THE ROLE OF STIGMA AND DISCRIMINATION IN HEALTH CARE UTILIZATION AND HIV RISK AMONG TRANSGENDER ADULTS

by
Tonia Poteat

A dissertation submitted to Johns Hopkins University in conformity with the requirements for the degree of Doctor of Philosophy

Baltimore, Maryland
May 2012

© 2012 Tonia Poteat
All Rights Reserved

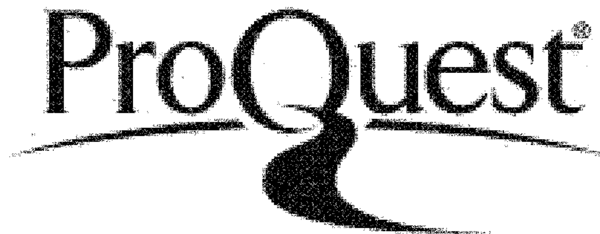
UMI Number: 3533296

All rights reserved

INFORMATION TO ALL USERS
The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript
and there are missing pages, these will be noted. Also, if material had to be removed,
a note will indicate the deletion.

UMI 3533296
Published by ProQuest LLC 2012. Copyright in the Dissertation held by the Author.
Microform Edition © ProQuest LLC.
All rights reserved. This work is protected against
unauthorized copying under Title 17, United States Code.



ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

DISSERTATION ABSTRACT

Background

Transgender people experience pervasive stigma and discrimination, factors known to be associated with health disparities. Transgender people also bear a disproportionate burden of HIV and have poorer access to health care than the general population. However, little is known about the nature of transgender discrimination and its impact on health. This dissertation aims to: (1) develop a transgender discrimination scale, (2) test associations between transgender discrimination and health, and (3) explore manifestations of stigma in health care encounters.

Methods

Data from 5,949 respondents to the National Transgender Discrimination Survey was used to develop and psychometrically test the Experiences of Transgender Discrimination Scale. This scale was used in bivariate and logistic regression models to analyze the relationship between transgender discrimination and three outcomes: knowledge of HIV status, HIV positivity, and health care utilization. Additionally, in-depth interviews were conducted with a purposive sample of 55 transgender individuals and 12 health care providers. These interviews were analyzed using Grounded Theory methods.

Results

Factor analysis supported a two-dimensional scale including a 10-item Institutional Discrimination subscale and an 11-item Interpersonal Discrimination sub-scale. Cronbach's alpha coefficient of 0.81 indicated good internal consistency. Construct validity was supported by significant correlations in hypothesized directions with external items. In bivariate analysis, scores on the Experiences of Transgender Discrimination sub-scales were significantly associated with lack of health care utilization for transgender men and with HIV positivity for transgender women. In multivariable models controlling for race, age, education, income, employment, insurance, history of sex work, and family support, experiences of transgender

discrimination remained significantly associated with knowledge of HIV status among transgender women only. Lack of training in transgender health care leaves most medical providers unprepared for these patients. This uncertainty upsets the typical power relationship between provider and patient. Interpersonal stigma functions to reinforce the power and authority of the medical provider.

Conclusions

Addressing the stigma and discrimination faced by marginalized groups is necessary in order to eliminate health disparities. Understanding how stigma functions, being able to measure it, and examining its health effects will facilitate the development and evaluation of effective interventions to improve population health.

Committee Chair:

Janice Bowie, PhD, MPH

Dissertation Advisor:

Deanna Kerrigan, PhD, MPH

Thesis Readers:

Peter Winch, MD, MPH

Jeannie Leoutsakos, PhD, MHS

Homayoon Farzadegan, PhD (alternate)

Asha George, PhD, MSc (alternate)

ACKNOWLEDGMENTS

There are many people and institutions to recognize and thank for their contributions to this dissertation. My deepest gratitude goes to all of the study participants who gave of their time, knowledge, and energy to guide my good intentions toward right action. I am especially indebted to the community advisory board members, Asa Keiswetter, Remy Roque, Jai Brooks, Owen Smith, Sandy Rawls, and Donna Plasmadon for their efforts on behalf of this study. Jean Michel Brevelle welcomed me with open arms onto the Maryland Department of Health's Transgender Response Team where I connected with an amazing community of people dedicated to health and justice. Their presence inspired and motivated me when I got weary. The quantitative components of my dissertation would not have been possible without the generosity of the National Center for Transgender Equality and the National Gay and Lesbian Task Force who shared their precious data with me.

My doctoral training and research have been supported by several institutions to which I am very grateful. Dr. Joanne Katz's Institutional National Research Service Award grant (T32HD046405) supported my first three years of doctoral study, when I gained the skills and knowledge necessary to undertake this study. My dissertation research was made possible by grants from the Hopkins Center for Public Health and Human Rights as well as the Hopkins Center for Health Disparities Solutions. Support from the Summer Institute in LGBT Population Health, under Award Number R25HD064426 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD), made it possible for me to dedicate an entire uninterrupted month advancing my quantitative skills and working with others who had similar passions during the LGBT Population Center Summer Institute on Population Health. Finally, the National Organization for Lesbian and Gay Scientists and Technical Professionals provided funding that supported my final academic term and allowed me the freedom to write without working.

I will be eternally grateful to Danielle German who helped me develop a vague idea into a real project. Her patience, focused insight, and commitment to the well-being of marginalized communities served as guiding lights for me throughout the dissertation process. Each one of my committee members holds a special place in my landscape of gratitude. As my advisor, Deanna Kerrigan has kept me on track from the proposal to the project and the trickiest of turns from the research data to the writing. I am inspired by her abiding respect for community and her justice-centered approach to research. Peter Winch's unwavering belief in my ability to do anything I wanted has allowed me the freedom to pursue a line of research that many others would have dismissed. I am grateful for Janice Bowie's pragmatism, emotional support, and willingness to step into new territory. Many thanks go to Jeannie Leoutsakos for helping me to navigate a maze of psychometric methods. As my faculty advisor for the first two years at Hopkins and member of my preliminary orals committee, Joel Gittelsohn has been an integral part of helping me to learn the qualitative methods used in this study. Chris Beyrer and Stefan Baral have inspired me with their tireless work to further health and human rights around the globe. I am deeply grateful to Stefan for his mentorship and support as I ventured into my very first international research project. Thank you for showing me how to do research that respects communities and advances human rights.

During the majority of my time at Hopkins, I also worked as a clinician at Chase Brexton Health Services, a federally qualified community health center with a mission to serve the LGBT community. The chief medical officer, Eva Hersh is a nationally recognized expert in transgender health and provided invaluable support and insight for this study. My work at the clinic enhanced my credibility in the transgender community in Baltimore and provided me with insights otherwise unattainable. My co-workers and supervisors were unwaveringly supportive of my academic endeavors and were invaluable in helping me to recruit participants.

I was incredibly fortunate to have Julie Rwan as my research assistant for this project. Her knowledge of and comfort with trans communities was a rare treasure. It was almost too

good to be true that she was also so reliable, competent, and personable. Her knowledge of the secret abilities of Google calendar and Google voice kept the project going.

I am so grateful to Amy Patterson for suggesting that I apply to Hopkins and encouraging me to accept. My life has been forever changed by this decision. Anna McCrerey's unstoppable energy and enthusiastic welcome helped me to feel at home in Baltimore from the moment I arrived. She was the first person to assure me that I would do my dissertation on transgender health, and believed it even when I could not see a way to make it happen. I cannot imagine the past four years without the camaraderie and encouragement of my cohort, Namrita Singh, Robert Dreibelbis, and Preety Gadhoke. Thank you so much for your energy and antics, and for sharing the doctoral ride. Caitlin Kennedy and Morgan Philbin have been my steadfast running partners over the years and have listened to many stories of struggle and triumph in this process. I'm so grateful for their encouragement to move away from the laptop and sweat a little. Sabriya Linton, Sean Evans and Amber Summers have become dear friends over the years. They have laughed with me and helped me retain my sanity over many a delicious meal.

Words cannot express the gratitude I feel for my parents who have supported my educational pursuits from the moment I was born. They have profoundly impacted the person I've become and the scholar I hope to be. I credit my father with my lasting desire to travel and explore the world around me. I thank my mother for instilling in me a belief in social justice and providing an example of what it means devote one's life to helping others. Last, but definitely not least, I'd like to thank Jennifer Johnsen who held me when I was too tired to stand, fed me when I was too tired to cook, and encouraged me when I didn't think I could do it anymore. Thank you for being there through the toughest of times. I look forward to less work and more play in the future!

TABLE OF CONTENTS

Abstract ii

Acknowledgements iv

Table of Contents vii

List of Tables ix

List of Figures x

Introduction 1

Background 1

Study Aims 8

Theoretical Framework 8

Methods 13

References 16

Manuscript One: Development of the Experiences of Transgender Discrimination Scale 20

Abstract 21

Introduction 23

Methods 26

Results 32

Discussion 37

References 44

Manuscript Two: Relationships between Experiences of Transgender Discrimination, HIV, and Health Care Utilization 46

Abstract 47

Introduction 49

Methods 50

Results 52

Discussion 56

References 67

Manuscript Three: Manifestations of Stigma: Establishing Authority in Transgender Health Care Encounters 68

Abstract 69

Introduction 71

Background 72

Methods 76

Results 80

Discussion 87
References 93
Discussion 95
Appendix A. 97
Appendix B. 99
Curriculum Vita 105

LIST OF TABLES

Manuscript One: Development of the Experiences of Transgender Discrimination Scale

Table 1: Characteristics of the study population (N =5949) 41

Table 2: Promax factor loadings for items in initial exploratory factor analysis (N=2975) 42

Table 3: Model Fit Statistics for Confirmatory Factor Analysis (N=2974) 43

Table 4: Experiences of Transgender Discrimination scale items, factor loadings, and item-total correlations (N=2974) 43

Table 5: Pearson correlations between each subscale and each validity item (N=2974) 43

Manuscript Two: Relationships between Experiences of Transgender Discrimination, HIV, and Health Care Utilization

Table 6: Demographics and Descriptive Statistics of study population (N=5949) 61

Table 7: National Transgender Discrimination Survey Discrimination Experiences of study population (N=5949) 62

Table 8: Bivariate Associations between Covariates and Transgender Discrimination (N=5949). 63

Table 9: Bivariate Associations between Covariates and Outcome variables (N=5949) 64

Table 10: Adjusted Odds Ratios for Outcomes among Transwomen (N=3695) 65

Table 11: Adjusted Odds Ratios for Outcomes among Transmen (N=2254) 66

Manuscript Three: Manifestations of Stigma: Establishing Authority in Transgender Health Care Encounters

Table 12: Examples of interpersonal stigma and discrimination in health care encounters...... 91

LIST OF FIGURES

Introduction

Figure 1: Theoretical Framework Informing Dissertation Research 12

Manuscript Three: Manifestations of Stigma: Establishing Authority in Transgender Health Care Encounters

Figure 2: Establishing Authority in Transgender Health Care Encounters 92

"If you have come here to help me, you are wasting your time. But if you have come because your liberation is bound up with mine, then let us work together." -- Lilla Watson

"We are each other's business; we are each other's harvest; we are each other's magnitude and bond." -- Gwendolyn Brooks

INTRODUCTION

Background

Transgender is an umbrella term often used to describe people whose gender identity differs from their birth sex (Johnson, Mimiaga, & Bradford, 2008). In this dissertation, the term "transwomen" refers to individuals who were identified as male at birth but who identify as female (also known as male-to-female or MTF). Transmen refers to people who were born female but who identify as male (also known as female-to-male or FTM). Due to overlapping histories, identities, and a shared experiences of stigma and discrimination, transgender issues are frequently linked with those of lesbian, gay, and bisexual individuals (Valentine, 2007).

In 2010, at the request of the National Institutes of Health (NIH), the Institute of Medicine (IOM) convened a committee to assess the current state of knowledge about the health of lesbian, gay, bisexual, and transgender (LGBT) people, as well as to identify research gaps, and create a research agenda that could guide NIH in enhancing and focusing its research in this area. In their report entitled, *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*, the committee highlighted the need for more research on transgender-specific health needs as well as the social influences on the lives of LGBT people and inequities in health care (Institute of Medicine, 2011). Importantly, the committee noted,

> *While the experience of stigma can differ across sexual and gender minorities, stigmatization touches the lives of all these groups in important ways and thereby affects their health. In contrast to members of many other marginalized groups, LGBT individuals frequently are invisible to health care researchers and providers. . .this invisibility often exacerbates the deleterious effects of stigma. Overcoming this invisibility in health care services and research settings is a critical goal if we hope to eliminate the health disparities discussed throughout this report.*

Problem Statement

Transgender people in the U.S. face pervasive violence, stigma, and discrimination. The results of two needs assessments of transgender people in Philadelphia found high rates of

violence (G. P. Kenagy, 2005). More than half of study respondents had been forced to have sex and 56% experienced violence in their own homes, compared to 33% of women in the general population who are raped in their lifetime and 25% of women and 7.6% of men who are victims of domestic abuse (Tjaden & Thoennes, 2000). A 2005 study of transgender people of color in Washington, DC found that 43% of the 248 respondents had been victims of violent crime, including 13% who had been sexually assaulted (Jessica M. Xavier, Bobbin, Singer, & Budd, 2005). A study of 402 transgender individuals published in 2001 found that over half of the respondents reported experiencing harassment or violence at some time in their lives and 25% reported experiencing a violent incident (Lombardi, Wilchins, Priesing, & Malouf, 2001). This study also noted that respondents who had experienced economic discrimination based on gender identity were also more likely to have experienced a transgender-related violent incident.

In the first national effort to document discrimination against transgender people, the National Center for Transgender Equality and the National Gay and Lesbian Task Force surveyed 6,456 transgender people during 2009 (Grant et al., 2011). Respondents reported 13% unemployment, twice the national average at the time of the survey. Black, Latino, and multiracial respondents fared even worse with unemployment rates of 26%, 18% and 17% respectively. Almost half of respondents reported having been fired, not hired, or denied a promotion because of their gender identity. One-quarter reported losing their jobs due to their gender identity or expression compared to 5.6% of the general population who have reported being fired for reasons of discrimination based on race, age or gender (Kessler, Mickelson, & Williams, 1999). Again, respondents of color fared worse, with 32% of Black and 37% of multiracial respondents reporting being fired. Employment discrimination had a noticeable impact on health care access. While respondents in this study were uninsured at the same rate as the general population in the U.S. (19%), only 40% of the sample had employer-based insurance, compared to 62% of the population at large.

Stigma and discrimination are known determinants of poor health, having been associated with mental health problems, substance abuse, and HIV (Kessler, et al., 1999; N. Krieger, 1999; B. G. Link & Phelan, 2006). The stigma and discrimination that transgender people routinely face have been posited as social determinants of reduced access to health care as well as increased prevalence of HIV (Clements-Nolle, Marx, Guzman, & Katz, 2001; De Santis, 2009; G. Kenagy, 2005 ; Lombardi, et al., 2001; Tooru Nemoto, Don Operario, & JoAnne Keatley, 2005; Risser et al., 2005).

Access to care

Access to health care remains a leading indicator of the nation's health as described in *Healthy People 2020*, the government document that set goals for the health of Americans from the years 2010- 2020 (Healthy People Consortium). Access has been defined as the actual use of health services and everything that facilitates or impedes its use (Andersen & Davidson, 2001). It means not only seeing a health care provider but also getting appropriate services that promote improved health outcomes. The most recent national data from 2010 found that 82% of Americans have access to a usual source of care, compared to the goal of 100% (Healthy People Consortium). Among a sample of 182 transgender persons in Philadelphia, one-third reported having no primary care physician and one quarter had no access to general medical care (G. P. Kenagy, 2005). When examined by gender trajectory, 43% of male-identified (female-to-male or transmen) transgender persons had no access to care compared with 14% of female-identified (male-to-female or transwomen) persons. One in four respondents had been denied medical care just because they were transgender.

Even when transgender people are able to see a medical provider, the care they receive is often less than ideal. A statewide needs assessment survey in Virginia (J.M Xavier, Hannold, Bradford, & Simmons, 2007) found that 46% of transgender respondents had to educate their regular doctors about their health care needs as a transgender person. Twenty-four percent reported that they had experienced discrimination by a doctor or other health care provider due

to their transgender status or gender expression. As a result of poor access and discrimination, half of the hormone-experienced participants had obtained their hormones from someone other than a doctor, and nearly 46% of them had injected themselves with hormones or received a hormone injection from someone other than a doctor or nurse, including 71% of FTMs and 37% of the MTFs.

Recently, Lambda Legal conducted the first survey that examined refusal of care and barriers to health care among LGBT and HIV communities on a national scale (Lambda Legal, 2010). The final report, *When Health Care Isn't Caring*, documents findings from 4,916 survey respondents across the U.S. Eight percent of this sample (n=397) identified as transgender. Seventy percent of transgender respondents reported experiencing discrimination in health care, including medical providers who refused to touch them, blamed them for their health problems, used harsh language, and were physically rough with them. Almost 27% of respondents reported being denied care entirely. Over half of transgender and gender-nonconforming respondents reported a high degree of anticipation that they would face discriminatory care. This anticipation of discrimination served as a barrier to seeking care. Almost 86% of transgender respondents indicated that overall community fear or dislike of people like them was a barrier to care. Ninety percent of transgender respondents felt that there were not enough medical personnel who were properly trained to care for them. For every category of discrimination described in the report, people of color respondents were more likely than their white counterparts to experience discrimination and substandard care.

Published literature on the specific health care experiences and health care utilization of FTM individuals is scarce and conflicting. One study of 122 FTMs found high rates of health care access, utilization, and satisfaction (Rachlin, Green, & Lombardi, 2008). However, study participants were recruited from peer support groups and a national FTM conference, suggesting that the sample may have had well-connected social networks through which they could access appropriate and affirming health care resources. A national internet survey of 384

FTM respondents found that 17% of them reported experiencing discrimination from a health care provider while 72% reported delays in seeking care due to fear of discrimination (Newfield, Hart, Dibble, & Kohler, 2006).

One qualitative study has been published describing access to care for transgender people in Boston. Sperber et al. conducted focus groups for each of four different transgender-identified groups: adult transwomen, adult transmen, young transwomen and young transmen (<25 years old) (Sperber, Landers, & Lawrence, 2005). Participants reported that some health care providers blatantly refused to see them and others refused to call them by the appropriate name or pronoun. They also discussed lack of provider knowledge about transgender health issues such as hormone use, appropriate HIV prevention counseling, and sexual and reproductive health. Medical and mental health providers often referred to transgender issues in unrelated health care situations. Health issues of concern for study participants included HIV/AIDS but also general primary care and hormone-related care.

Limited literature exists that suggests access to primary health care mitigates some of the health risks faced by transgender people. Sanchez et al. (Sanchez, Sanchez, & Danoff, 2009) investigated health care utilization, barriers to care, and hormone use among male-to-female transgender persons residing in New York City. They conducted interviews with 101 male-to-female transgender persons from three community health centers. Most participants reported having health insurance (77%) and seeing a general practitioner in the past year (81%). Even among this sample with a high level of access, over 25% of participants perceived the paucity of transgender-friendly and transgender-knowledgeable providers as a barrier to care. Being under a physician's care was significantly associated with a reduction in high-risk behaviors, including smoking cessation and obtaining needles and hormones from a licensed physician.

Based on this review of the literature, none of the published studies used a validated scale to measure the concept of transgender-specific discrimination. The lack of a consistent measure makes it both difficult to compare studies and to measure any changes in the

experiences of discrimination as a result of changes in policies or practices affecting transgender populations. Importantly, none of these studies have quantitatively assessed the relationship between discrimination and health care access/utilization using a large national sample of transgender people, therefore limiting the potential generalizability of the results.

HIV

Transgender people face marked disparities in HIV. The largest systematic review of HIV among transgender people found a high prevalence of risk behaviors and infection (Herbst et al., 2008). Herbst and colleagues performed a meta-analysis of studies on HIV risk of both transwomen and transmen and found an estimated prevalence of HIV infection of 28% among female-identified transgender people in the United States (Herbst et al., 2008) . Among African-Americans, the prevalence was twice as high (56%). The systematic review found only five studies that included data on HIV prevalence among transmen. Self-reported HIV prevalence in this group ranged from 0 – 3%. The one study in the meta-analysis that provided HIV test results found a prevalence of 2% (Clements-Nolle, et al., 2001). While this proportion is dramatically lower than what has been found among transwomen, it is almost four times higher than the 0.6% estimate for the general adult U.S. population (UNAIDS, 2009) .

