graduating thousands of health professionals every year in a variety of medical fields. In Vietnam, the training that is required to become a medical doctor consists of six years of undergraduate study, followed by graduate study lasting from six months to three years. Students begin this journey in the classroom, learning basic sciences. As they progress through their studies, students spend more time in clinical settings. At

the time of data collection for this study, there was no formal training in transgender health for medical students at HMU. Understanding the attitudes and knowledge of transgender issues of these medical students would be an important first step in improving transgender-related curriculum in medical education in Vietnam.

The objectives of this study were to evaluate the attitudes of medical students regarding trans people and to examine which demographic variables are associated with positive attitudes towards trans people. In order to build a workforce friendly to gender-diverse patients, a clear understanding of the knowledge gaps and stigma of Vietnam's current *and* future doctors is essential.

METHODS

Design and Recruitment

This team conducted a cross-sectional study of medical students from all class years (year 1 to year 6) who were studying on the medical doctor, or *đa khoa*, track during December 2018. Inclusion criteria were that participants had to be 18 years old or older and currently enrolled at HMU in the *đa khoa* track. Exclusion criteria included students who were not currently enrolled at HMU, or currently enrolled in any other area of study at HMU.

Based on the formula provided by Peacock and Peacock (2011), with a desired confidence interval width of .10 and expected population proportion of .50, it was calculated that 384 participants would be an adequate sample size in order to have a confidence interval of 95%. However, because each classroom has about 100 students, with the objective of surveying students from all school years, and to account for the possibility of missing data, losses, and incomplete surveys, it was decided to have a target sample size of 600 students (100 students per year).

Initially, every class in each year of study was assigned a number from one to seven. One class from each year was randomly selected using Google's random number generator to participate in the study. If a class was unavailable (due to scheduling conflicts) to be surveyed, a different class from the same year with an available schedule was selected. Once a time was arranged to survey, two team members went to the classroom of the selected class to introduce the survey and proctor the class while students took the survey. Surveys were handed out to each student by classroom volunteers and the team members; upon completion, surveys were returned to the proctors.

Instruments

This study was done in conjunction with attempting to measure medical student attitudes of lesbian and gay people and knowledge of homosexuality. As such, the survey packet combined demographic questions, including age, sex, gender identity, year in school (see Table 1 for full details), and several questionnaires; one measured the attitudes of students towards lesbians and gay men, one measured attitudes towards transgender people, and one evaluated participant knowledge of homosexuality. Additionally, we collected data regarding student opinions on whether LGBT content should be included in their curriculum (yes/no format), information sources for LGBT information (multiple choice of media sources), and social proximity to LGBT peo-

Table 1. Socio-demographic characteristics and exposure to LGBT individuals/ organizations (N = 561)

Variable	n	% or M (SD)
Age	553 ^b	21.07 (1.77)
Age group		
18–20 years old	152	27.49
> 20 years old	401	72.51
Sex at birth		
Male	286 ^b	51.44
Female	270	48.56
Sexual orientation/gender identity		
Heterosexual	518 ^b	94.01
Gay	12	2.18
Lesbian	2	0.36
Bisexual	11	2.00
Transgender	0	0.00
Other	1	0.18
Do not answer	7	1.27
Ethnicity		
Kinh (ethnic majority)	531 ^a	95.16
Other	27	4.84
Year in school		
Y1	97	17.29
Y2	61	10.87
Y3	124	22.10
Y4	100	17.83
Y5	57	10.16
Y6	122	21.75
Religion		
Buddhist	45 ^a	8.05
Cao Dai	1	0.18
Christian	15	2.68
Atheist	498	89.09
Are you currently practicing your religion?		
No	507 ^c	92.52
Yes	27	4.93
Sometimes	14	2.55
Living place before university		
Urban	157 ^a	28.04
Rural	403	71.96

Variable	<i>n</i>	% or <i>M</i> (<i>SD</i>)
Should there be more LGBT information in the curriculum?		
Yes	403 ^b	72.62
No	127	22.88
Too early	25	4.50
Are you aware of any resources or organizations available for LGBT patients in the community?		
Yes	64 ^a	11.49
No	493	88.51
Have you met an LGBT person before?		
Never met before	203 ^a	36.25
A few LGBT	304	54.29
Many LGBT	53	9.46
Where you have heard about or seen LGBT information		
Friends/family	349 ^a	62.77
Television show, i.e. the news	491	87.99
Movie, such as a documentary	456	81.72
Internet	492	88.01
Social media	477	85.48
Newspaper or magazine	461	82.47
Books	245	44.22
Class, seminar, or community event	231	41.62

Note. ^aMissing < 5 observations, ^bmissing 5–10 observations, ^cmissing > 10 observations

ple (multiple choice ranging in proximity from close family to acquaintance) to examine whether these could be potential factors to explain participant attitudes towards transgender people. Data on attitudes towards lesbians and gay men and knowledge of homosexuality, which was collected at the same time and location as the current study, have previously been published by Ardman and colleagues (2021).

Briefly, the Attitudes Toward Lesbians and Gay Men Scale Revised survey has 10 questions that use a 5-point Likert scale to assess the respondents' attitudes towards lesbians and gay men (Herek 1994). The Knowledge About Homosexuality Questionnaire consists of 32 true/false questions; this survey had previously been validated and used among university and medical students (Harris 1998).

The Attitudes Towards Transsexualism survey (Landén and Innala 2000) is a total of 13 questions (some with multiple parts) that measures the attitudes of the respondent regarding trans persons. It was first used in Sweden by Landén and Innala (2000). Each question has 3 or more answers each (e.g., yes, no, or no opinion). This survey was chosen because it has been used to assess the attitudes of students in the past, albeit within an American context (Kooy 2010). Additionally, our research team was limited by time and funding to create a validated survey from scratch; we were also unable to find a previously validated survey whose goal was to assess attitudes not only towards transgender people themselves but also their access to gender-affirming medical care (several questions ask about gender-affirming surgeries and hormone therapies). Some questions were rewritten to make them appropriate for the Vietnam-

Table 2. LGBT exposure and proximity (N = 561)

Variable	Lesbian		Gay		Bisexual		Transgender	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
What is your closest relationship with...?								
Don't know any	424 ^a	75.85	277 ^b	50.18	452 ^a	80.71	506 ^a	90.36
Siblings	1	0.18	0	0	2	0.36	0	0
Partner	3	0.54	9	1.63	2	0.36	0	0
Friends	75	13.42	188	34.06	73	13.04	27	4.82
Teacher	1	0.18	1	0.18	1	0.18	0	0
Coworker/colleague	1	0.18	2	0.36	0	0.00	0	0
Acquaintance	53	9.48	68	12.32	27	4.82	21	3.75
Other	1	0.18	7	1.27	3	0.54	6	1.07

Note. ^aMissing < 5 observations, ^bmissing 5–10 observations, ^cmissing > 10 observations

ese context, i.e., changing the location for certain questions from the USA to Vietnam. While the English vocabulary is outdated, the vocabulary was modernized in translation to Vietnamese; modern interpretations of the vocabulary are used forthwith in this manuscript.

The survey was translated from English to Vietnamese by a native Vietnamese speaker who is also fluent in English. A pilot group of 20 Vietnamese medical students then completed the survey and provided feedback to fix any unclear passages and assess internal consistency. The survey was then edited and given a final review by two native Vietnamese team members.