After this meta-analysis was published, another study of HIV prevalence was conducted among self-identified transgender people attending an STD clinic. Stephens et al. (2010) found that 11% of the transwomen and 10% of transmen were HIV-infected. HIV prevalence was virtually identical, despite demographic and behavioral risk differences between the male-identified and female-identified participants (Stephens, Bernstein, & Philip, 2010). These surprising findings suggest that traditional risk factors may be inadequate to explain high HIV prevalence among transgender populations.

In the Herbst meta-analysis (Herbst, et al., 2008), many transwomen (27-48%) reported engaging in risky sexual behaviors. Their analysis found that contextual factors related to increased HIV risk included social isolation, economic marginalization, and unmet transgender-

specific healthcare needs. Similarly, a small qualitative HIV needs assessment conducted in Minnesota identified transgender-specific risk factors, including shame and isolation, search for gender affirmation, and sharing needles while injecting hormones (Bockting, Robinson, & Rosser, 1998). In this study, transwomen focus group participants described a sense of being isolated from and rejected by society. The shame and pain involved often led to substance use and a loss of sexual inhibitions. They also described getting involved in sex work both for gender confirmation ("If you can attract a man who will pay you to have sex, you're beautiful") and to pay for hormones and silicone injections which frequently were purchased through underground sources. Subsequent qualitative and quantitative studies have confirmed these issues as common HIV risk factors for transgender women (Melendez & Pinto, 2007; T. Nemoto, D. Operario, & J. Keatley, 2005; Sevelius, Reznick, Hart, & Schwarcz, 2009). Among transgender women in primary relationships with male partners, perceived discrimination was significantly associated with unprotected sex(Operario, Nemoto, Iwamoto, & Moore, 2010).

In summary, the scientific literature provides a solid body of evidence that transgender women are disproportionately impacted by HIV, and this impact is even greater for transgender women of color. In addition, transgender people experience significant stigma, discrimination and barriers to accessing health care. High risk for HIV makes access to care even more critical for this population. Studies among people with HIV have found that people who reported experiencing stigma were three to four times as likely to report poor access to care compared to those who did not, even after controlling for socio-demographic factors (Kinsler, Wong, Sayles, Davis, & Cunningham, 2007; Sayles, Wong, Kinsler, Martins, & Cunningham, 2009).

One goal of *Healthy People 2020* is to eliminate health disparities, including differences that occur by gender and sexual orientation (Healthy People Consortium). In order to eliminate the disparities faced by transgender people, it is important that we understand the determinants of those disparities. *Healthy People 2020* points out that individual characteristics interact with social, physical, and political environments to have a profound effect on health. It

further asserts that expanding access to quality health care is important to eliminate health disparities and to increase the quality and years of life for all Americans. Thus, an analysis of the social structures and institutional contexts in which transgender people may or may not access health care and/or face risks for HIV is critical to the creation of structural changes needed to improve the health of this population and reduce inequities in our health system.

Study Aims

The research project was designed to address gaps in knowledge about the relationship between stigma and discrimination and health among transgender people in the United States. Multiple methods were used to examine how stigma and discrimination affect HIV and health care access/utilization for transgender adults. The specific aims include the following: (1) to develop a valid quantitative measure of transgender specific discrimination; (2) to quantitatively assess the relationship between experiences of discrimination, health care utilization, and HIV among transgender adults; and (3)to qualitatively explore how stigma and discrimination manifest during health care encounters between transgender patients and medical providers.

Theoretical Framework

This research project is based in a social ecological framework that considers multiple levels of influence on health, including the larger contexts within which health behavior takes place. The social and structural factors that determine population health can be understood as "social facts" as originally conceptualized by the sociologist, Emile Durkheim. Durkheim's construct of social facts includes social structures (such as medical institutions, religious institutions, legal institutions), cultural norms, and values that exist outside of any one individual, yet shape individual behavior (Durkheim, 1982). Health and health behavior are constrained by social facts also known as social determinants of health. The interactions between social context and health also have been theorized and described well beyond the field of sociology. Medical anthropologists such as Leatherman (Leatherman, Goodman, & Thomas, 1993), Armelagos et al. (Armelagos, Leatherman, Ryan, & Sibley, 1992), and Baer (Baer,

1996) have argued for consideration of the political and social environment on health within their discipline. In the field of public health, Nancy Krieger, among others, has published extensively on the impact of social context and inequalities on health (Nancy Krieger, 1994; N. Krieger, 1999; Nancy Krieger, 2001). Link and Phelan have demonstrated that advances in medical knowledge have improved health only for those with social and economic resources (Phelan & Link, 2005; Phelan, Link, Diez-Roux, Kawachi, & Levin, 2004).

Social Ecological Models

Researchers within the field of HIV prevention have argued for models that go beyond the individual level (Sweat & Denison, 1995). McElroy and colleagues have (McLeroy, Bibeau, Steckler, & Glanz, 1988) described a multilevel model for factors that influence health behavior, including: 1) intrapersonal factors such as knowledge, attitudes, behavior, self-concept, and skills, 2) interpersonal processes such as social networks and social support systems, 3) institutional factors, i.e. social institutions with organizational characteristics and both formal and informal rules and regulations for operation, 4) community factors such as relationships among organizations, institutions, and informal networks within defined boundaries, and 5) structural factors including public policy, local, state, and national laws. These five levels form a theoretical framework that goes beyond the individual perspective.

Thus, this study is grounded in the assumption that, while individuals have agency, macro-social factors such as institutionalized stigma and discrimination shape the knowledge and choices available to them and serve as fundamental causes of disease (B. G. Link & Phelan, 1995). Given this foundation, multilevel ecological models provide the most appropriate framework for this research. This study will investigate health care utilization and HIV risk for transgender people using a multi-level framework that focuses on the institutional and interpersonal levels but also considers other levels. In particular, the role of stigma and discrimination as determinants of health will be examined.

Stigma and Discrimination as Social Determinants

Stigma and discrimination function as social determinants that affect opportunities and constraints placed on individual behavior. The seminal work on stigma was published by social psychologist Erving Goffman in 1963. In his book, *Stigma: Notes on the Management of Spoiled Identity*, he defines stigma as a relationship between attributes (i.e. characteristics of a person) and stereotypes about those attributes (Goffman, 1963). That is, an attribute only becomes stigmatized when it is interpreted through a negative association with that attribute. It is through this interpretative social relationship that certain human differences become labeled as negative and thereby stigmatized. In this way, stigma is not a characteristic of a person, rather it is the relationship between an individual or group's attributes and society's negative interpretation of these attributes.

More recently, some public health researchers have re-conceptualized stigma to take into account the relationships between stigma, power, and social inequality (Link & Phelan, 2001; Link & Phelan, 2006; Parker & Aggleton, 2003; Phelan, Link, & Dovidio, 2008). They point out that despite Goffman's original conceptualization of stigma as relational, most of the subsequent health research on stigma has interpreted it very individualistically and ignored the role of structural power. In order to correct for this, Link and Phelan (Bruce G. Link & Phelan, 2001) assert that stigma includes not only labeling and stereotyping, but also devaluation and discrimination that leads to unequal outcomes. They emphasize that those who enact stigma must have access to social, economic, and political power that allows for full execution of their disapproval, rejection, exclusion, and discrimination. Rather than being a separate concept from stigma, discrimination is simply an enactment of the struggle for power and privilege that stigma embodies.

Parker and Aggleton (2003) have put forth a conceptual framework for HIV and AIDS-related stigma and discrimination that incorporates the role of power and domination. They state:

> *In our view, stigma plays a key role in producing and reproducing relations of power and control. It causes some groups to be devalued and others to feel that they are superior in some way. Ultimately, therefore, stigma is linked to the workings of social inequality and to properly understand issues of stigmatization and discrimination, whether in relation to HIV and AIDS or any other issue, requires us to think more broadly about how some individuals and groups come to be socially excluded, and about the forces that create and reinforce exclusion in different settings.* (p. 16)

Thus, stigma and discrimination determine opportunities and constraints not only through impacts at the intra- and interpersonal level but also at the structural level through social exclusion (Caceres, Aggleton, & Galea, 2008; Popay et al., 2008). The term 'social exclusion' describes devaluation and disenfranchisement experienced by certain groups within society (Caceres, et al., 2008). Those who are socially excluded are ascribed little social value. They are marginalized economically, politically and socially such that they are not afforded the opportunities available to others in society, including access to health care. The social exclusion of transgender people has been described both internationally and in North America (Bauer et al., 2009; Khan et al., 2009; Khosla, 2009; Namaste, 2000). As social structures, health care institutions are complicit in the reification of social hierarchies, including those associated with institutionalized stigma and discrimination.

Corrigan et al.(2004) have described a model that links the source of stigma, i.e. macro level discrimination, to the impact of stigma, i.e micro level lost opportunities (Corrigan, Markowitz, & Watson, 2004). Based on this model, structural stigma and discrimination may intentionally or unintentionally contribute to self-stigmatizing attitudes that lead to increased HIV risk through depression and substance use (Burgess, Tran, Lee, & van Ryn, 2007; Clements-Nolle, Marx, & Katz, 2006; Gonzalez, 2008; Nuttbrock et al., 2010; Reisner, Perkovich, & Mimiaga, 2010), as well as increased attempts to affirm gender identity through illicit hormone use, silicone injections, and sexual behavior (Garofalo, Deleon, Osmer, Doll, &

Harper, 2006; Lawrence, Meyer, & Northridge, 2007; Jessica M. Xavier, et al., 2005). Institutional stigma and discrimination also leads to lost opportunities for access to appropriate health care due to under-employment, under-insurance, explicit exclusion of transgender-specific care from health policies, as well as health care provider ignorance and discrimination (Lambda Legal, 2010).

Conceptual Model

The conceptual model for this study (Figure 1) draws on the multi-level structure of both McLeroy's (McLeroy, et al., 1988) ecological model and Corrigan's (Corrigan, et al., 2004) multi-level model of stigma and discrimination.

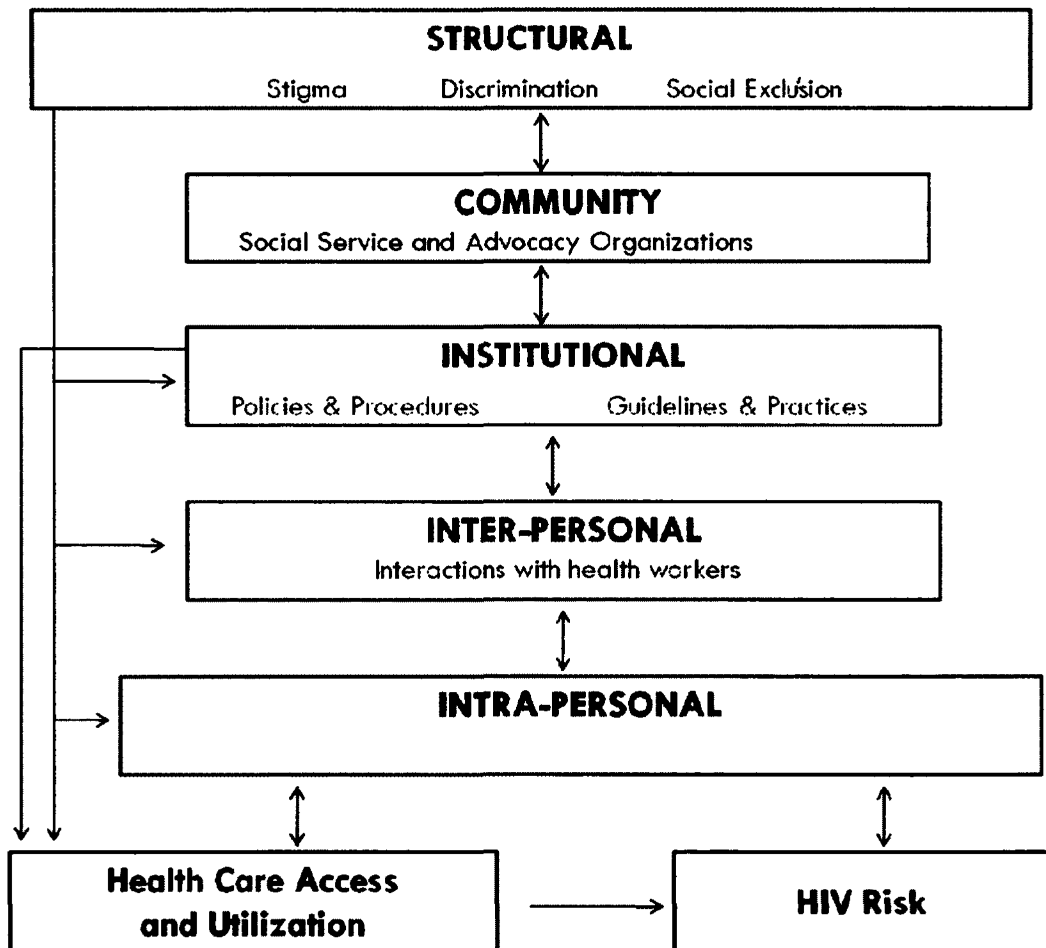


Figure 1: Theoretical Framework informing Dissertation Research

Implicit to this model is an understanding of stigma and discrimination as social forces that determine opportunities and constraints by reinforcing power and domination at both the interpersonal and the institutional level. Stigma, discrimination, and social exclusion of transgender people are culturally embedded throughout society. This societal stigma affects the content of institutional policies, procedures, and guidelines as well as the norms and practices of health workers within that institution. At the same time, both structural and institutional stigma impact individual behaviors such as substance abuse, injecting behaviors, sexual behaviors, and gender conforming behaviors. In addition, stigma has direct psychological impact, affecting the mental health of transgender people. Together these factors serve as constraints on the opportunities for health care and HIV prevention in this population.

Methods

Multiple methods were used to examine stigma and discrimination and health among transgender populations. Quantitative methods were used to develop a valid instrument to measure transgender specific discrimination and to test relationships between discrimination and HIV and health care utilization. Qualitative methods were used to explore the role of stigma in health care encounters with transgender people.

Quantitative

Data from 5,949 trans-identified participants in the National Transgender Discrimination Survey (NTDS) was used for development of the Experiences of Transgender Discrimination Scale (ETD). Fifty-eight items from the NTDS were considered for the initial item pool for the ETD: 19 employment items, 14 healthcare items, 12 public accommodation items, 6 education items, 4 housing items, and 3 police items. Twelve items were excluded because the response was "not applicable" for more than half of the study sample. Summary variables were created for several public accommodations items as well as for several education items. Thus, 33 items were retained for use in subsequent psychometric testing.

Exploratory Factor Analysis on a tetrachoric correlation matrix was used to extract the initial factor structure using Mplus version 6.2 (Los Angeles, CA: Muthén & Muthén) with one half of the sample. Factor loadings, item-total correlations, and uniqueness estimates were used to select items for deletion. Confirmatory factor analysis was used on the second half of the sample to support model fit as well as measurement invariance by sex and race as well as survey administration mode. Cronbach's alpha was used to assess internal consistency of the scale. Pearson correlations between the ETD and 5 items on the NTDS were used to support external construct validity of the final scale.

Once the scale was developed, factor scores from the ETD subscales were exported from Mplus into Stata version 11 (StataCorp, College Station, TX) which was used for the remaining analyses. Descriptive statistics as well as bivariate associations between each of the independent covariates and the three health outcomes were examined. The Holm-Bonferroni method was used in the bivariate association tables in order to correct for multiple comparisons. Multiple logistic regression was used to model the relationship between transgender discrimination scores and each of the outcome variables while controlling for the other covariates.

Qualitative

A qualitative, Grounded Theory approach (Charmaz, 2006) was used to explore the process and function of stigma in health care interactions. Purposive sampling (Maxwell, 2005) was used to identify transgender participants and clinicians who provided medical care for transgender people. In-depth interviews were conducted with both transgender adults and health care providers from January 2011 to July 2011. Audio recordings were transcribed verbatim. Field notes were handwritten immediately after each interview and typed up after transcription was complete.

Inclusion criteria for transgender participants included being 18 years of age or older, residing in the local metropolitan area, and identifying as transgender or as a gender different

from their birth sex. One individual in-depth interview was conducted with each of the 55 transgender participants, including 25 transmen and 30 transwomen. Each interview lasted between 45 and 180 minutes with an average duration of 90 minutes. The interviews elicited detailed narratives of individual experiences and perceptions. Specifically, participants were asked about their family and social life, gender identity, sexual orientation and practices, health care experiences, as well as experiences of stigma and discrimination.

Inclusion criteria for each of the 12 health care providers were being at least 18 years of age, working in the metropolitan area, and having provided medical care to at least one transgender patient in the preceding year. Emails invitations were sent to potential participants, and those who expressed interest and who met the inclusion criteria were scheduled for interviews. Interviews with health care providers included questions about their personal history and clinical training as well as about their experiences providing care for transgender patients. Each interview lasted between 45 and 90 minutes with an average duration of 60 minutes.

Data for analysis took place using the software program Atlas.ti© (version 6.2, Scientific Software Development GmbH, Eden Prairie, MN). Open coding was conducted on 5 medical provider transcripts and 10 transgender transcripts chosen in such a way as to maximize variability in provider type and facility for medical providers, and to maximize variability in age, race, and gender for transgender participants. This process produced over 100 line-by-line codes. These codes were then collapsed into 30 broader codes that were used for focused coding of the remaining transcripts. After organizing codes into 5 categories, the coded text was extracted and read in multiple iterations using constant comparison techniques. Memos were used throughout to organize and document the analytic process.

References

Andersen, R. M., & Davidson, P. L. (2001). Improving access to care in America. In R. M. Andersen, T. H. Rice & G. F. Kominski (Eds.), *Changing the U.S. Health Care System: Key Issues in Health Services Policy and Management* (Third ed.). San Francisco: Jossey-Bass, Inc.

Armelagos, G. J., Leatherman, T., Ryan, M., & Sibley, L. (1992). Biocultural synthesis in medical anthropology. *Medical Anthropology: Cross-Cultural Studies in Health and Illness, 14*(1), 35 - 52.

Baer, H. A. (1996). Bringing political ecology into critical medical anthropology: A challenge to biocultural approaches. *Medical Anthropology: Cross-Cultural Studies in Health and Illness, 17*(2), 129 - 141.

Bauer, G. R., Hammond, R., Travers, R., Kaay, M., Hohenadel, K. M., & Boyce, M. (2009). "I don't think this is theoretical; this is our lives": how erasure impacts health care for transgender people. *J Assoc Nurses AIDS Care, 20*(5), 348-361.

Bockting, W. O., Robinson, B. E., & Rosser, B. R. S. (1998). Transgender HIV prevention: a qualitative needs assessment. *AIDS Care, 10*(4), 505-525.

Burgess, D., Tran, A., Lee, R., & van Ryn, M. (2007). Effects of perceived discrimination on mental health and mental health services utilization among gay, lesbian, bisexual and transgender persons. *J LGBT Health Res, 3*(4), 1-14.

Caceres, C. F., Aggleton, P., & Galea, J. T. (2008). Sexual diversity, social inclusion and HIV/AIDS. *AIDS, 22 Suppl 2*, S45-55.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage Publications Ltd.

Clements-Nolle, K., Marx, R., Guzman, R., & Katz, M. (2001). HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. *Am J Public Health, 91*(6), 915-921.

Clements-Nolle, K., Marx, R., & Katz, M. (2006). Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. *J Homosex, 51*(3), 53-69.

Corrigan, P. W., Markowitz, F. E., & Watson, A. C. (2004). Structural Levels of Mental Illness Stigma and Discrimination. *Schizophr Bull, 30*(3), 481-491.

De Santis, J. P. (2009). HIV infection risk factors among male-to-female transgender persons: a review of the literature. *J Assoc Nurses AIDS Care, 20*(5), 362-372.

Durkheim, E. (1982). *The Rules of the Sociological Method*. New York: Free Press.