Data Review and Analysis

Epidata 3.1 was used to create the database. The Kolmogorov-Smirnov test was used to assess the normality of the distribution for knowledge and attitudes scores; none of them fit a normal distribution. Cronbach's alpha was used to assess the internal consistency of attitudes towards transgender people; a value of at least 0.6 was used as the cut-off indicating acceptable internal consistency. For analysis by multivariate regression, the dependent variable was a continuous variable and variables were entered into the multivariate model if the univariate *p* value was less than .05. Stata/MP 14.0 was used to analyze the data. While it is more common to use *p* value of less than .1 or .2 for variable selection into a multivariate model, due to the presence of multiple variables with *p*-values < .2 in the univariate analysis, we chose a relatively strict threshold to be considered for multivariate analysis. This variable selection approach aligns with our goal of assessing several factors related to the outcome. The primary outcome is the attitudes towards trans people score, derived from a student's survey responses. A linear model was used for this analysis.

Ethical Considerations and Funding Sources

This study was approved by the Hanoi Medical University institutional review board, approval number 44.18/HMUIRB. Before completing the survey, participants were directed to read the letter of informed consent highlighting the risks, benefits, and

Table 3. Summary of attitudes towards transgender people scores (N = 561)

Variable	<i>n</i>	% or <i>M</i> (<i>SD</i>)
Overall attitudes towards transgender people	561	8.38 (3.01)
Level of attitudes towards trans people		
Very negative (0–3 points)	52	9.27
Negative (3–6 points)	68	12.12
Positive (6–9 points)	190	33.87
Very positive (9–12 points)	251	44.74

precautions for securing anonymity on the front page of each survey. They were told verbally and in writing that the survey was completely voluntary and anonymous. Students were told that by beginning the survey, they agreed to give their informed consent.

RESULTS

Participant Characteristics

Our final sample size was 561 students (Table 1). Two-hundred eighty-six respondents (51.4%) identified themselves as assigned male at birth while 270 respondents (48.6%) identified themselves as assigned female at birth. Regarding gender identity, 94% of respondents reported identifying as cisgender; no one reported identifying as transgender. Regarding participant age, 72.5% of students were older than 20 years old.

Regarding the current medical school curriculum, most students (72.6%) responded that there should be more LGBT-related content. Only 4.5% of students said that it is too early in their school careers to know and 7.9% of students felt there should not be more LGBT-related content. Additionally, the majority (83.5%) of respondents did not know of any community resources/services for the LGBT community in Hanoi.

In our sample, 63.8% of respondents had met at least some people from the LGBT community (Table 2). When separated into specific gender identities, the percentages of students who had never met a trans person was 90.4%.

Attitudes Towards Transgender People Survey

The measure demonstrated adequate internal consistency with a Cronbach's alpha of 0.86. Overall, 441 participants (78.6%) held positive or very positive attitudes towards trans people (Table 3).

Upon looking at individual questions, most students responded in favor of trans people being allowed to change their name (72.3%), change their identity on their identification cards (61.6%), obtain hormones (80.7%) and obtain gender-affirming surgery (86.9%). Most students answered that patients should be responsible for paying for gender-affirming surgery themselves (82.4%) while only 4.0% of respondents said the public should be the source of funds.

Most students also responded that trans people who had already transitioned should be allowed to marry (87.0% for, 1.3% against). The majority of students marked that they would be comfortable with a trans person as a colleague (61.7%) or a friend

Table 4. Summary of multiple linear regression analysis of factors associated with attitudes towards transgender people (N = 561)

Variable	B [95%CI]	p
Sex at birth		
Female	ref.	
Male	-0.57 [-1.03, 0.11]	.015
Should there be more LGBT information in the curriculum?		
Yes	ref.	
No	-0.76 [-1.32, 0.21]	.007
Too early	-1.30 [-2.39, 0.21]	.020
If you know a lesbian, what is your closest relationship?		
Don't know any	ref.	
Siblings/partner/friends	-0.08 [-0.81, 0.64]	.818
Others	0.67 [-0.13, 1.47]	.098
If you know a gay person, what is your closest relationship?		
Don't know any	ref.	
Siblings/partner/friends	0.53 [-0.03, 1.09]	.063
Others	0.42 [-0.31, 1.14]	.262
If you know a bisexual person, what is your closest relationship?		
Don't know any	ref.	
Siblings/partner/friends	0.38 [-0.37, 1.13]	.361
Others	0.78 [-0.26, 1.81]	.140

Note. Bolded *p*-values are statistically significant.

(61.7%), while 16.6% of respondents reported that they would feel comfortable being in a romantic relationship with a trans person.

In society at large, most students felt that the media coverage of trans people and trans issues was “adequate” (42.1%); 17.5% responded “too much coverage” while 20.9% responded “too little coverage.” Most students also reported that the transgender population has increased in Vietnam over the last 20 years (70.9% agreed, 3.9% disagreed, 25.1% had no opinion).

The last question on the survey asked what respondents believed were the reason(s) for a person to be transgender. For that question, which allowed students to choose more than one answer, 74.2% of respondents believed being transgender was a choice while 33.2% believed that trans people were born that way. Additionally, 22.9% believed being trans stemmed from childhood experiences. Only 36 respondents (6.5%) believed being trans was a disease that could influence others and 1.6% of respondents answered “reason other than those listed” as an answer.

On multivariate regression (Table 4), being female ($p = .015$ compared to male participants) and wanting more LGBT topics in the school curriculum ($p = .007$ compared to participants who did not believe so) were significantly associated with positive attitudes towards trans people.

DISCUSSION

Research relating to transgender people is scarce in Vietnam. Furthermore, based on a thorough review of Pubmed and SCOPUS by an experienced librarian, this is the first peer-reviewed study in Vietnam to examine medical student attitudes and knowledge of transgender people and health topics.

It is important to discuss the attitudes towards transgender people in Vietnam in particular as they face unique threats of violence, a large degree of stigma and discrimination, and limited access to healthcare (HIV/AIDS Data Hub for the Asia Pacific n.d.; Human Rights Watch 2020; Knight 2020;). Overall, students held positive attitudes and opinions of trans people. This is in line with similar studies among medical students in Asia (Lee et al. 2020; Martins et al. 2020). Other studies also report positive attitudes towards LGBT people among medical students, but didn't explicitly study attitudes towards transgender people, which may mask the variability of participant attitudes towards people of different genders (Manalastas et al. 2017).

Student ideas of what makes a person trans were varied. Students were allowed to choose more than one answer; a fair number of students believed being trans stems from multiple origins. As society and health officials accept transgender people as normal, through behaviors and policy actions, there is hope that misconceptions around gender origins will continue to decrease in prevalence (Human Rights Watch 2022). Though not specifically studied, stigma against trans people was likely present, given that about 7% of respondents believed being trans was a disease state and about 20% did not agree that trans people should have access to hormone therapies. Misconceptions about transgender people, as discussed earlier, affect how healthcare workers perceive and treat transgender people and may prove to be a barrier to trans people receiving the care they need in the future as well as population health at large (Hatzenbuehler, Phelan, and Link 2013; Link and Hatzenbuehler 2016; Madera et al. 2019). While legal reform has begun, no formal, country-specific guidelines, policies, or laws exist to guide clinicians on providing hormone therapies and surgeries that align one's body with one's "true gender;" as such, they are *de facto* inaccessible for most transgender/gender-diverse people in Vietnam with several exceptions, one of which being a diagnosis of ambiguous genitalia at birth (United Nations Development Programme and United States Agency for International Development 2014). Without structural changes, significant difficulties remain with implementing education initiatives for healthcare providers and students.

Though not necessarily related to medical care, one of the more surprising findings was that 16% of respondents said they would be comfortable with having a trans person as a romantic partner. This was higher than the US student sample (though the US study was smaller in size) from Kooy's study and the Swedish national sample from Landen's study (Kooy 2010; Landén and Innala 2000). This is despite the fact that the respondents were not as affirmative about transgender people being allowed to change their name and identity or having trans coworkers and friends compared with Kooy's students. Additionally, less than 10% of respondents reported personally knowing a trans person. This may be a sign of cisgender/heterosexual students' openness to trans people and more positive portrayals of trans people in their environment as a majority of respondents reported hearing about LGBT topics through the media and personal relationships. Another possibility is that there are more non-cis/hetero-

sexual, including transgender, participants in the student body who simply did not self-identify on the survey.