Garofalo, R., Deleon, J., Osmer, E., Doll, M., & Harper, G. W. (2006). Overlooked, misunderstood and at-risk: exploring the lives and HIV risk of ethnic minority male-to-female transgender youth. *J Adolesc Health, 38*(3), 230-236.

Goffman, E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. New York: Simon & Schuster, Inc.

Gonzalez, C. A. (2008). *Gender roles, depression, and resilience within transgender male-to-female individuals: A mediation analysis*. ProQuest Information & Learning, US.

Grant, J. M., Mottet, L. A., Tanis, J., Harrison, J., Herman, J. L., & Keisling, M. (2011). *Injustice at Every Turn: A Report of the National Transgender Discrimination Survey*. Washington: National Center for Transgender Equality and National Gay and Lesbian Task Force.

Healthy People Consortium. *Healthy People 2020*. Retrieved from http://www.healthypeople.gov/2020/default.aspx.

Herbst, J. H., Jacobs, E. D., Finlayson, T. J., McKleroy, V. S., Neumann, M. S., & Crepaz, N. (2008). Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review. *AIDS Behav, 12*(1), 1-17.

Institute of Medicine. (2011). *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington, DC: The National Academies Press.

Johnson, C. V., Mimiaga, M. J., & Bradford, J. (2008). Health care issues among lesbian, gay, bisexual, transgender and intersex (LGBTI) populations in the United States: Introduction. *Journal of Homosexuality, 54*(3), 213-224.

Kenagy, G. (2005). Transgender health: findings from two needs assessment studies in Philadelphia. *Health Soc Work, 30*(1), 19-26.

Kenagy, G. P. (2005). Transgender health: findings from two needs assessment studies in Philadelphia. *Health Soc Work, 30*(1), 19-26.

Kessler, R. C., Mickelson, K. D., & Williams, D. R. (1999). The Prevalence, Distribution, and Mental Health Correlates of Perceived Discrimination in the United States. *Journal of Health and Social Behavior, 40*(3), 208-230.

Khan, S. I., Hussain, M. I., Parveen, S., Bhuiyan, M. I., Gourab, G., Sarker, G. F., et al. (2009). Living on the extreme margin: social exclusion of the transgender population (hijra) in Bangladesh. *J Health Popul Nutr, 27*(4), 441-451.

Khosla, N. (2009). HIV/AIDS interventions in Bangladesh: what can application of a social exclusion framework tell us? *J Health Popul Nutr, 27*(4), 587-597.

Kinsler, J. J., Wong, M. D., Sayles, J. N., Davis, C., & Cunningham, W. E. (2007). The Effect of Perceived Stigma from a Health Care Provider on Access to Care Among a Low-Income HIV-Positive Population. *AIDS Patient Care and STDs, 21*(8), 584-592.

Krieger, N. (1994). Epidemiology and the web of causation: Has anyone seen the spider? *Social Science & Medicine, 39*(7), 887-903.

Krieger, N. (1999). Embodying inequality: A review of concepts, measures, and methods for studying health consequences of discrimination. [Review]. *International Journal of Health Services, 29*(2), 295-352.

Krieger, N. (2001). Theories for social epidemiology in the 21st century: an ecosocial perspective. *Int. J. Epidemiol., 30*(4), 668-677.

Lambda Legal. (2010). *When Health Care Isn't Caring: Lambda Legal's Survey of Discrimination Against LGBT People and People with HIV*. New York: Lambda Legal.

Lawrence, A. A., Meyer, I. H., & Northridge, M. E. (2007). Transgender health concerns *The health of sexual minorities: Public health perspectives on lesbian, gay, bisexual, and transgender populations.* (pp. 473-505). New York, NY US: Springer Science + Business Media.

Leatherman, T. L., Goodman, A. H., & Thomas, R. B. (1993). On Seeking Common Ground between Medical Ecology and Critical Medical Anthropology. *Medical Anthropology Quarterly, 7*(2), 202-207.

Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *J Health Soc Behav, Spec No*, 80-94.

Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*, 363-385.

Link, B. G., & Phelan, J. C. (2006). Stigma and its public health implications. *Lancet, 367*(9509), 528-529.

Lombardi, E. L., Wilchins, R. A., Priesing, D., & Malouf, D. (2001). Gender violence: Transgender experiences with violence and discrimination. *Journal of Homosexuality, 42*(1), 89-101.

Maxwell, J. A. (2005). *Qualitative Research Design: An Interactive Approach* (Vol. 42). Thousand Oaks: Sage Publications.

McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An Ecological Perspective on Health Promotion Programs. *Health Education & Behavior, 15*(4), 351-377.

Melendez, R. M., & Pinto, R. (2007). 'It's really a hard life': love, gender and HIV risk among male-to-female transgender persons. *Cult Health Sex, 9*(3), 233-245.
Namaste, V. K. (2000). *Invisible Lives: The Erasure of Transsexual and Transgendered People*. London: The University of Chicago Press.
Nemoto, T., Operario, D., & Keatley, J. (2005). Health and social services for male-to-female transgender persons of color in San Francisco. *International Journal of Transgenderism, 8*(2/3), 5-19.
Newfield, E., Hart, S., Dibble, S., & Kohler, L. (2006). Female-to-male transgender quality of life. *Qual Life Res, 15*(9), 1447-1457.
Nuttbrock, L., Hwahng, S., Bockting, W., Rosenblum, A., Mason, M., Macri, M., et al. (2010). Psychiatric impact of gender-related abuse across the life course of male-to-female transgender persons. *J Sex Res, 47*(1), 12-23.
Operario, D., Nemoto, T., Iwamoto, M., & Moore, T. (2010). Unprotected Sexual Behavior and HIV Risk in the Context of Primary Partnerships for Transgender Women. *AIDS Behav.*
Parker, R., & Aggleton, P. (2003). HIV and AIDS-related stigma and discrimination: a conceptual framework and implications for action. *Social Science & Medicine, 57*(1), 13-24.
Phelan, J. C., & Link, B. G. (2005). Controlling disease and creating disparities: a fundamental cause perspective. *J Gerontol B Psychol Sci Soc Sci, 60 Spec No 2*, 27-33.
Phelan, J. C., Link, B. G., Diez-Roux, A., Kawachi, I., & Levin, B. (2004). "Fundamental causes" of social inequalities in mortality: a test of the theory. *J Health Soc Behav, 45*(3), 265-285.
Phelan, J. C., Link, B. G., & Dovidio, J. F. (2008). Stigma and prejudice: one animal or two? *Soc Sci Med, 67*(3), 358-367.
Popay, J., Escorel, S., Hernández, M., Johnston, H., Mathieson, J., & Rispel, L. (2008). *Understanding and Tackling Social Exclusion: Final Report to the WHO Commission on Social Determinants of Health.*
Rachlin, K., Green, J., & Lombardi, E. (2008). Utilization of health care among female-to-male transgender individuals in the United States. *J Homosex, 54*(3), 243-258.
Reisner, S. L., Perkovich, B., & Mimiaga, M. J. (2010). A Mixed Methods Study of the Sexual Health Needs of New England Transmen Who Have Sex with Nontransgender Men. *AIDS Patient Care STDS.*
Risser, J. M. H., Shelton, A., McCurdy, S., Atkinson, J., Padgett, P., Useche, B., et al. (2005). Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas. *International Journal of Transgenderism, 8*(2/3), 67-74.
Sanchez, N. F., Sanchez, J. P., & Danoff, A. (2009). Health care utilization, barriers to care, and hormone usage among male-to-female transgender persons in New York City. *Am J Public Health, 99*(4), 713-719.
Sayles, J. N., Wong, M. D., Kinsler, J. J., Martins, D., & Cunningham, W. E. (2009). The association of stigma with self-reported access to medical care and antiretroviral therapy adherence in persons living with HIV/AIDS. *J Gen Intern Med, 24*(10), 1101-1108.
Sevelius, J. M., Reznick, O. G., Hart, S. L., & Schwarcz, S. (2009). Informing Interventions: The Importance of Contextual Factors in the Prediction of Sexual Risk Behaviors among Transgender Women. *AIDS Educ Prev, 21*(2), 113-127.
Sperber, J., Landers, S., & Lawrence, S. (2005). Access to health care for transgendered persons: results of a needs assessment in Boston. *International Journal of Transgenderism, 8*(2/3), 75-91.
Stephens, S. C., Bernstein, K. T., & Philip, S. S. (2010). Male to Female and Female to Male Transgender Persons have Different Sexual Risk Behaviors Yet Similar Rates of STDs and HIV. *AIDS Behav.*

Sweat, M. D., & Denison, J. A. (1995). Reducing HIV incidence in developing countries with structural and environmental interventions. *AIDS, 9 Suppl A*, S251-257.

Tjaden, P., & Thoennes, N. (2000). *U.S. Department of Justice, NCJ 183781, Full Report of the Prevalence, Incidence, and Consequences of Intimate Partner Violence Against Women: Findings from the National Violence Against Women Survey.*

UNAIDS. (2009, December). Epidemiologic Fact Sheet on HIV and AIDS. Retrieved March 29, 2012, from http://www.unaids.org/en/CountryResponses/Countries/united_states_of_america.asp

Valentine, D. (2007). *Imagining Transgender: An Ethnography of a Category*. Durham: Duke University Press.

Xavier, J. M., Bobbin, M., Singer, B., & Budd, E. (2005). Needs assessment of transgendered people of color living in Washington, DC. *International Journal of Transgenderism, 8*(2), 31-47.

Xavier, J. M., Hannold, J. A., Bradford, J., & Simmons, R. (2007). The health, health-related needs, and lifecourse experiences of transgender Virginians Retrieved November 30, 2009, from http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/pdf/THISFINALREPORTVol1.pdf

MANUSCRIPT ONE:

Development of the Experiences of Transgender Discrimination Scale

Abstract

Background

Discrimination against transgender people has been repeatedly documented in the literature. Experiences of discrimination are known to have deleterious effects on mental and physical health. A valid measure of discrimination is essential to characterize and test associations between discrimination and health. A transgender-specific measure of discrimination currently does not exist in the literature. This analysis was used to develop and assess the psychometric properties of a new scale entitled Experiences of Transgender Discrimination (ETD), designed to measure experiences of discrimination specific to transgender-identified people in the United States.

Methods

Data from 5,949 participants in the National Transgender Discrimination Survey (NTDS) was used for scale development. Exploratory factor analysis on half of the sample was used to extract the initial factor structure. Factor loadings, item-total correlations, and uniqueness estimates were used to select items for deletion. Confirmatory factor analysis was used on the second half of the sample to support model fit as well as measurement invariance by sex and race as well as survey administration mode. Cronbach's alpha was used to assess internal consistency, and Pearson correlations were used to support external construct validity of the final scale.

Results

EFA supported the extraction of two distinct factors: A 10-item sub-scale of Institutional Discrimination and an 11-item sub-scale of Interpersonal Discrimination. CFA supported the two factor model as well as measurement invariance. Cronbach's alpha coefficients for each of

the subscales were greater than 0.80, indicating good internal consistency. Each subscale correlated as hypothesized with external items used to assess external construct validity.

Discussion

The development of the ETD fills an important gap in the measurement of discrimination. A valid, reliable measure of transgender discrimination will provide opportunities to better understand how discrimination is experienced by transgender people as well as to examine its relationship to health and other outcomes in future research.

Introduction

Transgender is an umbrella term often used to describe people whose gender identity differs from their birth sex. This broad term includes people who have one sex assigned to them at birth based on anatomy or genetics but who identify with a gender different from that. Transgender identities can be distinct from behaving or dressing in a way that is atypical or "non-conforming" for one's expected gender role. Transgender people may or may not conform to gender norms and may or may not have interventions to modify their bodies. The breadth of transgender identities is complex, growing, and beyond the scope of this manuscript (Fassinger, Arseneau et al. 2007; Valentine 2007). However, regardless of label, most transgender people share common experiences of stigma and discrimination because they are transgender.

A study of 402 transgender individuals published in 2001 found that over half of the respondents reported experiencing harassment or violence at some time in their lives and 25% reported experiencing a violent incident (Lombardi, Wilchins et al. 2001). Subsequent studies have documented discrimination experienced by transgender people in multiple domains of life from family to employment, and health care. (Grossman and D'Augelli 2006; Lombardi 2007; Lombardi 2009; National Center for Transgender Equality and National Gay and Lesbian Task Force 2009; Lambda Legal 2010). Discrimination is known to contribute to health disparities among racial and sexual minorities (Kessler, Mickelson et al. 1999; Mays and Cochran 2001; Pascoe and Smart Richman 2009; Hausmann, Hannon et al. 2011).

However, the impact of transgender discrimination on the health of transgender people in the United States has not been well-characterized. Multiple studies suggest that transgender people experience disproportionate rates of HIV, substance use, depression, and other negative health outcomes (Kammerer, Mason et al. 2001; Clements-Nolle, Marx et al. 2006; Herbst, Jacobs et al. 2008). Authors of these studies suggest that stigma and discrimination are at the root of these disparities. However, to provide evidence for the association between discrimination and health disparities, it's crucial to have a valid measure that is specific to

discrimination experienced by transgender individuals. To date, such a measure has been lacking.

The National Center for Transgender Equality (NCTE) and the National Gay and Lesbian Task Force (NGLTF) conducted a national cross-sectional survey among a sample of 6,456 transgender and gender non-conforming individuals in the U.S. The National Transgender Discrimination Survey (NTDS) asked questions about experiences of discrimination based on transgender identity or gender variance (National Center for Transgender Equality and National Gay and Lesbian Task Force 2009). Data from the NTDS provided a unique opportunity for developing and validating a measure of transgender discrimination. This paper details the development of this measure and reports on its psychometric properties.

Conceptualizing Discrimination

Webster's dictionary defines discrimination as "the unjust or prejudicial treatment of different categories of people or things, especially on the grounds of race, age, or sex." Acts of discrimination may be observable events; however, whether or not someone experiences an act as discrimination is a non-observable, therefore latent, construct. Both the latent and observable properties of discrimination may have consequences for mental and physical health. In addition, experiences of discrimination have both material and psychological consequences. For example, losing one's job may lead to loss of health insurance and health care access. However, loss of employment due to discrimination may also be demoralizing in unmeasured ways that lead to unhealthy coping behaviors and poor health.

The published literature is mixed on the conceptualization and measurement of discrimination (Krieger 1999). One of the earliest and most prolific researchers on discrimination and health, David Williams, conceived discrimination as two dimensional. One dimension is called "Major Discrimination" and is measured using 9 binary items about unfair treatment in employment, education, housing, and banking as well as unfair treatment by police, neighbors, and service providers. The other dimension is called "Day-to-Day Unfair

Treatment" and is measured by 10 binary items about being treated with less courtesy, respect, poorer service, as less smart, as if dishonest, as if frightening, as if someone is better than you, as well as having been called names, harassed, or followed in stores (Williams, Yu et al. 1997). This measure has been widely used and adapted to examine the relationship between discrimination and health (Pascoe and Smart Richman 2009).

More recently, social epidemiologist, Nancy Krieger and colleagues developed and used a brief measure of racial discrimination that includes 9 items that ask whether one has experienced discrimination at school, work, getting a job, getting housing, getting medical care, getting services in a store/restaurant, getting credit, bank loans, or mortgage, in public settings, and from the police or courts (Krieger, Smith et al. 2005). Krieger's measure also includes items about response to unfair treatment. These items assess whether respondents accepted discrimination or tried to do something, and if they talked about it or kept it to themselves. While these and other measures have been found to perform well in measuring discrimination based on race/ethnicity, they were not designed to measure transgender discrimination. And, they have not been used specifically with transgender populations. This study seeks to develop and psychometrically assess a new measure, Experiences of Transgender Discrimination (ETD), to fill this gap in discrimination measurement.

Defining Transgender Discrimination

Discrimination against transgender people could be understood as a form of gender-based discrimination; however, in the published literature, it is usually combined with discrimination based on sexual orientation, under the umbrella of "LGBT" discrimination (Mays and Cochran 2001; Willging, Salvador et al. 2006; Gordon and Meyer 2007; Lambda Legal 2010). Indeed, transgender discrimination is often both gender and sexuality based. As individuals whose gender identity differs from their natal sex, transgender people challenge societal norms of gender. At the same time, because concepts of sexual orientation (such as homosexuality, bisexuality, and heterosexuality) rely upon the concept of binary sex and

gender, transgender people also challenge societal expectations for sexual orientation. Transgender discrimination may be experienced either because one is assumed to be transgender based upon appearance or because of disclosure of a transgender identity.

A literature search for measures of transgender-specific discrimination revealed only two published studies. Both studies describe the use of a "transphobia" scale (Sugano, Nemoto et al. 2006; Nemoto 2011). This measure contains questions about transgender stigma, discrimination, and responses to discrimination. While this scale had high internal consistency in the study population, transgender women (natal male) sex workers in San Francisco, no psychometric testing was reported. Therefore, it is unclear if the scale measured the intended construct(s), nor how many dimensions may have been tapped by these questions. In addition, because the study population included only transgender women sex workers, it is unclear how the scale would perform in other transgender populations.

Study Objective

The purpose of this study is to develop a psychometrically sound measure to assess experiences of discrimination among transgender-identified individuals in the United States. This includes evaluating the factor structure, reliability and validity of the ETD. The study was designed to take advantage of access to the largest national survey of transgender individuals ever conducted in the United States, the National Transgender Discrimination Survey.

Methods

The National Transgender Discrimination Survey

In 2008, the National Center for Transgender Equality and the National Gay and Lesbian Task Force launched the first comprehensive national transgender discrimination study (National Center for Transgender Equality and National Gay and Lesbian Task Force 2009). A team of community-based advocates, transgender leaders, researchers, lawyers, and LGBT (lesbian, gay, bisexual, transgender) policy experts developed the survey instrument. Respondents provided demographic data as well as information on multiple aspects of discrimi-

nation such as housing, employment, health and health care, education, public accommodation, criminal justice, and identity documents. Because the survey was anonymous, it was determined to be exempt from review by the Institutional Review Board at Pennsylvania State University. This analysis was determined to be exempt by the Johns Hopkins School of Public Health Institutional Review Board.

The survey was fielded over four months through more than 800 transgender-led or transgender-serving community-based organizations throughout the United States. Potential participants were identified through active online community listserves, and the vast majority of respondents took the survey online, through a URL established at Pennsylvania State University. Additionally, paper surveys were distributed to organizations serving hard-to-reach populations – including rural, homeless, and low-income transgender and gender non-conforming people. Telephone follow-ups for the paper surveys were conducted over three months. This effort resulted in the inclusion of 500 paper surveys. The final study sample included 6,456 valid respondents from all 50 states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. The geographic distribution of the study participants mirrored that of the general U.S. population. A detailed description of the methods can be found in the study report (National Center for Transgender Equality and National Gay and Lesbian Task Force 2009).

Participants

Participants had to self identify as transgender or gender non-conforming to be included in the study. This was defined as having a gender identity or expression that is different, at least part of the time, from the sex assigned at birth. A total of 394 participants who responded "not at all" when asked if the either term "transgender" or "transsexual" applied to them were excluded from this analysis. Additionally, 113 participants who did not respond to either item were excluded from analysis. Thus, the final sample used for the analysis presented here included 5,949 trans-identified individuals. The average age of study participants was 37 years

with a range from 18 to 83 years. Sixty-two percent were identified as male on their original birth certificate. Seventy-six percent of survey respondents identified as white; 85% had at least some college education; 90% lived in urban areas; and 15% had a household income of less than $10,000 per year. Participant characteristics are listed in Table 1.

Development of Initial Item Pool for ETD

The first step in the construction of the ETD was to identify a pool of potential items from which to develop the measure. The NTDS asked questions about most domains usually included in measures of racial discrimination in the published literature: employment, housing, health care, education, and public services (Williams, Yu et al. 1997; Kessler, Mickelson et al. 1999; Krieger, Smith et al. 2005). However, no questions about financial discrimination (e.g. problems getting a bank loan) were included in the NTDS, potentially limiting the content validity for this measure.