Religiosity has been cited as an important factor in negative attitudes towards gender-diverse people, at least in the United States (Bunting et al. 2021; Wilson et al. 2014). In our population of study, the vast majority of students reported not currently practicing their self-identified religion, which may also indirectly support religiosity as an important factor of individual attitudes. At the very least, this suggests confounding variables are influencing the relationship between educational interventions and attitudes of students. Interestingly, Bunting et. al comments that confounding factors on this relationship potentially include lack of quality and quantity of medical education at US medical schools, though this is changing rapidly (Nolan et al. 2020; Obedin-Maliver et al. 2011).

Future interventions in medical education regarding transgender health, at least at HMU, may not need to entirely focus on changing attitudes of students but can focus more on the task that is more easily aligned with the university's mission: providing students with accurate information throughout the curriculum, guidelines for care, and adequate clinical training in LGBT-health topics. These students, as future healthcare providers, will play an influential role in the health of the Vietnamese people, including their trans patients, in the very near future. Their attitudes matter (Powell 2018). If they can provide a sensitive, accepting environment for these patients, it will be one step closer to closing the health disparities between transgender people and the general population.

Limitations

There are several limitations in this study. While we were able to assure students that their answers were anonymous to those outside of the classroom, it proved impossible to guarantee anonymity within the classroom. Classrooms were crowded and not private; it was up to the participant to guard their answers if they chose to do so. It was also difficult to keep students from talking amongst themselves during the survey. This would likely affect the results of the more sensitive questions, such as participant sexuality, and questions that students felt were difficult to answer. This could mean that students' responses may have been influenced by those around them who thought they might have known the "correct" answers. Students may also have withheld from disclosing attitudes that may cause embarrassment or shame if known to their classmates.

Given the resource limitations of our study, we were unable to directly examine participant knowledge of transgender people with a validated tool. The Attitudes Towards Transgender People survey was not a validated survey and as such, may not achieve the objectives of the survey. That being said, we used a survey that had previously been used in a student population. We issued a pilot survey to assess clarity and consistency, which was acceptable. In translation of the survey, vocabulary was modernized and adjusted for a Vietnamese context. Given these points, we still believe the survey was appropriate and captured relevant data where none existed prior.

Our study's generalizability was limited by our sample, which only included students from one health track at one medical school in Vietnam and may not reflect the attitudes of students in other health profession tracks or at other universities. How-

ever, the data do provide a first glimpse of a population that has yet to be thoroughly studied in Vietnam. While the team intended to select classes by randomization, it was not always possible due to class scheduling. About half of the data was collected by approaching classes with convenient schedules for collection. Even so, this research team has no reason to believe that one class of students would be significantly different from another class. We assumed that the students in each class would be a “random” selection of the student body.

This survey was entirely voluntary; some students chose not to participate. However, this study had no way of knowing how many students did not participate or why they chose not to participate. Some students may not have attended class on the day of surveying, several students handed back blank surveys, and several students walked out of class after the team members introduced the survey. However, because research team members proctored the classes during data collection (we were able to visualize when and how many students walked out), and because we did not receive any surveys with more than a few missing answers, we are confident that there were very few students who chose not to participate.

Future Research

Future research should focus on understanding medical student knowledge of transgender health, as well as expand its scope to examine the attitudes, knowledge, and opinions of students in other health care professions and at other schools and regions in Vietnam regarding trans people. Additionally, research in creating interventions that improve student knowledge, reduce stigma, and, ultimately, improve trans patient outcomes, is needed.