The NTDS contained fifty-eight questions about experiences of and responses to discrimination. Nineteen questions asked about employment discrimination and were worded as follows: Because of being transgender/gender non-conforming, which of the following experiences have you had? Response options included general responses such as "I lost my job" or "I was denied a promotion" as well as transgender specific ones such as "I was forced to present in the wrong gender to keep my job." Participants could respond "yes," "no," or "not applicable" to each item.

Four questions were asked about housing. Two were worded as follows: Because you are transgender/gender non-conforming, have you experienced any of the following housing situations? Participants could respond yes, no, or not applicable to having been evicted or to having been denied housing. The remaining two housing questions were worded as follows: Because I am/was transgender/gender non-conforming, which of the following statements are true? : "I was not allowed to have any housing on campus" and "I was not allowed gender appropriate housing on campus."

Questions about health care were worded as follows: Based on being transgender/gender non-conforming, please check whether you have experienced any of the following: Respondents could check "yes," "no," or "not applicable" to being verbally harassed or disrespected, denied equal treatment or services, and physically attacked or assaulted in a variety of health care settings such as doctor's office or hospital, emergency room, mental health clinic, drug treatment program, and ambulance or EMT. Questions about physical and sexual assault were not included in the item pool for this analysis because violence is conceptually distinct from discrimination. Two additional questions about health care experiences included: A doctor or other provider refused to treat me because I am transgender/gender nonconforming," and "I had to teach my doctor or other provider about transgender/gender non-conforming people in order to get appropriate care." Other questions asked about response to discrimination such as "I drink or misuse drugs to cope with mistreatment," and "I have postponed or not tried to get medical care because of disrespect or discrimination."

Questions about education asked if the respondent had been a target of harassment, discrimination or violence at school because of being transgender/gender non-conforming. Response options included being harassed or bullied; physically assaulted or attacked; sexually assaulted or attacked; and expelled, thrown out, or denied enrollment. Response options were separated by whether the experience was carried out by students or teachers/staff and by when the experience took place, i.e. elementary, junior high, high school, college, graduate school, or technical school. As in the previous domains, sexual and physical violence items were excluded from the item pool for this analysis. In addition, items were combined such that all experiences of discrimination in K-12 were included in one variable and all experiences of discrimination in post-secondary education included in another variable. One item about response to discrimination was worded, "I had to leave school because the harassment was so bad."

Questions about discrimination in public settings or by public officials were worded as follows: Based on being transgender/gender non-conforming, please check whether you have experienced any of the following in these public spaces. Response options included being verbally harassed or disrespected, denied equal treatment or services, and physically attacked or assaulted in a variety of settings including public locations or by public officials. Questions about physical attack or assault were excluded from this analysis. In addition, items that differed solely by location were combined into one summary measure that included retail store, hotel, restaurant, bus, train, taxi, and airport. Discrimination by specific public officials such as government workers and police were kept as separate items.

In summary, 58 items from the NTDS were considered for the initial item pool for the ETD: 19 employment items, 14 healthcare items, 12 public accommodation items, 6 education items, 4 housing items, and 3 police items. Twelve items were excluded because the response was "not applicable" for more than half of the study sample. As described above, summary variables were created for several public accommodations items as well as for several education items. Thus, the 33 items that were retained for use in subsequent psychometric testing and scale development procedures are listed in Table 2.

Measures of Construct Validity

While multi-trait multi-method (MTMM) techniques are frequently used to assess internal construct validity (Byrne 2012), these methods were not possible with the NTDS data set which did not use multiple methods. However, other items in the data set that were hypothesized to be associated with experiences of transgender discrimination were used to evaluate external construct validity. Four items on the NTDS were hypothesized to be positively associated with ETD. Three items used a five-point Likert scale response that ranged from much improved to much worse with higher scores indicating worse experiences because of being transgender. The first asked about life in general, the second about housing situation, and

the third about employment situation. ETD was hypothesized to be positively correlated with all three items. In addition, ETD was hypothesized to be positively correlated with another item that assessed comfort with police on a 5-point Likert scale from very comfortable to very uncomfortable with higher scores indicating greater discomfort. One item, family support, was hypothesized to be negatively associated with ETD. This was measured on a three point scale with higher scores indicating greater family support.

Statistical Analysis

Variables were coded as dichotomous. "Yes" responses were coded as 1 while "no" was coded as 0. However, only those respondents who had the opportunity to experience the event described by each item were included in the analysis. For example, respondents who had not gone to college were coded as missing for the items that asked about discrimination during college.

The sample of 5,949 respondents was randomly divided into two samples, an exploratory sample and a confirmatory sample. Two criteria are commonly used in the field of psychometrics for assessing the adequacy of sample sizes for EFA. One common guideline is to ensure a person-to-item ratio of at least 10:1. Another guideline is that a sample size greater than 300 is usually acceptable (Netemeyer, Bearden et al. 2003; DeVellis 2012). The split sample size of more than 2,000 for assessing 33 items meets both criteria. One half of the data set (n=2,975) was used to conduct exploratory factor analysis (EFA), while the other half (n=2,974) was used for confirmatory factor analysis (CFA). The confirmatory sample was also used to test for measurement invariance by natal sex, race, and mode of survey administration, as well as reliability and validity of the final scales.

EFA on a tetrachoric correlation matrix was performed using Mplus version 6.2 (Los Angeles, CA: Muthén & Muthén) with the robust weighted least squares mean and variance adjusted estimator (WLSMV), which is most appropriate for categorical and binary data. Full information maximum likelihood (FIML) estimation was used to account for missing data. An

oblique Promax rotation was performed to allow extracted factors to be correlated as would be expected for these constructs. Eigenvalues and scree plots were examined to determine the appropriate number of factors to extract. Parallel analysis is not available in Mplus; therefore Stata Statistical Software: Release 11 (College Station, TX: StataCorp LP.) was used to conduct Principal Components parallel analysis on the subset of the data with no missing values (n=373) in order to provide additional information on the appropriate number of factors to extract. This method compares the eigenvalues of extracted factors to those generated using a random simulation. Factors are retained if they have eigenvalues greater than expected given no underlying factors. Individual items were retained if they had factor loadings > 0.4 and minimal cross-loading. In addition, items with low uniqueness (estimated residual variance) were considered for deletion if they appeared to be redundant.

Cronbach's alpha coefficients were calculated for each scale to assess internal consistency. In order to evaluate items for deletion, item-total and item-rest correlations were examined as well as the resulting Cronbach's alpha if the item was removed from the scale. External construct validity was assessed by computing the Pearson correlations between each factor of the ETD and each validity item (described above). CFA was conducted to assess the fit of the final model, and multigroup CFA was used to assess model invariance by birth sex, race, and by survey administration mode (paper or internet).

Results

Exploratory Factor Analysis

The exploratory sample (n=2,975) was used to conduct the EFA. One-factor and two-factor models were fit to the data. The initial EFA on the 33 items generated five factors with eigenvalues greater than 1. The first factor had an eigenvalue of 13.5, the second factor's eigenvalue was 3.2, and the remaining factors had values between 1.9 and 1.0. An examination of the scree plot demonstrated an elbow after the second factor. Principal Components parallel analysis supported the retention of two statistically significant factors. The Promax rotated

between-factor correlation was 0.46, confirming that an oblique rotation method was most appropriate. The factor loading for each item in the initial EFA is listed in Table 2.

Item Reduction

In order to produce a parsimonious measure that retained only the most useful items, all items were examined for potential deletion using the criteria described in the Statistical Analysis section. Item numbers are listed in Table 2. Item 22 ("I drink or misuse drugs to cope…") was deleted because it loaded poorly on both factors, indicating poor discriminant validity. Items 15 and 25 ("I hid my transition" and "I was expelled from school") were deleted due to low item-rest and item-total correlations. EFA was conducted on the remaining items after each deletion, and two items were deleted due to poor loading on each factor in subsequent EFAs: Items 20 and 21 ("A doctor refused to treat me" and "I had to teach my doctor…"). Finally, five items were removed due to low uniqueness, suggesting redundancy: Item 3 ("I was denied a promotion"), Item 4 ("I lost my job"), Item 9 ("I was referred to by the wrong pronoun"), Item 10 ("Supervisors and/or coworkers shared information about me they shouldn't have"), and Item 12 ("I didn't seek a promotion or a raise"). In total, 12 items were deleted to arrive at the final set of 21 items: 10 items for Factor 1 and 11 for Factor 2. Cronbach's alpha coefficients were examined after each item was deleted to ensure minimal loss of internal consistency. The alpha coefficient for each final subscale was identical at 0.81.

Confirmatory Factor Analysis and Reliability

The second sample (n=2,974) was used to conduct confirmatory factor analysis. One-factor and two-factor models were fit to the data. The one-factor model included all twenty-one items as one factor, and the two-factor model was the same as the final model from the EFA. The factor loading for the first item of each factor was fixed at 1 in order to make the models identifiable. All other parameters were free. The model was identified based on the two-indicator rule in which there are at least two factors, at least two indicators per factor, each

indicator variable loads on only one latent variable, errors are not correlated, and the factors are correlated.

Model fit statistics are in listed in Table 3. Overall fit as assessed by the significant chi square statistic indicates poor model fit. However, the Chi square test is sensitive to sample size and therefore is not an appropriate measure of fit in the current context. It is also invalid for violation of distributional assumptions as is the case with the use of dichotomous items in this analysis. Alternative fit statistics such as the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), and the Tucker-Lewis Index (TLI) are more informative for this type of analysis. RMSEA less than 0.06 and CFI/TLI greater than 0.9 suggest good model fit. The RMSEA was 0.061 for the 1-factor model and 0.045 for the 2-factor model. The CFI and TLI statistics were 0.887 and 0.875 respectively for the 1-factor model and 0.938 and 0.931 for the 2-factor model. These statistics indicate a better fit for the 2-factor model compared to the 1-factor model; thus supporting the results of the EFA. In the 2-factor model, all of the items loaded > 0.40 on the appropriate factor, and the factor loadings were statistically significant with p-values <0.0001. Eight items about employment discrimination and two items about housing discrimination loaded on one factor, while the remaining items about discrimination in healthcare (2), education (2), public accommodations (4), and police treatment (3) all loaded on the second factor. Table 4 lists factor loadings and corrected item-total correlations for each item in the final measure.

All of the items that load on Factor 1 are within the domains of employment and housing. These two domains represent essential social institutions. Adults in the U.S. often define themselves by what they do and where they live. Those who are employed spend the majority of their waking hours at work and the majority of their non-working hours at home. Thus, discrimination within these social institutions may permeate one's life. Therefore, this factor was labeled, "Institutional Discrimination," to describe its reflection of ubiquitous social institutions. Factor 2 was labeled, "Interpersonal Discrimination" as most of the items loading

on this factor describe discriminatory interpersonal encounters. Cronbach's alpha coefficients were computed for each scale. Both the 10-item Institutional Discrimination Scale and the 11-item Interpersonal Discrimination Scale had a Cronbach's alphas coefficient of 0.81, indicating good reliability. Appendix A contains the exact questions in the final ETD measure.

Measurement Invariance

It is important to assess whether a measure is capturing the same latent dimensions in all subgroups of the population before making substantive conclusions about the population or using the measure in subsequent comparative analyses (Raykov 2004; Chen, Sousa et al. 2005). To ensure that the ETD measure is equivalent for subgroups within the study population, measurement invariance was tested by natal sex, race, and survey mode. Multiple group CFA was performed in Mplus. Typically, chi square test of difference is used to determine if there is a significant loss of fit between the baseline model in which the groups are allowed to differ along specific parameters, and the nested model which constrains parameters to be equal across groups. However, the chi square test is known to be sensitive to non-normality and sample size. With large sample sizes, the chi square test may be statistically significant when there are small, trivial differences in specified parameters. Comparisons of Goodness of Fit tests (such as CFI and TLI) between constrained and unconstrained models have been proposed as alternatives because they are not sensitive to sample size or data distribution. Using these criteria, a change of more than 0.01 in the CFI and more than 0.05 in the TLI is considered meaningful (Cheung and Rensvold 2002; Chen, Sousa et al. 2005). No criteria have been established for differences in RMSEA.

The chi square test of difference was significant for each test of measurement invariance by natal sex, race, and survey mode. This was expected given the large sample size and non-normal distribution of the data and is likely a poor assessment of model invariance. Therefore the CFI, TLI, and RMSEA were used to assess change in fit between unconstrained models and those in which the factor loadings and thresholds were constrained to be equal

across groups. To assess measurement invariance by natal sex, the unconstrained model with CFI of 0.95, TLI of 0.95, and an RMSEA of 0.040 was compared to the constrained model with CFI of 0.94, TLI of 0.94, and RMSEA of 0.043. The change in CFI was 0.01 and in TLI was 0.01. For measurement invariance by race, the unconstrained model with CFI of 0.94, TLI 0.93, and RMSEA of 0.042 was compared to the constrained model with CFI 0.94, TLI of 0.93 and RMSEA of 0.040. The change in both CFI and TLI was less than 0.01. Finally for measurement invariance by survey mode, the unconstrained model with CFI of 0.95, TLI 0.95, and RMSEA of 0.041 was compared to the constrained model with CFI 0.95, TLI of 0.95 and RMSEA of 0.040. The change in both CFI and TLI was less than 0.01. All three results meet the criteria suggested by Cheung et al. (2002); thereby providing support for configural, factor loading, and threshold invariance by natal sex, racial identity, and survey mode.

Construct Validity

Items for each of the two subscales were summed to form total subscale scores. Correlations between each score and each previously described validity item are presented in Table 5. As hypothesized, statistically significant positive correlations were found between each subscale and the first four validity items, i.e. as discrimination scores increased, so did scores of worsening life situation, housing situation, employment situation and police discomfort. Despite statistical significance, the correlations were quite low for all except Institutional Discrimination and employment ($r=0.38$), and Interpersonal Discrimination and Police Discomfort ($r=0.34$). These findings are not surprising since 8 of the 10 Institutional Discrimination items are about employment and 3 of the 11 Interpersonal Discrimination items are about police. Statistically significant negative correlations were found between the family support item and each discrimination scale, as hypothesized. However, both correlation coefficients were low, with the association between family support and Institutional Discrimination being the strongest ($r=-0.21$). The extent to which two measures are not perfectly reliable, any correlation between them will underestimate the correlation between their

true scores (DeVellis 2012). Therefore, the weakness of the associations described above may have been due to the use of single item scales for validity testing, rather than the use of reliable multiple-item measures known to be associated with discrimination but which were unavailable in the NTDS data set.

Discussion

While discrimination has been recognized as an important factor in the etiology of health disparities among racial /ethnic minorities, experiences of transgender-related discrimination have received much less attention. Several measures of racial discrimination and general discrimination exist; however, no psychometrically sound instrument has been available to measure specifically transgender experiences of discrimination. Given documented health disparities in HIV, mental health and access to care for transgender people, we created the Experiences of Transgender Discrimination to provide a psychometrically sound instrument that could be used to evaluate the relationship between discrimination and health for transgender people.

The results from the analyses described above provide support for the dimensionality and reliability of the ETD among a national sample of transgender people in the United States. Specifically, results suggest that the ETD has two distinct, yet correlated dimensions: Institutional Discrimination and Interpersonal Discrimination. Institutional Discrimination is reflected in the strong clustering of items about employment-related discrimination events and housing-related discrimination events. Events such as being evicted and being denied a job are major events that are similar to items included in Williams' construct of Major Discrimination. However, Institutional Discrimination in the ETD is different in that two domains alone (housing and employment) correlate so strongly as to form a separate dimension of discrimination with an eigenvalue that was 6 times greater than that of the next factor. This factor speaks to the enormous institutional barriers that transgender people face in these two

areas of life. Indeed, the items which reflect this factor provide insight into potential institutional interventions in the workplace and in housing opportunities for transgender people.

The second factor, Interpersonal Discrimination, is reflected by items about harassment or unequal treatment experienced during encounters with people in medical settings, education, and public spaces, as well as encounters with government officials and police. Items for this factor bridge the constructs of "Major" and "Day-to-Day" as conceptualized by Williams. In Williams' discrimination measure, unfair treatment by the police appears in the Major Discrimination construct, while harassment and disrespect items measure Day-to-Day unfair treatment. One interpretation of this could be that, for transgender people, police harassment is as routine as harassment in other domains of life.

Krieger's Experiences of Discrimination (EOD) measure includes one construct for experiences of discrimination (described earlier) and another for response to unfair treatment. Response to unfair treatment includes items that assess whether respondents accepted discrimination or tried to do something, and if they talked about it or kept it to themselves. The NTDS did not include these questions. However, items were included in the initial item pool that described responses to discrimination such as using drugs to cope, postponing medical care, delaying or hiding gender transition, changing jobs, not seeking a promotion or raise, and staying in a job one would prefer to leave. These items did not correlate well enough with each other to form a single factor, rather the response to discrimination items loaded on the same factor as their domain. For example, changing jobs loaded on the Institutional Discrimination factor along with other employment items and postponing medical care loaded on the Interpersonal Discrimination factor along with the other item about medical care.

A direct comparison of the ETD and items in other discrimination scales cannot be made since those scales where not included in the NTDS; however the conceptual differences in how items about different domains of life loaded on factors has important implications for how transgender specific discrimination may be experienced compared to other forms of

discrimination. As a psychometrically sound, multi-dimensional measure of transgender-specific discrimination, the ETD allows for both an assessment of different types of discrimination transgender people experience (Institutional and Interpersonal) as well as provides a way to examine relationships between transgender discrimination and health.

Next Steps

While the existence of a large data set from the NTDS provided a unique opportunity for development of a trans-specific discrimination scale, this analysis represents a first step in the development of the ETD. The analysis was limited by the pre-determined item pool and question formats. Scale development experts (Netemeyer, Bearden et al. 2003; DeVellis 2012) recommend beginning with a pool of items approximately five to ten times larger than the final scale, especially when using binary measures. Our limited pool of items precluded this as well as limited the ability to identify other potentially salient aspects of transgender discrimination that were not included in the NTDS. It will be important for future studies to include additional items that tap dimensions of discrimination that were not fully explored in the NTDS such as financial discrimination (e.g. difficulty getting credit or a loan) to improve content validity. Next steps in the development of the scale should also include qualitative research with transgender people to assess face and content validity, i.e. whether the scale resonates with transgender people's experiences of discrimination and to determine if additional dimensions of discrimination exist that should be explored in future versions of the ETD. In addition, while correlations between the ETD subscales and the external construct validity items were statistically significant in the expected direction, the strength of the associations was low. This may be due to the use of single item measures, rather than full scales for validity testing. Future studies should include validated scales to better asses external construct validity and use multiple approaches to allow for an assessment of internal construct validity using MTMM techniques. Finally, the scale could benefit from using ordinal, rather than binary, response options to measure the frequency with which the respondent experienced each item. Ordinal

items allow for increased variability in the sample, therefore making each item more informative. Moreover, the frequency with which one experiences discrimination may have important implications for health.

Potential Uses

The development of the ETD makes an important step toward filling a gap in the measurement of discrimination. A valid, reliable measure of transgender discrimination will provide opportunities to better understand discrimination experienced by transgender people as well as to examine its relationship to health and other outcomes in future research. Transgender identity is only one component of salient identities for transgender people. Intersections of racial/ethnic identity as well as natal sex may impact both the quality and quantity of discrimination experiences as well as moderate the relationship between discrimination and health. Given its strong reliability and measurement invariance by race and natal sex, the ETD may be well-suited to examine these intersections.

Acknowledgements

I would like to thank the thousands of transgender and gender non-conforming individuals who participated in the National Transgender Discrimination Survey. This analysis would not have been possible without their participation as well as the generosity of the National Center for Transgender Equality and the National Gay and Lesbian Task Force who agreed to share their data. The Johns Hopkins Center for Public Health and Human Rights as well as the Johns Hopkins Center for Health Disparities Solutions provided financial support for this project. In addition, support was provided by the Summer Institute in LGBT Population Health, under Award Number R25HD064426 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NICHD or the National Institutes of Health.

Table 1. Characteristics of the study population of transgender people (n =5949)

Age (n=5522)	37.1 (13.1); 18-83
Sex on original birth certificate (n=5949)	
Male	3695 (62.1)
Female	2254 (37.9)
Race (n=5911)	
White	4508 (76.3)
Multiracial	664 (11.2)
Hispanic/Latino/Latina	275 (4.7)
Black/African-American	259 (4.4)
Asian/Pacific Islander	125 (2.1)
American Indian/Alaskan Native	76 (1.3)
Education (n=5920)	
No high school degree	246 (4.2)
High school graduate only	509 (8.6)
Some college	2425 (40.1)
College degree	1582 (26.7)
Graduate degree	1158 (19.6)
Region (n=5733)	
New England	506 (8.8)
Mid-Atlantic	1186 (20.7)
South	1056 (18.4)
Mid-west	1191 (20.8)
West, Alaska, Hawaii	962 (16.8)
California	832 (14.5)
Setting (n=5685)	
Rural	561 (9.9)
Urban	5124 (90.1)
Household income (n=5784)	
<$10,000	878 (15.2)
$10,000 – 19,999	712 (12.3)
$20,000 – 49,999	1822 (31.5)
$50,000 – 99,999	1592 (27.5)
>$100,000	780 (13.5)
Insurance status (n=5787)	
Uninsured	1118 (19.3)
Insured	4669 (80.7)
Employment status (n=5912)	
Unemployed	768 (13.0)
Not looking	1021 (17.3)
Employed	4123 (69.7)

Table 2. Promax factor loadings for items in initial exploratory factor analysis* (n=2975)

	Items	Factor 1	Factor 2
1.	I did not get a job I applied for because of being transgender or gender nonconforming.	.225	**.643**
2.	I was removed from direct contact with clients, customers or patients	.212	**.681**
3.	I was denied a promotion.	.205	**.731**
4.	I lost my job.	.089	**.718**
5.	I was harassed by someone at work.	.324	**.558**
6.	I was forced to present in the wrong gender to keep my job.	-.017	**.706**
7.	I was denied access to appropriate bathrooms.	.235	**.579**
8.	I was asked inappropriate questions about my transgender or surgical status.	.376	**.549**
9.	I was referred to by the wrong pronoun, repeatedly and on purpose.	.289	**.634**
10.	Supervisors or coworkers shared information about me that they should not have.	.295	**.627**
11.	Stayed in a job I'd prefer to leave	.111	**.662**
12.	Didn't seek a promotion or a raise	.091	**.720**
13.	Changed jobs	.231	**.519**
14.	Delayed my gender transition	-.433	**0.873**
15.	Hid my gender or gender transition	-.436	**.777**
16.	I have been evicted	.260	**.435**
17.	I was denied a home/apartment	**.523**	.396
18.	Denied equal treatment or services at a doctor's office or hospital	**.588**	.162
19.	Verbally harassed or disrespected at a doctor's office or hospital	**.611**	-.115
20.	A doctor or other provider refused to treat me	**.489**	.223
21.	I had to teach my doctor or other provider about transgender/gender non-conforming people in order to get appropriate care.	**.478**	.168
22.	I drink or misuse drugs to cope with the mistreatment I face or faced as a transgender or gender non-conforming person.	**.309**	.193
23.	I have postponed or not tried to get medical care because of disrespect or discrimination from doctors or other healthcare providers.	**.611**	.094
24.	Harassed or bullied by students, teachers or staff in elementary, junior high, or high school	**.646**	-.178
25.	Expelled, thrown out, or denied enrollment in elementary, junior high, or high school	**.608**	-.085
26.	Harassed or bullied by students, teachers or staff in college, graduate, or technical school	**.651**	-.094
27.	Denied equal treatment or services at a retail store, hotel, restaurant, bus, train, taxi, airport, TSA	**.617**	.093
28.	Verbally harassed or disrespected at a retail store, hotel, restaurant, bus, train, taxi, airport, TSA	**.684**	-.019
29.	Denied equal treatment or services by a govt. agency/official	**.654**	.208
30.	Verbally harassed or disrespected by a govt. agency/official	**.701**	.065
31.	Denied equal treatment or services by police officer	**.754**	.124
32.	Officers generally treated me with disrespect	**.704**	.038
33.	Officers have harassed me	**.700**	.046

*All items began with the stem, "Because you are transgender or gender non-conforming. . ."

Table 3. Model Fit Statistics for Confirmatory Factor Analysis (n=2974)

	Chi Square model fit	Chi Square Baseline model	RMSEA	CFI	TLI
1 Factor	p =0.0000	p =0.0000	0.061 (90% CI: 0.059, 0.063)	.887	.875
2 Factor	p =0.0000	p =0.0000	0.045 (90%CI: 0.043, 0.047)	.938	.931

Table 4. Experiences of Transgender Discrimination" scale items, factor loadings, and item-total correlations (n=2974)**

Item Stem: Because of being transgender or gender non-conforming . . .	**F1**	**F2**	**Item-total correlation**
FACTOR 1: Institutional Discrimination, Cronbach's alpha = .81			
I did not get a job I applied for because of being transgender or gender nonconforming.	**.782**	-.008	.6900
I was removed from direct contact with clients, customers or patients	**.787**	-.012	.6417
I was harassed by someone at work.	**.709**	.102	.6647
I was forced to present in the wrong gender to keep my job.	**.679**	-.059	.5964
I was denied access to appropriate bathrooms.	**.754**	-.006	.5486
I was asked inappropriate questions about my transgender or surgical status.	**.671**	.149	.6394
I have been evicted	**.626**	.014	.4710
I was denied a home/apartment	**.614**	.294	.5770
Stayed in a job I'd prefer to leave	**.599**	.070	.6394
Changed jobs	**.537**	.153	.6306
FACTOR 2: Interpersonal Discrimination, Cronbach's alpha = .81			
Denied equal treatment or services at a doctor's office or hospital	.278	**.432**	.5936
Harassed or bullied by students, teachers or staff in elementary, junior high, or high school	-.222	**.729**	.5214
Harassed or bullied by students, teachers or staff in college, graduate, or technical school	-.147	**.755**	.5605
Denied equal treatment or services at a retail store, hotel, resto, bus, train, taxi, airport, TSA	.270	**.586**	.6368
Verbally harassed or disrespected at a retail store, hotel, resto, bus, train, taxi, airport, TSA	.147	**.619**	.6021
Denied equal treatment or services by a govt. agency/official	.234	**.692**	.6179
Verbally harassed or disrespected by a govt. agency/official	.103	**.688**	.5469
Denied equal treatment or services by police officer	.132	**.660**	.6170
Officers generally treated with disrespect	.136	**.616**	.6133
Officers have harassed me	.026	**.670**	.5625
I have postponed or not tried to get medical care because of disrespect or discrimination from doctors or other healthcare providers.	.121	**.573**	.6393

**Promax factor correlation = 0.572

Table 5. Pearson correlations between each subscale and each validity item, p<0.05 for each (n=2974)

Validity Item	**F1: Institutional Discrimination**	**F2: Interpersonal Discrimination**
Life in general	.1084	.1204
Housing situation	.1658	.1405
Employment situation	.3774	.2433
Discomfort with police	.2095	.3382
Family support	-.2106	-.1757

References

Brown, T. (2006). Confirmatory factor analysis for applied research. New York, NY: Guilford Press.

Byrne, B. M. (2012). Structural Equation Modeling with Mplus: Basic Concepts, Applications, and Programming. New York, Taylor & Francis.

Chen, F. F., K. H. Sousa, et al. (2005). "Testing Measurement Invariance of Second-Order Factor Models." Structural Equation Modeling **12**(3): 471-492.

Cheung, G. W. and R. B. Rensvold (2002). "Evaluating Goodness-of-Fit Indexes for Testing Measurement Invariance." Structural Equation Modeling **9**(2): 233-255.

Clements-Nolle, K., R. Marx, et al. (2006). "Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization." J Homosex **51**(3): 53-69.

DeVellis, R. F. (2012). Scale Development: Theory and Applications, Third Edition. Thousand Oaks, Sage Publications.

Fassinger, R. E., J. R. Arseneau, et al. (2007). 'I'd Rather Get Wet Than Be Under That Umbrella': Differentiating the Experiences and Identities of Lesbian, Gay, Bisexual, and Transgender People. Handbook of counseling and psychotherapy with lesbian, gay, bisexual, and transgender clients (2nd ed.). Washington, DC US, American Psychological Association: 19-49.

Gordon, A. R. and I. H. Meyer (2007). "Gender nonconformity as a target of prejudice, discrimination, and violence against LGB individuals." J LGBT Health Res **3**(3): 55-71.

Grossman, A. H. and A. R. D'Augelli (2006). "Transgender youth: invisible and vulnerable." J Homosex **51**(1): 111-128.

Hausmann, L. R. M., M. J. Hannon, et al. (2011). "Impact of Perceived Discrimination in Healthcare on Patient-Provider Communication." Medical Care **49**(7): 626-633 610.1097/MLR.1090b1013e318215d318293c.

Herbst, J. H., E. D. Jacobs, et al. (2008). "Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review." AIDS Behav **12**(1): 1-17.

Kammerer, N., T. Mason, et al. (2001). Transgenders, HIV/AIDS, and substance abuse: From risk group to group prevention. Transgender and HIV: Risks, prevention, and care. New York, NY US, Haworth Press: 13-38.

Kessler, R. C., K. D. Mickelson, et al. (1999). "The Prevalence, Distribution, and Mental Health Correlates of Perceived Discrimination in the United States." Journal of Health and Social Behavior **40**(3): 208-230.

Krieger, N. (1999). "Embodying inequality: A review of concepts, measures, and methods for studying health consequences of discrimination." International Journal of Health Services **29**(2): 295-352.

Krieger, N., K. Smith, et al. (2005). "Experiences of discrimination: Validity and reliability of a self-report measure for population health research on racism and health." Social Science & Medicine **61**(7): 1576-1596.

Lambda Legal (2010). When Health Care Isn't Caring: Lambda Legal's Survey of Discrimination Against LGBT People and People with HIV. New York, Lambda Legal.

Lombardi, E. (2007). "Substance use treatment experiences of transgender/transsexual men and women." J LGBT Health Res **3**(2): 37-47.

Lombardi, E. (2009). "Varieties of Transgender/Transsexual Lives and Their Relationship with Transphobia." Journal of Homosexuality **56**(8): 977-992.

Lombardi, E. L., R. A. Wilchins, et al. (2001). "Gender violence: Transgender experiences with violence and discrimination." Journal of Homosexuality **42**(1): 89-101.

Mays, V. M. and S. D. Cochran (2001). "Mental Health Correlates of Perceived Discrimination Among Lesbian, Gay, and Bisexual Adults in the United States." American Journal of Public Health **91**(11): 1869-1876.

National Center for Transgender Equality and National Gay and Lesbian Task Force (2009). National Transgender Discrimination Survey. **2009**.

Nemoto, T. (2011). "Social Support, Exposure to Violence and Transphobia, and Correlates of Depression Among Male-to-Female Transgender Women With a History of Sex Work." Am J Public Health: AJPH.2010.197285.

Netemeyer, R. G., W. O. Bearden, et al. (2003). Scaling Procedures: Issues and Applications. Thousand Oaks, Sage Publications, Inc.

Pascoe, E. A. and L. Smart Richman (2009). "Perceived discrimination and health: A meta-analytic review." Psychological Bulletin **135**(4): 531.

Raykov, T. (2004). "Behavioral scale reliability and measurement invariance evaluation using latent variable modeling." Behavior Therapy **35**(2): 299-331.

Sugano, E., T. Nemoto, et al. (2006). "The impact of exposure to transphobia on HIV risk behavior in a sample of transgendered women of color in San Francisco." AIDS Behav **10**(2): 217-225.

Valentine, D. (2007). Imagining Transgender: An Ethnography of a Category. Durham, Duke University Press.

Willging, C. E., M. Salvador, et al. (2006). "Unequal treatment: mental health care for sexual and gender minority groups in a rural state." Psychiatric Services **57**(6): 867-870.

Williams, D. R., Y. Yu, et al. (1997). "Racial differences in physical and mental health." Journal of Health Psychology **2**(3): 335-351.

MANUSCRIPT TWO:

Relationships between Experiences of Transgender Discrimination, HIV, and Health Care Utilization

ABSTRACT

Background

Recent studies among transgender adults suggest that they are at higher risk for HIV and low health care utilization compared to the general population. Experiencing discrimination is known to contribute to health disparities among other minority populations in the U.S. However, the relationship between transgender specific discrimination and health outcomes has not been examined in this population.

Methods

Data from 5,949 trans-identified participants in the National Transgender Discrimination Survey (NTDS) was utilized for this analysis. Factor scores from the Institutional Experiences of Transgender Discrimination Scale and the Interpersonal Experiences of Transgender Discrimination scale were used to measure transgender specific discrimination. Logistic regression modeling was conducted to examine the relationship between experiences of transgender discrimination and three health outcomes: knowledge of HIV status, HIV-positivity, and health care utilization.

Results

Experiences of transgender discrimination were common in this sample. On bivariate analysis, transgender discrimination experiences were significantly associated with lack of health care utilization for transgender men and with HIV positivity for transgender women. In multivariable models controlling for race, age, education, income, employment, insurance, history of sex work, and family support, experiences of transgender discrimination remained significantly associated with knowledge of HIV status among transgender women only.

Discussion

While experiences of transgender discrimination are associated with health care utilization and HIV when examined in isolation, other factors such as race, income, health insurance, and

strength of family support have significant associations with transgender health. It is important for future studies to address not only transgender discrimination, but also intersecting social factors such as racism, poverty, and family acceptance.

Introduction

Transgender is an umbrella term often used to describe people whose gender identity or expression differs from their birth sex (Johnson, Mimiaga et al. 2008). Transgender women (transwomen) are people born male who have a feminine gender identity, while transgender men (transmen) are born female and have a masculine gender identity. Transgender women are at disproportionate risk for HIV with an estimated prevalence of 28% compared to a national prevalence of <1% in the United States (Herbst, Jacobs et al. 2008). Data on HIV prevalence among transgender men is conflicting with some studies reporting rates as low as 0-3 % (Herbst, Jacobs et al. 2008) and others as high as 11% (Stephens, Bernstein et al. 2010). In addition, transgender people experience remarkable difficulty accessing care, with approximately 26% of transgender respondents reporting being denied medical care because they are transgender (Kenagy 2005; Lambda Legal 2010).

Stigma and discrimination are known to increase risk for HIV and to impact health care access and utilization (Kessler, Mickelson et al. 1999; Mays and Cochran 2001; Pascoe and Smart Richman 2009; Hausmann, Hannon et al. 2011). A growing body of literature demonstrates that transgender people routinely experience stigma and discrimination. An early study among transgender people found that more than half reported experiencing harassment and violence during their lives (Lombardi, Wilchins et al. 2001). More recently, a report from the National Transgender Discrimination Survey found pervasive discrimination in all aspects of life including housing, employment, education, health care and public accommodations. In total, 63% of participants in the study had experienced a serious act of discrimination in at least one of these domains (Grant, Mottet et al. 2011).

Despite evidence of pervasive discrimination as well as disparities in HIV prevalence and health care access, no studies have explicitly examined the relationship between discrimination and health outcomes among transgender people. The objective of this study was to use data from a national sample of transgender people to examine the relationship between

discrimination and HIV as well as health care utilization. Specifically, it was hypothesized that respondents with higher scores on transgender discrimination scales would be less likely to know their HIV status, more likely to report being HIV positive, and less likely to see a health care provider when sick.

Methods

Participants

Data for this analysis were drawn from National Transgender Discrimination Survey (NTDS) conducted in 2008-2009 by the National Center for Transgender Equality and the National Gay and Lesbian Task Force (Grant, Mottet et al. 2011). The anonymous survey was distributed through over 800 organizations across the United States that served transgender clients or had transgender members. Participants completed the survey on paper or online through a website established at Pennsylvania State University. The final sample included respondents from all 50 states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. The geographic distribution of the study participants mirrored that of the general U.S. population. A detailed description of the study methods can be found in the study report, *Injustice at Every Turn* (Grant, Mottet et al. 2011). The original study was determined to be exempt from review by the Institutional Review Board at Pennsylvania State University, and the Johns Hopkins School of Public Health Institutional Review Board found this analysis to be exempt. The original data set included 6,456 transgender and gender non-conforming respondents. However, the present study includes only participants who identified as either "transgender" or "transsexual," leaving a final sample of 5,949 trans-identified individuals.

Measures

Outcome Variables

HIV status was measured by the question, "What is your HIV status?" Response options included HIV negative, HIV positive, or don't know. Knowledge of HIV status was

operationalized by creating a dichotomous variable in which both negative and positive responses to HIV status were re-coded as knowing HIV status. Only those who reported being HIV positive or HIV negative were included in the analysis with HIV status as the outcome. Health care utilization was measured by the question, "What kind of place do you go to most often when you are sick or need advice about your health?" Response options included emergency room, doctor's office, health center, free health clinic, veteran's clinic, alternative medicine provider, or "I do not use any health care providers." Those who selected the last option were coded as not utilizing health care.

Discrimination Measures

Transgender-specific discrimination was measured using the Experiences of Transgender Discrimination (ETD) scale. This 21-item scale contains two subscales. The subscale for Institutional Discrimination has 10 items that assess discrimination experiences in the workplace and in housing. The Interpersonal Discrimination subscale has 11 items about discrimination experiences in public accommodations, health care, with government officials and with police. Each subscale has an overall Cronbach's alpha of 0.81, indicating good reliability in this population. Confirmatory Factor Analysis (CFA) was conducted in Mplus (version 6.2) and factor scores from the CFA were used for this analysis. Factor scores were standardized so that the overall mean was zero. Negative scores indicate less discrimination than average, while positive scores indicate more discrimination than average. Individual items for each subscale are listed in Table 7.

Independent Covariates

Covariates for this analysis included demographic characteristics known or hypothesized to be associated with HIV status and health care utilization: age, race, income, education, insurance status, and employment status. History of ever engaging in sex work for pay was included due to its associated HIV risk. A measure of family support for transgender identity was included as a potential moderator of the relationship between discrimination and

health outcomes. Family support for transgender identity was measured using a 3-level ordinal item. A score of zero indicated that the participant reported any of the following negative family experiences: "my relationship with my spouse ended" "my ex limited or stopped my relationship with my children," "a court/judge limited or stopped my relationship with my children," "my children chose not to speak with me or spend time with me," "my parents or family chose not to speak with me or spend time with me," "I was a victim of domestic violence by a family member," or "I have lost close friends." A score of one indicated: "my family relationships are slowly improving after coming out," and a score of two indicated: "my family is as strong today as before I came out."

Statistical Analysis

Confirmatory Factor Analysis in Mplus version 6.2 (Muthén & Muthén, Los Angeles, CA) was used to generate factor scores for each transgender discrimination subscale. These scores were exported to Stata version 11 (StataCorp, College Station, TX) which was used for the remaining analyses. Descriptive statistics as well as bivariate associations between each of the independent covariates and the three health outcomes were examined. The Holm-Bonferroni method was used in the bivariate association tables to correct for multiple comparisons. Multiple logistic regression was used to model the relationship between transgender discrimination scores and each of the outcome variables while controlling for the other covariates. All covariates except transgender discrimination scores were included in Model 1 for each outcome. Model 2 included the transgender discrimination scores as well as all covariates for each outcome. Effect modification by family support was tested by modeling the inclusion of an interaction term for family support and transgender discrimination.

Results

As presented in Table 6, the average age of study participants was 37 years with a range from 18 to 83 years. Sixty-two percent of participants were born male. Seventy-six percent identified as white; 85% had at least some college education; and 15% had a household income

of less than $10,000 per year. Most of the participants were employed (70%) and had health insurance (81%). Thirteen percent of transwomen reported ever engaging in sex work, and 7% of transmen had done so. Less than half of transmen (46%) and transwomen (39%) reported that their families were as strong as before they came out about their transgender identity. Transwomen and transmen differed on each demographic characteristic except insurance status and health care utilization. Therefore, subsequent data analysis was stratified by birth sex.

Prevalence of experiences of transgender discrimination was high among both transmen and transwomen. Seventy-one percent of transgender participants reporting experiencing Institutional Discrimination and sixty-eight percent reported experiencing Interpersonal Discrimination. The average number of experiences of institutional discrimination reported among both transmen and transwomen was 2.4 out of 10 on the scale. The average number of experiences of interpersonal discrimination reported was 2.1 out of 11 on the scale. Transmen reported experiencing more types of interpersonal discrimination (2.8 out of 11) compared to transwomen (1.7 out of 11).