CONCLUSIONS

Medical students at Hanoi Medical University hold positive views of trans people and want to learn more about LGBT-health topics in their curriculum. Similar to students in other parts of the world, it would seem that they would benefit from, and widely accept, more LGBT-related content in HMU’s curriculum and more contact with trans people inside and outside of educational environments.

REFERENCES

- Ardman, Eric, Vu Minh Anh, Dao Thi Dieu Thuy, and Le Minh Giang. 2021. “Attitudes and Knowledge of Medical Students in Hanoi Regarding Lesbian and Gay People.” *Journal of Homosexuality* 68 (14): 2359–74. <https://doi.org/10.1080/00918369.2020.1804257>.
- Bunting, Samuel R., Marianne G. Chirica, Timothy D. Ritchie, Sarah S. Garber, and Tamzin J. Batteson. 2021. “A National Study of Medical Students’ Attitudes Toward Sexual and Gender Minority Populations: Evaluating the Effects of Demographics and Training.” *LGBT Health* 8 (1): 79–87. <https://doi.org/10.1089/lgbt.2020.0288>.
- Centers for Disease Control and Prevention. 2019. “Transgender People.” CDC, April 16. <https://www.cdc.gov/hiv/group/gender/transgender/index.html>.

- Colby, Donn, Ngoc Anh Nguyen, Bao Le, Trang Toan, Dinh Duc Thien, Hoang Thi Huyen, Thi Doan Anh Mai, Mackey R. Friedman, and Ron Stall. 2016. "HIV and Syphilis Prevalence Among Transgender Women in Ho Chi Minh City, Vietnam." *AIDS and Behavior* 20 (Suppl 3): 379–85. <https://doi.org/10.1007/s10461-016-1485-8>.
- Do, Trang Thu, and Anh T. Van Nguyen. 2020. "They Know Better than We Doctors Do': Providers' Preparedness for Transgender Healthcare in Vietnam." *Health Sociology Review* 29 (1): 92–107. <https://doi.org/10.1080/14461242.2020.1715814>.
- Dubin, Ruth E., Alan Kaplan, Lisa Graves, and Victor K. Ng. 2017. "Acknowledging Stigma." *Canadian Family Physician* 63 (12): 906–8.
- Dubin, Samuel N, Ian T Nolan, Carl G Streed, Richard E Greene, Asa E Radix, and Shane D Morrison. 2018. "Transgender Health Care: Improving Medical Students' and Residents' Training and Awareness." *Advances in Medical Education and Practice* 9 (May): 377–91. <https://doi.org/10.2147/AMEP.S147183>.
- Hafeez, Hudaisa, Muhammad Zeshan, Muhammad A Tahir, Nusrat Jahan, and Sadiq Naveed. 2017. "Health Care Disparities Among Lesbian, Gay, Bisexual, and Transgender Youth: A Literature Review." *Cureus* 9 (4). <https://doi.org/10.7759/cureus.1184>.
- Harris, Mary B. 1998. "Knowledge About Homosexuality Questionnaire." In *Handbook of Sexuality Related Measures*, edited by Clive M. Davis, William L. Yarber, Robert Bauserman, George Schreer, and Sandra L. Davis, 383. Thousand Oaks, CA: SAGE.
- Hatzenbuehler, Mark L., Jo C. Phelan, and Bruce G. Link. 2013. "Stigma as a Fundamental Cause of Population Health Inequalities." *American Journal of Public Health* 103 (5): 813–21. <https://doi.org/10.2105/AJPH.2012.301069>.
- Herek, Gregory M. 1994. "Assessing Heterosexuals' Attitudes toward Lesbians and Gay Men: A Review of Empirical Research with the ATLG Scale." In *Lesbian and Gay Psychology: Theory, Research, and Clinical Applications*, edited by Beverly Greene and Gregory M. Herek, 206–28. Thousand Oaks, CA: SAGE.
- HIV/AIDS Data Hub for the Asia Pacific. n.d. <https://www.aidsdatahub.org>.
- Human Rights Watch. 2020. "Vietnam: LGBT Youth Unprotected." *Human Rights Watch*, February 12. <https://www.hrw.org/news/2020/02/12/vietnam-lgbt-youth-unprotected>.
- Human Rights Watch. 2022. "Vietnam Adopts Global LGBT Health Standard." *Human Rights Watch*, August 18. <https://www.hrw.org/news/2022/08/18/vietnam-adopts-global-lgbt-health-standard>
- Hunt, Jennifer, Katherine Bristowe, Sybille Chidyamatatare, and Richard Harding. 2017. "They Will Be Afraid to Touch You': LGBTI People and Sex Workers' Experiences of Accessing Healthcare in Zimbabwe—an in-Depth Qualitative Study." *BMJ Global Health* 2 (2). <https://doi.org/10.1136/bmjgh-2016-000168>.
- Knight, Kyle. 2020. "My Teacher Said I Had a Disease." *Human Rights Watch*, February. <https://www.hrw.org/report/2020/02/13/my-teacher-said-i-had-disease/barriers-right-education-lgbt-youth-vietnam>.
- Kooy, Rachel E. 2010. "Knowledge and Attitudes Toward Trans Persons Humboldt State University." Master's thesis, California State Polytechnic University, Humboldt.