As demonstrated in Table 7, the most frequently reported institutional discrimination experiences included being harassed at work, being asked inappropriate questions about transgender or surgical status, staying in a job they would prefer to leave, or changing jobs due to transgender discrimination. The most commonly reported interpersonal discrimination experiences included being verbally harassed or disrespected in a public place and being denied equal treatment or services in a doctor's office or hospital. The scores on the Institutional Discrimination scale ranged from -1.25 to 2.42 and the average score was zero for both transmen and transwomen. The scores on the Interpersonal Discrimination scale ranged from -1.16 to 2.61. Transmen had a mean score on this scale of 0.21 compared to -0.07 for transwomen.

In bivariate analysis for transmen, being multiracial, unemployed, and ever engaging in sex work were associated with higher transgender discrimination scores. Family support, being

insured, and having a higher income were associated with lower transgender discrimination scores. Having a graduate degree was associated with higher Interpersonal Discrimination scores while being 45 and older was associated with lower Interpersonal Discrimination scores. For transwomen, bivariate analysis demonstrated significant associations between higher transgender discrimination scores and being a racial/ethnic minority, being employed or not looking, and having ever engaged in sex work. Age 45 years or older, higher education, higher income, having insurance, and stronger family support were each associated with lower transgender discrimination scores. These associations are shown in Table 8.

HIV status

Approximately 4% (n=141) of the transwomen reported being HIV-positive compared to less than 1% (n=9) of the transmen. Due to the very small sample of HIV+ transmen, regression modeling for HIV status was limited to transwomen. On bivariate analysis, older age, higher education, and higher income were associated with lower odds of reporting HIV-positive. Race was strongly associated with being HIV positive with Black respondents having 55 times the odds of being HIV-positive compared to White respondents. Participants who had engaged in sex work had 17 times the odds of reporting HIV positive. Participants who were employed as well as those who reported stronger family support were more likely to report being HIV positive. Higher discrimination scores increased the odds of reporting HIV-positive (Table 9).

As shown in Table 10, when all covariates were included in the multivariable model, experiences of transgender discrimination scores were no longer statistically significant. However, being a racial/ethnic minority, lower income, having insurance, history of sex work, and higher family support remained statistically significant. When an interaction term was included in the model to assess whether family support moderated the relationship between transgender discrimination and HIV status, the term was not statistically significant (data not shown).

Knowledge of HIV status

Overall, 8% of participants were unaware of their HIV status, including 7.8% of transmen and 8.6% of transwomen. As demonstrated in Table 9, bivariate associations between covariates and knowledge of HIV status differed by gender. Not looking for employment was associated with a lower odds of knowing HIV status compared to being unemployed for transmen but not transwomen. On bivariate analyses among transwomen, older age and having insurance were both associated with higher odds of knowing HIV status. Having a higher household income was associated with higher odds of knowing HIV status for both transmen and transwomen. Transgender discrimination scores were not significantly associated with knowing HIV status for transmen or transwomen in bivariate or multivariable analyses.

In multivariable analyses adjusting for the above covariates, higher household income, having a graduate degree, and higher scores on the Interpersonal Discrimination scale were all significantly associated with knowledge of HIV status for transwomen (Table 10). Only higher household income remained significantly associated with knowing their HIV status for transmen (Table 11). Family support was not significant in any of the multivariable models, therefore no interactions were examined.

Health Care Utilization

Overall, 6% of the respondents reported not seeing any health care when they were sick or needed health care advice, including 5.5% of transmen and 6.4% of transwomen. Table 9 shows the bivariate associations between the covariates and health care utilization. For transwomen, both older age and having a graduate degree were associated with lower odds of not utilizing health care providers. For all participants, higher household income, having health insurance, and stronger family support were associated with lower odds of not utilizing health care providers. Not looking for employment was associated with higher odds of not utilizing health care providers. Transgender discrimination scores were not significantly associated with

health care utilization. There was no statistically significant interaction between family support and transgender discrimination scores in these models.

In multivariable models, older age, higher income, having insurance, and having strong family support were all associated with lower odds of not using a health care provider for transwomen (Table 10). For transmen, being insured and having strong family support were associated with lower odds of not using health care providers for transmen (Table 11). Transgender discrimination scores were not significantly associated with health care utilization in either multivariable model.

Discussion

Bivariate analyses supported the hypothesis that higher scores on the Experiences of Transgender Discrimination (ETD) scales are associated with HIV positivity among transwomen. However, both bivariate analyses and multivariable models including age, race, education, income, insurance status, employment status, sex work and family support showed no significant association between scores on the ETD scales and any health outcome for transmen. Higher scores on the Interpersonal scale of the ETD were significantly associated with greater odds of knowing HIV status among transwomen in multivariable models including the same covariates described above. No other ETD scale was significantly associated with HIV or health care utilization among transmen.

Rather than suggesting that experiences of transgender discrimination are not relevant to HIV and health care utilization among transgender people, the patterns of associations and how they change between bivariate and multivariable models provide important insights into the complex ways that multiple forms of disadvantage may impact the health of transgender people. In particular, examining which covariates remain significant in multivariable models that include transgender discrimination can provide information on the influence of these factors in the face of high levels of transgender discrimination.

In bivariate analyses, transgender discrimination and all of the eight covariates except insurance status were associated with self-reported HIV status with race demonstrating the strongest association. However, when all covariates except transgender discrimination were included in the model, only race, income, sex work, and family support remained significant, and insurance status became statistically significant. The addition of transgender specific discrimination to this model did not change the magnitude or significance of the relationship of those covariates to HIV. This model suggests that addressing transgender discrimination without also addressing other drivers of HIV such as racism, poverty, and criminalization of sex work will have little impact.

It is notable that being insured was positively associated with reporting HIV infection in multivariable models for transwomen. Because federal programs such as Ryan White provide coverage for individuals with HIV, it is likely that those who know they are HIV positive would be more likely to have access to health insurance. Interestingly, reporting having a family relationship that was just as strong today as before coming out was positively associated with having HIV. One explanation for this association could be that HIV+ participants had worked on improving family relationships in the face of a life-threatening illness. Therefore, the strong family relationship was a result of responding to HIV infection. Further research is needed to better understand this association.

Neither bivariate nor multivariable models support any relationship between transgender discrimination and knowledge of HIV status among transmen. Among transwomen, however, interpersonal transgender discrimination was statistically significantly associated with knowledge of HIV status only when other covariates were included in the multivariable model. Having a graduate degree and an annual household income greater $10,000 were the only other covariates that remained significantly associated with knowledge of HIV status. This suggests that education and poverty may be important barriers to HIV testing for transwomen.

Both the direction of the relationship between transgender discrimination and knowledge of HIV status as well as they type of discrimination that was associated with this outcome beg for explanation. Interpersonal discrimination consists of experiences of discrimination that take place in public locations or at the hands of public officials, including those associated with the criminal justice system. It is possible that these encounters included forced or coerced HIV testing, therefore explaining the positive association between knowing one's HIV status and experiencing interpersonal discrimination. Alternatively, transwomen who have been tested may have been more likely to encounter discrimination from a health care provider during this process, therefore scoring higher on the Interpersonal Discrimination scale which includes encounters with the health care system. Further research is needed to clarify the relationship between transgender discrimination and knowledge of HIV status.

Neither bivariate nor multivariable models support any relationship between transgender discrimination and health care utilization among transwomen. Among transmen, however, bivariate analysis suggest a positive association between Institutional Discrimination and lack of health care utilization that was not statistically significant and which was no longer evident in the multivariable model. Institutional Discrimination reflects experiences of mistreatment in employment and housing, fundamental social needs. Discrimination in these domains of life would make utilizing health care services difficult , since employment is often required for either health insurance or the money to pay out of pocket for health care. The multivariable model suggests that having a graduate degree, health insurance, and/or strong family support may have greater influence on health care utilization than transgender specific discrimination.

This study is limited by its cross-sectional design which precludes making causal or directional inferences. This data set did not include important factors known to influence HIV risk such as number of sexual partners and condom use. We also had no information on the frequency of discrimination experiences or the longevity of sex work which may have an impact

on the health outcomes studied. These would be important avenues for future research on transgender health. Unfortunately, no information on HIV testing, biologic specimens, or medical visit data were available to provide more accurate assessment of outcomes, including the inability to assess HIV outcomes for those who reported not knowing their HIV status. Despite these limitations, the associations found between social factors and health outcomes among transgender people provide a useful starting point for future studies. In particular, studies examining the intersections of discrimination based on multiple attributes (e.g. race and gender identity) may provide useful information to inform more effective interventions to improve access to care and reduce HIV risk among transgender populations.

This study is remarkable for its inclusion of a very large sample of trans-identified people from every region of the United States in a distribution that mirrors that of the general population. The findings suggest that multiple social factors, including discrimination, impact the health of transgender people; therefore structural interventions for transgender people should address multiple aspects of identity and experience. Further research is needed to broaden and confirm these results.

Acknowledgements

Much gratitude is owed to the thousands of transgender and gender non-conforming individuals who participated in the National Transgender Discrimination Survey. This analysis would not have been possible without their participation as well as the generosity of the National Center for Transgender Equality and the National Gay and Lesbian Task Force who agreed to share their data. The Johns Hopkins Center for Public Health and Human Rights as well as the Johns Hopkins Center for Health Disparities Solutions provided financial support for this project. In addition, support was provided by the Summer Institute in LGBT Population Health, under Award Number R25HD064426 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD). The content is solely the

responsibility of the authors and does not necessarily represent the official views of the NICHD or the National Institutes of Health.

Table 6. Demographics and Descriptive Statistics (n=5949)

	Transmen n = 2254	Transwomen n=3695	Total Sample n=5949
Age in years, n=5523	30.4 (9.1); 18-83	41.3 (13.5); 18-83	37.1 (13.1); 18-83
Age in years , n= 5523			
18 – 24	574 (27.05)	406 (11.94)	980 (17.74)
25 – 44	1354 (63.81)	1505 (44.25)	2859 (51.77)
45 – 54	149 (7.02)	791 (23.26)	940 (17.02)
55 +	45 (2.12)	699 (20.55)	744 (13.48)
Race, n=5911			
White	1665 (74.5)	2843 (77.42)	4508 (76.32)
Black/African-American	75 (3.36)	184 (5.01)	259 (4.38)
Hispanic/Latino/Latina	104 (4.65)	171 (4.66)	275 (4.66)
Multiracial	326 (14.59)	338 (9.2)	664(11.24)
Asian/Pacific Islander & American Indian/Alaskan Native	65 (2.91)	136 (3.70)	201 (3.41)
Education, n=5920			
No high school degree	74 (3.29)	172 (4.69)	246 (4.16)
High school graduate only	137 (6.09)	372 (10.14)	509 (8.60)
Some college	844 (37.49)	1581 (43.09)	2425 (40.96)
College degree	718 (31.90)	864 (23.55)	1582 (26.72)
Graduate degree	478 (21.24)	680 (18.53)	1158 (19.56)
Household income, n= 5784			
<$10,000	370 (16.83)	508 (14.17)	878 (15.18)
$10,000 – 19,999	325 (14.79)	387 (10.79)	712 (12.31)
$20,000 – 49,999	760 (34.58)	1062 (29.62)	1822 (31.50)
$50,000 – 99,999	531 (24.16)	1061 (29.59)	1592 (27.52)
$100,000 +	212 (9.65)	568 (15.84)	780 (13.49)
Insurance status, n= 5787			
Uninsured	405 (18.24)	713 (19.99)	1118 (19.32)
Insured	1816 (81.76)	2853 (80.01)	4669 (80.68)
Employment status, n= 5912			
Unemployed	352 (15.62)	669 (18.28)	768 (12.99)
Not looking	270 (11.98)	498 (13.61)	1021 (17.27)
Employed	1631 (72.39)	2492 (68.11)	4123 (69.74)
Ever engaged in sex work, n= 5949			
No	2094 (92.9)	3212 (86.93)	5306 (89.19)
Yes	160 (7.10)	483 (13.07)	643 (10.81)
Family support for gender identity, n=5059			
Negative family response	503 (25.91)	1055 (33.84)	1558 (30.80)
Family relationships slowly improving	551 (28.39)	845 (27.10)	1396 (27.59)
Family as strong today as before I came out	887 (45.70)	1218 (39.06)	2105 (41.61)
HIV status, n=5875			
Negative	2064 (91.81)	3175 (87.54)	5239 (89.17)
Positive	9 (0.40)	141 (3.89)	150 (2.55)
Don't know	175 (7.78)	311 (8.57)	486 (8.27)
Not seek any health care when sick, n=5821			
Not used health care provider	123 (5.49)	230 (6.43)	353 (6.06)
Used health care provider	2119 (94.51)	3349 (93.57)	5468 (93.94)

Table 7. NTDS Discrimination Experiences (n=5949)*

	Transmen n = 2254	Transwomen n=3695	All Trans n=5949
I did not get a job I applied for because of being transgender or gender nonconforming.	657/1710 (38.42)	1107/2197 (50.39)	1764/3907 (45.15)
I was removed from direct contact with clients, customers or patients	249/1756 (14.18)	565/2306 (24.50)	814/4062 (20.04)
I was harassed by someone at work.	929/1906 (48.74)	1345/2636 (51.02)	2274/4542 (50.07)
I was forced to present in the wrong gender to keep my job.	495/1838 (26.93)	964/2595 (37.15)	1459/4433 (32.91)
I was denied access to appropriate bathrooms.	321/1726 (18.60)	593/2285 (25.95)	914/4011 (22.79)
I was asked inappropriate questions about my transgender or surgical status.	804/1790 (44.92)	977/2447 (39.93)	1781/4237 (42.03)
I have been evicted	95/1397 (6.80)	293/2037 (14.38)	388/3434 (11.30)
I was denied a home/apartment	251/1451 (17.30)	428/2074 (20.64)	679/3525 (19.26)
Stayed in a job I'd prefer to leave	826/1844 (44.79)	1249/2682 (46.57)	2075/4526 (45.85)
Changed jobs	821/1846 (44.47)	1052/2639 (39.86)	1873/4485 (41.76)
Denied equal treatment or services at a doctor's office or hospital	493/1160 (42.50)	465/1498 (31.04)	958/2658 (36.04)
Harassed or bullied by students, teachers or staff in elementary, junior, or high school	858/2244 (38.24)	453/3665 (12.36)	1131/5909 (22.19)
Harassed or bullied by students, teachers or staff in college, grad, or technical school	533/2188 (24.36)	321/3645 (8.81)	854/5833 (14.64)
Denied equal treatment or services at a store, hotel, resto, bus, train, taxi, airport	726/2227 (32.60)	875/3616 (24.20)	1601/5843 (27.40)
Verbally harassed or disrespected at a retail store, hotel, resto, bus, train, taxi, airport	1037/2231(46.48)	1234/3621 (34.08)	2271/5852 (38.81)
Denied equal treatment or services by a govt. agency/official	276/1612 (17.12)	441/3001 (14.70)	717/4613 (15.54)
Verbally harassed or disrespected by a govt. agency/official	331/1612 (20.53)	394/3001 (13.13)	725/4613 (15.72)
Denied equal treatment or services by police officer	265/1615 (16.41)	341/3052 (11.17)	606/4667 (12.98)
Officers generally treated with disrespect	420/2256 (18.63)	550/3695 (14.88)	970/5949 (16.31)
Officers have harassed me	285/2254 (12.64)	435/3695 (11.77)	720/5949 (12.10)
I have postponed or not tried to get medical care because of disrespect or discrimination from doctors or other healthcare providers.	987/2221 (44.44)	771/3563 (21.64)	1758/5784 (30.39)
Institutional, n=5534	0.03 (-1.25, 2.42)	0.0 (-1.25, 2.42)	0.0 (-1.25, 2.42)
Interpersonal, n=5784	0.21 (-1.16, 2.61)	-0.07 (-1.16, 2.61)	0.0 (-1.16, 2.61)

*The denominator excludes those who responded "not applicable."

Table 8. Bivariate Associations between Covariates and Transgender Discrimination (n=5949), β (95% CI)*

	Institutional	Interpersonal	Institutional	Interpersonal
Age in years				
18 – 24	Reference	Reference	Reference	Reference
25 – 44	.00 (-.06, .08)	.04 (-.04, .12)	-.02 (-.11, .06)	-.04 (-.12, .04)
45 – 54	-.03 (-.17, .10)	**-.24 (-.38, -.09)**	**-.14 (-.23, -.05)**	**-.21 (-.30, -.12)**
55 +	-.16 (-.39, .07)	-.32 (-.56, -.09)	**-.33 (-.43, -.23)**	**-.43 (-.52, -.34)**
Race				
White	Reference	Reference	Reference	Reference
Black/African-American	-.05 (-.23, .12)	-.07 (-.24, .11)	**.38 (.26, .50)**	**.33 (.22, .45)**
Hispanic/Latino/Latina	.10 (-.05, .24)	.10 (-.05, .26)	**.29 (.17, .41)**	**.29 (.17, .41)**
Multiracial	**.35 (.26, .44)**	**.37 (.28, .46)**	**.38 (.30, .47)**	**.42 (.33, .50)**
Other (API & AN/AI)	.00 (-.18, .19)	-.05 (-.24, .14)	.17 (.04, .31)	**.22 (.09, .35)**
Education				
No high school degree	Reference	Reference	Reference	Reference
High school graduate only	.00 (-.30, .22)	.03 (-.19, .25)	-.15 (-.29, -.00)	-.06 (-.21, .08)
Some college	.01 (-.17, .19)	.13 (-.06, .31)	-.11 (-.24, .01)	-.02 (-.15, .10)
College degree	-.02 (-.20, .16)	.18 (-.00, .37)	**-.32 (-.45, -.20)**	**-.19 (-.31, -.06)**
Graduate degree	-.03 (-.22, .15)	.21 (.02, .41)	**-.34 (-.47, -.21)**	-.17 (-.30, -.04)
Household income				
<$10,000	Reference	Reference	Reference	Reference
$10,000 – 19,999	-.01 (-.12, .10)	.02 (-.09, .14)	**-.19 (-.29, -.09)**	**-.16 (-.25, -.06)**
$20,000 – 49,999	**-.16 (-.25, -.07)**	-.09 (-.19, .00)	**-.32 (-.41, -.25)**	**-.31 (-.39, -.23)**
$50,000 – 99,999	**-.26 (-.36, -.16)**	**-.23 (-.33, -.12)**	**-.59 (-.68, -.51)**	**-.54 (-.62, -.46)**
$100,000 +	**-.24 (-.37, -.12)**	**-.24 (-.37, -.11)**	**-.71 (-.80, -.62)**	**-.64 (-.73, -.55)**
Insurance status				
Uninsured	Reference	Reference	Reference	Reference
Insured	**-.31 (-.39, -.23)**	**-.19 (-.28, -.11)**	**-.41 (-.47, -.34)**	**-.37 (-.43, -.30)**
Employment status				
Unemployed	Reference	Reference	Reference	Reference
Not looking	**.29 (.20, .39)**	.11 (.01, .21)	**.42 (.35, .50)**	**.34 (.27, .42)**
Employed	.10 (.02, .19)	.02 (-.07, .11)	.07 (.01, .14)	.05 (-.02, .12)
Ever engaged in sex work				
No	Reference	Reference	Reference	Reference
Yes	**.61 (.49, .73)**	**.56 (.43, .68)**	**.67 (.60, .75)**	**.70 (.63, .77)**
Family support				
Negative response	Reference	Reference	Reference	Reference
Slowly improving	**-.20 (-.28, -.11)**	-.08 (-.17, .01)	-.04 (-.11, .03)	-.02 (-.09, .05)
As strong today as before	**-.43 (-.51, -.34)**	**-.36 (-.45, -.28)**	**-.40 (-.46, -.33)**	**-.37 (-.43, -.31)**

*Bold numbers are statistically significant with an overall p <0.05 for all multiple comparisons.

Table 9. Bivariate Associations between Covariates and Outcome variables (n=5949), OR (95%CI)*

	Know status	Not use health care	Know status	HIV positive	Not use health care
Age in years					
18 – 24	Reference	Reference	Reference	Reference	Reference
25 – 44	1.34 (.95, 1.89)	.79 (.53, 1.18)	1.43 (1.00, 2.04)	.42 (.28, .63)	.62 (.42, .90)
45 – 54	2.18 (.97, 4.89)	.39 (.14, 1.10)	2.18 (1.42, 3.33)	.14 (.07, .27)	.38 (.24, .61)
55 +	2.33 (.55, 9.87)	(omitted)**	1.57 (1.04, 2.37)	.05 (.02, .14)	.25 (.15, .43)
Race					
White	Reference	Reference	Reference	Reference	Reference
Black	1.74 (.54, 5.62)	1.89 (.84, 4.23)	.71 (.43, .1.18)	56.3 (33.8, 90.5)	1.03 (.51, 2.07)
Latina/o	.44 (.25, .78)	1.13 (.48, 2.65)	1.07 (.60, 1.92)	17.4 (10.0, 30.3)	.76 (.35, 1.64)
Multiracial	.57 (.39, .85)	.94 (.54, 1.62)	1.44 (.92, 2.32)	5.99 (3.40, 10.6)	1.11 (.71, 1.74)
Other	.76 (.32, 1.80)	1.13 (.40, 3.17)	.68 (.40, 1.16)	6.11 (2.74, 13.6)	1.33 (.69, 2.60)
Education					
No high school degree	Reference	Reference	Reference	Reference	Reference
High school graduate only	1.81 (.73, 4.51)	1.66 (.58, 4.77)	.76 (.44, 1.34)	.25 (.13, .46)	.95 (.48, 1.88)
Some college	1.67 (.82, 3.40)	.96 (.37, 2.47)	1.37 (.82, 2.28)	.15 (.10, .25)	.82 (.45, 1.49)
College degree	2.21 (1.07, 4.58)	.75 (.29, 1.97)	1.82 (1.05, 3.14)	.09 (.05, .17)	.56 (.30. 1.07)
Graduate degree	2.14 (1.00, 4.55)	.26 (.08, .79)	2.12 (1.19, 3.78)	.08 (.04, .15)	.32 (.15, .65)
Household income					
<$10,000	Reference	Reference	Reference	Reference	Reference
$10,000 – 19,999	2.05 (1.21, 3.47)	.85 (.48, 1.52)	1.90 (1.24, 2.91)	.54 (.33, .90)	.76 (.49, 1.16)
$20,000 – 49,999	1.59 (1.07, 2.36)	.77 (.48, 1.25)	2.14 (1.53, 2.97)	.25 (.16, .39)	.52 (.37, .75)
$50,000 – 99,999	2.58 (1.59, 4.18)	.32 (.17, .61)	2.64 (1.87, 3.73)	.15 (.09, .25)	.23 (.15, .35)
$100,000 +	6.14 (2.41, 15.7)	.34 (.14, .84)	2.55 (1.69, 3.85)	.07 (.03, .17)	.12 (.06, .23)
Insurance status					
Uninsured	Reference	Reference	Reference	Reference	Reference
Insured	1.06 (.72, 1.58)	.12 (.08, .18)	1.91 (1.48, 2.48)	1.11 (.69, 1.79)	.09 (.07, .12)
Employment status					
Unemployed	Reference	Reference	Reference	Reference	Reference
Not looking	.51 (.34, .78)	2.72 (1.75, 4.22)	.65 (.48, .88)	2.74 (1.77, 4.23)	2.58 (1.89, 3.44)
Employed	.69 (.46, 1.04)	1.06 (.62, 1.82)	1.05 (.76, 1.45)	2.18 (1.44, 3.30)	.66 (.43, 1.02)
Ever engaged in sex work					
No	Reference	Reference	Reference	Reference	Reference
Yes	.94 (.52, 1.70)	1.03 (.51, 2.08)	.84 (.60, 1.17)	16.8 (11.6, 24.1)	.91 (.59, 1.40)
Family support					
Negative	Reference	Reference	Reference	Reference	Reference
Improving	1.47 (.94, 2.32)	.69(.43, 1.12)	1.24 (.88, 1.73)	1.50 (.86, 2.63)	.60 (.42, .85)
Strong as before	1.50 (1.00, 2.25)	.35 (.22, .58)	1.12 (.84, 1.52)	2.43 (1.50, 3.96)	.36 (.25, .53)
Institutional Discrimination	.90 (.74, 1.10)	1.32 (1.05,1.67)	1.04 (.90. 1.21)	1.69 (1.38, 2.07)	1.18 (1.00, 1.39)
Interpersonal Discrimination	1.02 (.84, 1.24)	1.23 (.98, 1.55)	1.16 (.99, 1.35)	1.60 (1.31, 1.96)	1.15 (.97, 1.36)

*Bold numbers are statistically significant with an overall $p < 0.05$ for all multiple comparisons.

** Omitted due to inadequate number of observations for analysis

Table 10. Odds Ratios for Outcomes among Transwomen, aOR (95%CI)*

	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Age						
18 – 24	Reference	Reference	Reference	Reference	Reference	Reference
25 – 44	1.18 (.77, 1.81)	1.17 (.76, 1.79)	.85 (.46, 1.56)	.85 (.46, 1.56)	.48 (.30, .77)	.48 (.30, .77)
45 – 54	1.59 (.95, 2.66)	1.63 (.97, 2.72)	.55 (.22, 1.41)	.59 (.23, 1.50)	.31 (.17, .55)	.31 (.17, .54)
55+	1.05 (.63, 1.76)	1.11 (.66, 1.86)	.28 (.07, 1.03)	.30 (.08, 1.12)	.27 (.14, .52)	.26 (.13, .51)
Race						
White	Reference	Reference	Reference	Reference	Reference	Reference
Black/African-American	1.27 (.60, 2.71)	1.26 (.59, 2.68)	14.8(7.05,31.0)	15.5(7.39,32.7)	.59(.23,1.49)	.59(.23,1.50)
Hispanic/Latino/Latina	1.53 (.69, 3.37)	1.53 (.69, 3.37)	3.82(1.59,9.18)	3.82(1.59,9.18)	.56(.22,1.41)	.57(.23,1.44)
Multiracial	1.56 (.92, 2.67)	1.51 (.88, 2.57)	2.71(1.33,5.54)	2.6 (1.27,5.34)	.95(.56,1.63)	.99(.58,1.69)
Other (API & AN/AI)	.80 (.43, 1.51)	.78 (.42, 1.46)	3.8 (1.33,10.8)	4.0 (1.40, 11.5)	1.06(.47,2.44)	1.09(.48,2.50)
Education						
No high school degree	Reference	Reference	Reference	Reference	Reference	Reference
High school graduate	.70 (.35, 1.42)	.69 (.34, 1.39)	.92 (.31, 2.78)	.99 (.33, 3.01)	.56 (.22, 1.44)	.58 (.23, 1.49)
Some college	1.31 (.68, 2.55)	1.26 (.65, 2.45)	1.17 (.47, 2.92)	1.19 (.47, 2.99)	.87 (.37, 2.02)	.91 (.39, 2.11)
College degree	1.98 (.96, 4.08)	1.91 (.92, 3.95)	1.70 (.59, 4.94)	1.76 (.60, 5.16)	.80 (.32, 1.98)	.82 (.33, 2.03)
Graduate degree	2.66 (1.21,5.86)	2.52 (1.14, 5.58)	1.58 (.49, 5.11)	1.54 (.47, 5.03)	.59 (.21, 1.60)	.61 (.22, 1.67)
Household income						
<$10,000	Reference	Reference	Reference	Reference	Reference	Reference
$10,000 – 19,999	2.01 (1.19, 3.37)	2.05 (1.21, 3.45)	1.11 (.52, 2.39)	1.12 (.52, 2.42)	.90 (.53, 1.53)	.87 (.51, 1.48)
$20,000 – 49,999	2.37 (1.53, 3.66)	2.50 (1.61, 3.88)	.43 (.20, .92)	.42 (.20, .91)	.80 (.50, 1.28)	.75 (.47, 1.21)
$50,000 – 99,999	2.47 (1.52, 4.00)	2.68 (1.65, 4.37)	.40 (.17, .92)	.41 (.18, .96)	.53 (.29, .96)	.48 (.27, .87)
$100,000+	1.92 (1.07, 3.44)	2.11 (1.15, 3.88)	.20 (.05, .80)	.22 (.06, .88)	.22 (.07, .67)	.20 (.07, .61)
Insurance status						
Uninsured	Reference	Reference	Reference	Reference	Reference	Reference
Insured	1.24 (.87, 1.76)	1.29 (.90, 1.84)	2.45(1.22,4.97)	2.67(1.31,5.44)	.13 (.09, .19)	.12 (.08, .18)
Employment status						
Unemployed	Reference	Reference	Reference	Reference	Reference	Reference
Not looking	1.13 (.73, 1.75)	1.12 (.72, 1.73)	.83 (.38, 1.78)	.78 (.36, 1.70)	1.29(.84 1.98)	1.31(.86,2.02)
Employed	1.22 (.80, 1.84)	1.22 (.81, 1.84)	1.36 (.70, 2.62)	1.35 (.70, 2.60)	.89 (.51, 1.56)	.90 (.52, 1.56)
Ever engaged in sex work						
No	Reference	Reference	Reference	Reference	Reference	Reference
Yes	1.03 (.65, 1.61)	.90 (.56, 1.44)	5.5 (3.17,9.85)	5.16(2.87,9.28)	.64 (.38, 1.08)	.71 (.41, 1.22)
Family support						
Negative response	Reference	Reference	Reference	Reference	Reference	Reference
Slowly improving	1.09 (.76, 1.57)	1.09 (.76, 1.57)	1.82 (.89, 3.70)	1.82 (.89, 3.70)	.73 (.49, 1.09)	.72 (.48, 1.09)
Just as strong today	1.12 (.80, 1.56)	1.21 (.87, 1.70)	2.4 (1.27,4.71)	2.65(1.34,5.16)	.48 (.32, .73)	.44 (.29, .66)
Transgender Discrimination						
Institutional Discrimination	—	1.16 (.95, 1.41)	—	1.28 (.92, 1.78)	—	.80 (.63, 1.01)
Interpersonal Discrimination	—	1.29(1.05,1.59)	—	1.20 (.86, 1.66)	—	.82 (.65, 1.03)

*Bold numbers are statistically significant with p <0.05

**Each subscale tested in separate models.

Table 11. Adjusted Odds Ratios for Outcomes among Transmen, aOR (95%CI)*

	Model 1	Model 2	Model 1	Model 2
Age				
18 – 24	Reference	Reference	Reference	Reference
25 – 44	1.37 (.92, 2.06)	1.38 (.92, 2.06)	1.09 (.64, 1.84)	1.06 (.81, 2.31)
45 – 54	1.62 (.69, 3.80)	1.80 (.76, 4.28)	.55 (.15, 2.01)	.59 (.62, 1.79)
55+	(omitted)	(omitted)	(omitted)	(omitted)
Race				
White	Reference	Reference	Reference	Reference
Black	2.00 (.47, 8.42)	2.00 (.47, 8.48)	1.95 (.69, 5.56)	1.97 (.69, 5.63)
Hispanic/Latino/Latina	.55 (.27, 1.13)	.53 (.25, 1.10)	.51 (.14, 1.83)	.50 (.14, 1.77)
Multiracial	.74 (.45, 1.20)	.71 (.44, 1.17)	.62 (.07, 1.05)	.62 (.30, 1.29)
Other (API & AN/AI)	.53 (.21, 1.29)	.53 (.22, 1.31)	1.51 (.48, 4.72)	1.57 (.50, 4.94)
Education				
No high school degree	Reference	Reference	Reference	Reference
High school graduate only	2.21 (.67, 7.24)	2.18 (.66, 7.19)	.79 (.21, 2.99)	.81 (.21, 3.05)
Some college	1.66 (.64, 4.27)	1.56 (.60, 4.04)	.49 (.15, 1.58)	.47 (14, 1.54)
College degree	1.53 (.58, 4.06)	1.40 (.53, 3.75)	.50 (.15, 1.70)	.47 (.14, 1.59)
Graduate degree	1.24 (.45, 3.40)	1.10 (.40, 3.06)	.26 (.07, 1.05)	**.24 (.06, .98)**
Household income				
<$10,000	Reference	Reference	Reference	Reference
$10,000 – 19,999	1.68 (.93, 3.05)	1.69 (.93, 3.06)	1.13 (.54, 2.35)	1.13 (.54, 2.36)
$20,000 – 49,999	**1.74 (1.05, 2.90)**	**1.75 (1.05, 2.92)**	1.28 (.66, 2.47)	1.30 (.67, 2.50)
$50,000 – 99,999	**2.53 (1.38, 4.65)**	**2.60 (1.42, 4.79)**	.83 (.36, 1.92)	.86 (.37, 2.01)
$100,000 +	**5.75 (1.94, 17.01)**	**5.89 (1.99, 17.47)**	1.25 (.42, 3.70)	1.26 (.42, 3.74)
Insurance status				
Uninsured	Reference	Reference	Reference	Reference
Insured	.80 (.49, 1.30)	.78 (.48, 1.27)	**.13 (.08, .21)**	**.12 (.07, .20)**
Employment status				
Unemployed	Reference	Reference	Reference	Reference
Not looking	.76 (.44, 1.33)	.78 (.45, 1.38)	1.58 (.87, 2.86)	1.62 (.89, 2.95)
Employed	.85 (.50, 1.43)	.85 (.50, 1.45)	1.21 (.59, 2.47)	1.21 (.59, 2.48)
Ever engaged in sex work				
No	Reference	Reference	Reference	Reference
Yes	1.09 (.56, 2.13)	1.10 (.56, 2.19)	.57 (.41, 1.26)	.57 (.23, 1.42)
Family support				
Negative response	Reference	Reference	Reference	Reference
Slowly improving	1.42 (.87, 2.31)	1.39 (.85, 2.27)	.72 (.41, 1.26)	.71 (.40, 1.24)
As strong today as before	1.35 (.87, 2.09)	1.37 (.87, 2.14)	**.39 (.22, .68)**	**.38 (.21, .68)**
Transgender Discrimination**				
Institutional Discrimination	---	.99 (.77, 1.28)	---	.92 (.67, 1.29)
Interpersonal Discrimination	---	1.12 (.87, 1.43)	---	1.06 (.77, 1.46)

*Bold numbers are statistically significant with $p < 0.05$

**Each subscale tested in separate models.

References

Grant, J. M., L. A. Mottet, et al. (2011). Injustice at Every Turn: A Report of the National Transgender Discrimination Survey. Washington, National Center for Transgender Equality and National Gay and Lesbian Task Force.

Hausmann, L. R. M., M. J. Hannon, et al. (2011). "Impact of Perceived Discrimination in Healthcare on Patient-Provider Communication." Medical Care **49**(7): 626-633 610.1097/MLR.1090b1013e318215d318293c.

Herbst, J. H., E. D. Jacobs, et al. (2008). "Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review." AIDS Behav **12**(1): 1-17.

Johnson, C. V., M. J. Mimiaga, et al. (2008). "Health care issues among lesbian, gay, bisexual, transgender and intersex (LGBTI) populations in the United States: Introduction." Journal of Homosexuality **54**(3): 213-224.

Kenagy, G. P. (2005). "Transgender health: findings from two needs assessment studies in Philadelphia." Health Soc Work **30**(1): 19-26.

Kessler, R. C., K. D. Mickelson, et al. (1999). "The Prevalence, Distribution, and Mental Health Correlates of Perceived Discrimination in the United States." Journal of Health and Social Behavior **40**(3): 208-230.

Lambda Legal (2010). When Health Care Isn't Caring: Lambda Legal's Survey of Discrimination Against LGBT People and People with HIV. New York, Lambda Legal.

Lombardi, E. L., R. A. Wilchins, et al. (2001). "Gender violence: Transgender experiences with violence and discrimination." Journal of Homosexuality **42**(1): 89-101.

Mays, V. M. and S. D. Cochran (2001). "Mental Health Correlates of Perceived Discrimination Among Lesbian, Gay, and Bisexual Adults in the United States." American Journal of Public Health **91**(11): 1869-1876.

Pascoe, E. A. and L. Smart Richman (2009). "Perceived discrimination and health: A meta-analytic review." Psychological Bulletin **135**(4): 531.

Stephens, S. C., K. T. Bernstein, et al. (2010). "Male to Female and Female to Male Transgender Persons have Different Sexual Risk Behaviors Yet Similar Rates of STDs and HIV." AIDS Behav.

MANUSCRIPT THREE:

Manifestations of Stigma: Establishing Authority in Transgender Health Care Encounters

Abstract

Introduction

A growing body of literature supports stigma and discrimination as fundamental causes of health disparities in the United States. Stigma and discrimination experienced by transgender people have been associated with increased risk for depression, suicide, and HIV. Transgender stigma and discrimination experienced in health care influence transgender people's health care access and utilization. Thus, understanding how stigma and discrimination manifest and function in health care encounters is critical to addressing health disparities for transgender people.

Methods

A qualitative, Grounded Theory approach was taken to this study of stigma in health care interactions. Fifty-five transgender people and twelve medical providers participated in one-time in-depth interviews about stigma, discrimination, and health care interactions between providers and transgender patients.

Results

Due to the social and institutional stigma against transgender people, their care is excluded from medical training. Therefore, providers approach medical encounters with transgender patients with ambivalence and uncertainty. Transgender people also anticipate that providers will not know how to meet their needs which upsets the normal balance of power in provider-patient relationships during the medical encounter. Interpersonal stigma functions to reinforce the power and authority of the medical provider during these interactions.

Discussion

Functional theory posits that we hold stigmatizing attitudes because they serve a specific function but ignores how hierarchies of power in social relationships maintain and reinforce inequalities. The findings of this study suggest that interpersonal stigma also functions to reinforce medical power and authority in the face of provider uncertainty. Thus, it is important

to acknowledge the role of power and to understand how stigmatizing attitudes function to maintain systems of inequality.

Introduction

In Erving Goffman's seminal book, *Stigma: Notes on the Management of Spoiled Identity,* he defines stigma as a relationship between attributes (i.e. characteristics of a person) and stereotypes about those attributes (Goffman 1963). An attribute only becomes stigmatized when it is interpreted through a negative association with that attribute. It is through this interpretative relationship that certain human differences become labeled as negative and thereby stigmatized.

In a theoretical paper re-conceptualizing stigma through the lens of critical theory, Link and Phelan (2001) note that most stigma research has ignored the role of structural power. To correct for this, they assert that stigma consists of five components: 1) People distinguish and label human differences. 2) Dominant cultural beliefs link labeled people to negative stereotypes. 3) Labeled people are placed in distinct categories in order to separate "us" from "them." 4) Labeled people experience devaluation and discrimination that leads to unequal outcomes. 5) Those who enact stigma must have access to social, economic, and/or political power that allows for full execution of their disapproval, rejection, exclusion, and discrimination (Link and Phelan 2001).

Others have challenged the nature of Link and Phelan's definition of stigma. In a theoretical piece on health-related stigma, Deacon proposed a distinction between stigma and discrimination. Her model posits stigma as a social process of "othering, blaming, and shaming" that is separate from its effects, status loss and discrimination (Deacon 2006). For the purposes of this study, the term stigma encompasses the structural power to blame and shame, as described by Link and Phelan as well as Deacon. However, the term discrimination will refer specifically to actions that emanate from stigmatizing attitudes and labels as described by Deacon.

Background

A growing body of literature supports stigma and discrimination as fundamental causes of health disparities among marginalized groups (Link and Phelan 1995; Krieger 1999; Meyer and Northridge 2007; Krieger 2012). The stigma and discrimination faced by transgender people (i.e. those whose gender differs from their sex at birth) have been associated with increased risk for depression, suicide, and HIV (Lombardi, Wilchins et al. 2001; Dworkin and Yi 2003; Risser, Shelton et al. 2005; Lawrence, Meyer et al. 2007; De Santis 2009). Transgender people in the U.S. also face significant barriers to accessing health care. Among a non-probability sample of 182 transgender persons in Philadelphia (Kenagy 2005), one-third reported having no primary care physician and one-quarter had no access to general medical care. When examined by gender, 43% of transmen (i.e. those born female who identify as men) had no access to care compared with 14% of transwomen (i.e. those born male who identify as female). One in four respondents had been denied medical care just because they were transgender. More recently, Lambda Legal conducted a national study of health care experiences of LGBT people and people living with HIV. Of the 397 transgender respondents who completed the survey, 70% of them reported experiencing some form of health care discrimination (Lambda Legal 2010). Over a quarter of all transgender respondents (25.7%) reported being denied care because of their transgender identity.