- Kortes-Miller, Katherine, Kimberley Wilson, and Arne Stinchcombe. 2019. "Care and LGBT Aging in Canada: A Focus Group Study on the Educational Gaps among Care Workers." *Clinical Gerontologist* 42 (2): 192–97. <https://doi.org/10.1080/07317115.2018.1544955>.
- Landén, M., and S. Innala. 2000. "Attitudes toward Transsexualism in a Swedish National Survey." *Archives of Sexual Behavior* 29 (4): 375–88.
- Lee, Sa Ra, Min-A Kim, Mun Nyeong Choi, Suyeon Park, Jaehyun Cho, Chulmin Lee, and Eun Sil Lee. 2020. "Attitudes Toward Transgender People Among Medical Students in South Korea." *Sexual Medicine* 9 (1): 100278. <https://doi.org/10.1016/j.esxm.2020.10.006>.
- Link, Bruce, and Mark L. Hatzenbuehler. 2016. "Stigma as an Unrecognized Determinant of Population Health: Research and Policy Implications." *Journal of Health Politics, Policy and Law* 41 (4): 653–73. <https://doi.org/10.1215/03616878-3620869>.
- Lyons, Tara, Kate Shannon, Leslie Pierre, Will Small, Andrea Krüsi, and Thomas Kerr. 2015. "A Qualitative Study of Transgender Individuals' Experiences in Residential Addiction Treatment Settings: Stigma and Inclusivity." *Substance Abuse Treatment, Prevention, and Policy* 10 (1). <https://doi.org/10.1186/s13011-015-0015-4>.
- Madera, Sheilla L. Rodríguez, Nelson Varas Díaz, Mark Padilla, Alíxida Ramos Pibernus, Torsten B. Neilands, Eliut Rivera Segarra, Carmen M. Pérez Velázquez, and Walter Bockting. 2019. "Just Like Any Other Patient': Transgender Stigma among Physicians in Puerto Rico." *Journal of Health Care for the Poor and Underserved* 30 (4): 1518–42. <https://doi.org/10.1353/hpu.2019.0089>.
- Maman, Suzanne, Laurie Ablner, Lisa Parker, Tim Lane, Admire Chirowodza, Jacob Ntogwisangu, Namtip Srirak, Precious Modiba, Oliver Murima, and Katherine Fritz. 2009. "A Comparison of HIV Stigma and Discrimination in Five International Sites: The Influence of Care and Treatment Resources in High Prevalence Settings." *Social Science & Medicine* (1982) 68 (12): 2271–78. <https://doi.org/10.1016/j.socscimed.2009.04.002>.
- Manalastas, Eric Julian, Timo Tapani Ojanen, Beatriz A Torre, and Vizla Kumaresan. 2017. "Homonegativity in Southeast Asia: Attitudes Toward Lesbians and Gay Men in Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam." *Asia-Pacific Social Science Review* 17 (1): 25–33.
- Martins, Russell S, Raisa Saleh, Hasan Kamal, Mishal Gillani, Asma A H Merchant, Muhammad M Munir, Hamza M Iftikar, et al. 2020. "The Need for Transgender Healthcare Medical Education in a Developing Country." *Advances in Medical Education and Practice* 11 (June): 405–13. <https://doi.org/10.2147/AMEP.S255483>.
- Nolan, Ian T, Gaines Blasdel, Samuel N Dubin, Laura G Goetz, Richard E Greene, and Shane D Morrison. 2020. "Current State of Transgender Medical Education in the United States and Canada: Update to a Scoping Review." *Journal of Medical Education and Curricular Development* 7: 2382120520934813. <https://doi.org/10.1177/2382120520934813>.
- Obedin-Maliver, Juno, Elizabeth S. Goldsmith, Leslie Stewart, William White, Eric Tran, Stephanie Brenman, Maggie Wells, David M. Fetterman, Gabriel Garcia, and Mitchell R. Lunn. 2011. "Lesbian, Gay, Bisexual, and Transgender-Related Content in Undergraduate Medical Education." *JAMA* 306 (9): 971–77. <https://doi.org/10.1001/jama.2011.1255>.

- Peacock, Janet, and Philip Peacock. 2011. *Oxford Handbook of Medical Statistics*. New York: Oxford University Press.
- Powell, Alvin. 2018. "Health Care Providers Need Better Understanding of LGBTQ Patients, Harvard Forum Says." *Harvard Gazette*, March 23. <https://news.harvard.edu/gazette/story/2018/03/health-care-providers-need-better-understanding-of-lgbtq-patients-harvard-forum-says/>.
- United Nations Development Programme, and United States Agency for International Development. 2014. "Being LGBT in Asia: Viet Nam Country Report." *United States Agency for International Development*. <https://www.usaid.gov/document/being-lgbt-asia-vietnam-country-report-vietnamese-language>.
- UNAIDS. n.d. "Hiểu về Dịch HIV." <http://unaids.org.vn/hieu-ve-dich-hiv/>.
- Vijay, Aishwarya, Valerie A. Earnshaw, Ying Chew Tee, Veena Pillai, Jaclyn M. White Hughto, Kirsty Clark, Adeeba Kamarulzaman, Frederick L. Altice, and Jeffrey A. Wickersham. 2018. "Factors Associated with Medical Doctors' Intentions to Discriminate Against Transgender Patients in Kuala Lumpur, Malaysia." *LGBT Health* 5 (1): 61–68. <https://doi.org/10.1089/lgbt.2017.0092>.
- Wilson, Christina K., Lindsey West, Lara Stepleman, Margo Villarosa, Brittany Ange, Matthew Decker, and Jennifer L. Waller. 2014. "Attitudes Toward LGBT Patients Among Students in the Health Professions: Influence of Demographics and Discipline." *LGBT Health* 1 (3): 204–11. <https://doi.org/10.1089/lgbt.2013.0016>.

ACKNOWLEDGEMENTS

The research team would like to thank Hanoi Medical University, the Vietnam Fulbright Scholarship program, the HMU student union and its leader, Nguyen Nam Khanh, his assistant, Cao Thuy Anh, as well as the following students for facilitating the data collection and data entry processes: Dang Thi Van Anh, Dinh Thi Anh Duong, Nong Bich Hiep, Hoang Thu Uyen, Le Thi Thu Trang, Dam Trong Anh Vu, and Anisa Mughal. We would also like to thank Oregon Health and Science University librarian, Laura Zeigan, for her support during the revision process.