Even when transgender people are able to access health care, the care they receive is often far from ideal. A statewide needs assessment in Virginia (Xavier, Hannold et al. 2007) found that 46% of transgender respondents had to educate their regular doctors about their health care needs as a transgender person. The National Transgender Discrimination Survey (Grant, Mottet et al. 2011) of over 6,000 transgender and gender non-conforming individuals throughout the U.S. found that 50% of respondents reported having to teach their medical providers about transgender care. Beyond this lack of clinical competence, some transgender people experience outright mistreatment from medical providers. Lambda Legal (2010) found that 20.9% of transgender respondents reported having been subjected to harsh language, and

20.3% of them reported being blamed for their own health problems. Fifteen percent reported that health care professionals refused to touch them or used excessive precautions, and 7.8% experienced physically rough or abusive treatment by a medical provider.

Given their experience, many transgender people are wary of the health care system. Ninety percent of transgender people surveyed by Lambda Legal (2010) believed there are not enough medical personnel who are properly trained to care for them, and 52% worried about being refused medical services when they need them. This wariness has significant consequences for the health of transgender people. In the National Transgender Discrimination Survey (Grant, Mottet et al. 2011), 33% of respondents reported that they postponed preventive medical care due to discrimination, and 28% postponed care even when they were sick or injured.

Mistrust of the health care system also leads some transgender people to seek care outside the formal sector. Xavier et al. (2007) found that half of the hormone-experienced study participants had obtained their hormones from someone other than a doctor, and nearly 46% of them had injected themselves or received a hormone injection from someone other than a doctor or nurse, including 71% of transmen and 37% of the transwomen. While there is little data on the effect of gender-affirming medical care on the physical health of transgender people, one study from New York City found that transgender people with access to such care had lower rates of risky health behaviors such as cigarette smoking and illicit use of syringes for hormone injection (Sanchez, Sanchez et al. 2009).

It is clear from this literature that transgender people face stigma and discrimination in health care settings; and that this stigma influences their health care access and utilization. Thus, understanding how stigma and discrimination manifest and function in health care encounters is critical to addressing health disparities for transgender people. In order for change to take place, this understanding must take into account both provider and patient perspectives on the health care encounter. To date there has been no published literature exploring how

discrimination functions in health care encounters between transgender patients and medical providers. This study was conducted to address this gap. Specifically, qualitative methods were used to explore how stigma manifests in transgender health care encounters and to examine the role that stigma and discrimination play during interactions between health care providers and transgender patients.

Methods

This paper presents a Grounded Theory analysis (Charmaz 2006) of field notes and in-depth interviews conducted with medical care providers and transgender adults as part of a larger study examining stigma, access to care and HIV risk among transgender people. To ground the study in the needs of the community, two community advisory boards (CABs) were convened before data collection began. One CAB was made up of transwomen and the other, transmen. Each CAB met approximately monthly before and during the course of data collection and as needed after data collection was complete. CABs provided input into the development of study materials, assisted with recruitment, and offered suggestions for interpreting preliminary findings as data collection progressed.

Data Collection

Purposive sampling was used to identify transgender participants and clinicians who provided medical care for transgender people. Sampling for transgender participants was stratified by gender to ensure adequate participation by both transmen and transwomen. In addition, efforts were made to achieve variability along lines of race, engagement in medical care, and use of hormone therapy, as these characteristics were theorized to affect both discrimination and health care experiences.

In-depth interviews were conducted with both transgender adults and health care providers in a small industrial city in the mid-Atlantic region of the U.S. from January 2011 to July 2011. Field notes were handwritten immediately after each interview and typed up once transcription was complete. Transgender adults were recruited by placing recruitment flyers in

the city's LGBT health center as well as through announcements during transgender support groups and listserves as well as by outreach to organizations that provide services and advocacy for the transgender community. In addition, community advisory board members recruited transgender people from their social networks, and transgender study participants were encouraged to refer other transgender people in their social networks. Health care providers were recruited from medical practices known to provide care for transgender patients. The first author made presentations at medical provider meetings of three health facilities as well as sending invitation emails describing the study. All participants provided verbal informed consent; and all interviews were audio taped and transcribed verbatim.

Transgender participants

Inclusion criteria for transgender participants included being 18 years of age or older, residing in the metropolitan area, and identifying as transgender or as a gender different from their birth sex. Each potential participant was screened over the telephone. Participants meeting the inclusion criteria were scheduled for an interview at the project office located in a central area of the city, easily accessible by public transportation.

One individual in-depth interview was conducted with each of the 55 transgender participants, including 25 transmen and 30 transwomen. Each interview lasted between 45 and 180 minutes with an average duration of 90 minutes. The interviews elicited detailed narratives of individual experiences and perceptions. Specifically, participants were asked about their family and social life, gender identity, sexual orientation and practices, health care experiences, as well as experiences of stigma and discrimination. Transgender participants were reimbursed $25 for their time.

The average age of the transwomen in the study was 39 years (range 21-66). Two-thirds of the transwomen identified as Black or African-American, the remainder identified as white. Half of the transwomen participants had no more than a high school education. Twenty-six of the thirty transwomen had a regular source for medical care. Two-thirds of them had

been tested for HIV in the previous year. Of the five transwomen who reported having HIV, all of them had been diagnosed for greater than 10 years.

The average age of the transmen in the study was 33 years (range 21 – 57). Approximately one-quarter of the transmen identified as Black or African-American. Half of the transmen identified as white and the remainder as mixed or other race. All of the transmen were high school graduates, and all but two of them had at least some college. Twenty of the twenty-five transmen had a regular source for medical care. Eighteen of them had an HIV test in the previous year; none reported having HIV.

Health care providers

Inclusion criteria were being at least 18 years of age, working in the metropolitan area, and having provided medical care to at least one transgender patient in the preceding year. Emails inviting participation were sent to medical providers at institutions recommended by the CAB and known by the author to provide care for transgender patients. All providers who expressed interest and who met the inclusion criteria were scheduled for interviews at the project office or their own office depending on their choice. Interviews with health care providers included questions about their personal history and clinical training as well as about their experiences providing care for transgender patients. Each interview lasted between 45 and 90 minutes with an average duration of 60 minutes. No monetary reimbursement was provided to health care providers.

The 12 medical providers were drawn from health care institutions in the greater metropolitan area including: 7 primary care providers from the local LGBT health center (4 physicians, 2 nurse practitioners, and 1 physician assistant), 2 endocrinologists and 1 physician assistant from a large academic medical center, 1 adolescent medicine specialist from another large academic medical center, and 1 physician in private practice. None of the medical providers self-identified as transgender.

Research team and reflexivity

The author conducted 39 of the 55 interviews with transgender participants and 11 of the 12 interviews with medical providers. She is an African-American non-transgender woman who conducted this study as part of her doctoral dissertation. For two years prior and during the course of this study, she was a medical provider at the local LGBT health center and a member of the local coalition of organizations serving the transgender community. Two of the transgender people she interviewed were her patients and declined to be interviewed by the research assistant, though this was offered. She also had collegial relationships with 6 of the providers whom she interviewed for the study. All were offered the opportunity to interview with the research assistant and declined. A trained graduate research assistant with a bachelor's degree in anthropology conducted 16 of the interviews with transgender participants and one of the interviews with medical providers. She is an Asian-American non-transgender woman who had experience working in HIV prevention with transgender communities in a different urban area in the U.S.

As an ally of the transgender community as well as a medical provider herself, this investigator has an investment in the potential policy and programmatic implications of the findings of this study as well as presuppositions about the nature of stigma and discrimination in the health care encounter for transgender people. Several measures were taken to clarify the researcher's stance in relation to the participants and the subject matter. Reflexivity was built into the data collection process by providing a space for reflexive comments on the form used to write field notes after each interview. Both the first author and the research assistant wrote reflexive as well as general field notes at the end of each interview. In addition, the research assistant used the health worker interview guide to interview the first author. The transcript from this interview was not analyzed as part of the data set but was used along with a reflexive journal kept by the first author to help articulate her views vis à vis those of the study participants.

Ethics and Funding

The Institutional Review Board at Johns Hopkins School of Public Health provided ethical approval for this study. To maximize the confidentiality of participants, no individual identifiers were collected; rather, anonymous codes were assigned for each participant. In addition, no written consent forms were used. Prior to enrollment, all recruited individuals were read the contents of the oral consent form and given ample opportunity to ask questions before providing verbal consent for participation. Funding for this study was provided by the Johns Hopkins Health Disparities Solutions Center and the Johns Hopkins Center for Public Health and Human Rights. None of the funders played any role in the collection, interpretation, or presentation of the data.

Analysis

Data for analysis included transcripts of audio recordings from the in-depth interviews as well as typed field notes from all data collection activities. The author coded the transcripts in the software program Atlas.ti© (version 6.2, Scientific Software Development GmbH, Eden Prairie, MN) using a Grounded Theory approach (Charmaz 2006) . Grounded Theory methods are designed to discover theory within textual data. Classic Grounded Theory involves beginning with line-by-line open coding, a process of labeling each line while remaining open to discovery and unrestricted by pre-existing theories. Codes are subsequently grouped into categories and compared to each other in the process of constant comparative analysis, a hallmark of Grounded Theory. The coding process becomes more focused as explanations for differences are sought and categories related to other categories and memos are used to document theory development. Data collection progresses using theoretical sampling in which an emerging theory is further explored by deliberately seeking out new participants with characteristics that may expand or challenge the theory.

In this study, open coding was conducted on 5 medical provider transcripts and 10 transgender transcripts. This subset of transcripts was chosen in such a way as to maximize variability in provider type and facility for medical providers, and to maximize variability in

age, race, and gender for transgender participants. This process produced over 100 codes that were derived from line-by-line coding of the data. These codes were examined for overlap, and then collapsed into 30 broader codes that were used for focused coding of the remaining transcripts. These codes were then organized into 5 categories. Coded text was extracted, organized by category, and read in multiple iterations using constant comparisons between and within texts to identify key processes related to the manifestation and function of stigma and discrimination in the medical encounter. All of the 12 medical provider transcripts were analyzed in this manner. Transcripts for the transgender participants were analyzed in this manner until data saturation (i.e. no new themes identified) was reached at 30 interviews. The remaining transcripts were read for additional or disconfirming themes and codes were revised accordingly. Memos were used throughout to organize and document the analytic process.

This method diverged from classic Grounded Theory in that new participants with specific theoretically relevant characteristics were not sought during the course of data collection. Due to the sensitive nature of the topic and the importance of protecting the confidentiality of transgender participants, it was not feasible to select participants on the basis of emerging theory, and we were unable to re-contact participants for additional interviews to expand upon emerging themes. Instead, the investigator specifically looked for confirming and disconfirming data within the remaining transcripts after data saturation was reached.

Credibility

Participant checking was done by holding community consultations with transgender participants after the interviews were completed and preliminary data analysis had taken place. As recommended by the community advisory boards, separate meetings were held for transwomen and transmen. Ten transmen and seven transwomen participated in these meetings, respectively. During the meetings, preliminary findings from the study were presented in the form of vignettes and community members provided detailed feedback and interpretation of results as well as recommendations for ways the findings could be used. Input from these

community consultations informed the results presented below. In addition, peer debriefing was conducted with six public health doctoral students and one academic faculty member in public health in order to seek alternative understandings of the data.

Findings

Navigating Uncertainty and Establishing Authority - The Theory

Establishing authority is the central social process identified during analysis of the qualitative data (Figure 2). In this process, stigma and discrimination both create the conditions which challenge expected power relations between provider and patient as well as provide mechanisms to maintain and/or reinforce those power relationships. Structural and institutional stigma ensure that transgender experiences and bodies are absent from medical curriculum and leaves most providers without clear guidelines for the medical encounter. This uncertainty can lead to ambivalence about providing care.

Because transgender people are aware that most providers are not trained to meet their needs, they also approach the encounter with uncertainty about the provider's competence. The uncertainty experienced by both providers and transgender people challenges the traditional clinical relationship in which the medical provider is expected to be a knowledgeable medical authority, make appropriate assessments, and provide effective care; while the patient is expected to acquiesce to the provider's greater health care knowledge. Interpersonal transgender stigma can serve to reinforce the traditional provider-patient power relationship. Both medical providers and transgender patients may resist the manifestation of stigma or participate in its enactment during the medical encounter.

Structural and Institutional Stigma: Creating the Conditions

Transgender participants' narratives offered vivid details about their experiences of societal stigma and discrimination. Experiences included being denied services at public establishments, being harassed and assaulted in public spaces, being passed over for employment or being fired when their gender identity was discovered or disclosed, and even

being sexually harassed or assaulted when housed with members of their birth sex in institutions such as shelters, treatment centers, or jail. Some respondents internalized this stigma and wrestled with self-hatred or projected negative attitudes toward other transgender people. Most had learned to anticipate discrimination. This anticipation led some to describe limiting their geographic, employment, and health care options in attempts to avoid exposure to additional discrimination. Other transgender participants expressed gratitude for simply being allowed to access the most basic needs such as housing without being evicted because of their gender identity.

Most medical providers were aware of the difficulties transgender people face in society, including much of the stigma and discrimination described by transgender people themselves. The providers felt that these difficulties led to a high prevalence of mental health and behavioral issues which made transgender people difficult to deal with as patients. One of the physicians put it this way,

> *They've been kicked around so much in their lives because of the territory they've had to traverse that there tend to be a lot of maladaptive behaviors that they've been habituated to. No blame there, but that can make the patients a lot harder to deal with and then they in turn have a hard time integrating into the community.*
>
> – Primary care physician

Uncertainty and Ambivalence

Transgender participants were well aware that most medical providers were not exempt from the negative attitudes held generally in society toward transgender people. They anticipated that providers would not only be unprepared to meet their medical needs, but may also be unprepared for their very existence. This situation created mutual discomfort best described by one of the transwomen participants, who stated, "*Sometimes it might be a shocker [for a provider to see a transgender patient]. Yeah, but sometimes, you know, they might be scared, but at the same time, well, boy oh boy, if you think that you're uncomfortable and you're scared, we are, too. We are, too.*" Respondents expressed frustration about provider's

uncertainty about which name or pronoun to use as well as their lack of knowledge of transgender medicine. One transman put it this way:

> *And there is some back and forth like interactions. If you see two doctors, one will use male pronouns and the other will use female pronouns and you're kind of like, this is just awkward now, like, "should it be that hard?". . . once in the door, I'm sure like either way I have to explain myself because further questions would arise if this doesn't match up or why are you taking testosterone if over here and I'm like, really just would you ask somebody else why they were taking this or would you just know? Ideal healthcare would be transgender services being similar to diabetes services, similar to just other services where you can walk in and people don't look at you like, "What's that?"*

Transgender respondents used various strategies to prepare for or respond to this general gap in medical providers' knowledge. Some participants simply asked providers to refill previous prescriptions without expectations of medical monitoring or other standard care.

> *I don't know how knowledgeable she is. She's not an endocrinologist. She just knew that I was taking whatever medication from a previous physician, and she just duplicated that as well, so I don't think she goes, "Well, let's see. You might not need this much. You might-- yeah, you need a little bit more." She just went, "Okay," so she just kept the same medication going.*
> – Transwoman participant

More assertive participants demanded better care from their inexperienced providers. This particular participant describes how he handled a difficult encounter with a medical provider who had never seen a transgender patient before him.

> *I actually spoke to her afterward. I'm like, "You know, it's 2009. In 2009, you're going to have more clients like me. What are you going to do for best practices? These are unacceptable standards of care." And she was explaining to me, "Well, this is the first time something like this has happened." I'm like, "Granted, but you need to prepare yourself for different types of people walking into your office."*
> -- Transman participant

Some sought out recommendations from friends or searched the internet to find providers experienced with transgender patients. As one transman, stated, "*I was trying to figure out what was going on with me. I didn't want the additional burden of having to educate my provider on*

top of that. And the last thing I wanted was to be a training case for a practitioner who had never provided care to a transgendered person before."

However, some transgender participants who used this strategy were still frustrated by their provider's limited knowledge and found themselves trying to re-educate their medical providers:

> *I even went on the Internet myself and I printed out hormone regimens for oral and for injections and everything. . . I shouldn't have to go online and pull up a transgendered hormone regimen because I feel as though my doctor isn't prescribing the right hormone regimen for me. I shouldn't have to take that in there. You should already know. So I think that's one of the only things that kind of makes me angry.*
>
> – Transwoman participant

All but one of the medical providers expressed feeling either ambivalent about or unprepared for transgender patients. The endocrinologists who were interviewed felt medically prepared to manage hormones, yet they expressed ambivalence about the psychosocial issues raised by their transgender patients. Several providers (both primary care and endocrinologists) struggled with the concept of transgender altogether and expressed ambivalence about the necessity for gender confirming therapies, even though they prescribed them.

> *I find the whole area difficult. Nobody really understands it. I don't. I'm accepting of it because I see it, and I believe it, but obviously we don't understand it . . .*
> *. . . So part of me wants to sort of say like, "Can't you just dress as a woman," or "Can't you just be a tomboy and not have to get involved with hormones and stuff?"*
>
> – Endocrinologist

Providers who felt uncertain about the appropriateness of providing care described strategies to manage this ambivalence. Most providers sought a specific narrative of lifelong discomfort with natal sex as confirmation that patients met criteria for gender affirming therapies and many required a letter from a mental health provider confirming a diagnosis of Gender Identity Disorder.

All of the primary care providers reported feeling unprepared for their first medical encounter with a transgender patient. They described several strategies for handling their lack of preparation, including seeking out information from experienced colleagues or through other sources such as books and online material; letting the patient guide the encounter and tell them what to do; learning by trial and error; or refusing to provide care until they felt they had adequate training.

> *When I started having some patients that were gonna come to me and I was gonna be their primary care provider, then it was like, "Oh goodness, I need to learn. I actually need to learn the fundamentals, the basics."*
>
> – Primary care provider

Only the adolescent specialist expressed confidence in her medical preparation to see the transgender young people in her practice and denied any ambivalence about providing gender confirming therapies. She felt that her competence was grounded in her medical training in adolescent hormonal development; and her comfort with transgender patients was related to her chosen commitment to run a medical practice that intentionally catered to socially marginalized HIV-infected youth.

> *I think adolescent medicine specialists are uniquely positioned to deal with hormones because we know a lot about hormones. . . . So we deal with all these issues, but also because we run high-risk clinics with patients who are HIV and also with cardiovascular issues, we really focus a lot also on cardiovascular risk prevention for this population. So it's very natural.*
>
> – Adolescent specialist

Establishing Authority: The Function of Stigma

Regardless of the neutrality of the verbalized strategy chosen by each medical provider to manage his or her medical uncertainty or ambivalence about providing transgender health care, their narratives also suggested ways in which medical providers consciously or subconsciously use stigma to manage uncertainty's threat to their medical authority. The narrative below

demonstrates a provider's effort to re-establish authority in the medical visit with a transgender patient who challenged her knowledge:

> *My worst was actually a patient who I felt like had read too much on the internet. Had all the terms of what to do and words I didn't even recognize and acronyms of things of feminization, surgery, and things I knew about but like these little words that I had never heard and just read so much on the internet that the whole visit was spent dispelling all those myths or all that time and I think it was the worst because even after the end of the visit you feel like that patient still doesn't trust what you're telling them. Following your recommendations but I think very cautious of what you're telling him because that patient thinks-- the patient at the time just thought he knew everything she had read on the internet was correct. So I think that's what it was, leaving that visit like I don't know if this patient actually understands or trusts my judgment.*
> —Primary care provider

The importance of maintaining the expected social role of the medical provider as a trusted medical authority is clear in this narrative. It is also apparent that the threat to this authority led the provider to dismiss the patient's knowledge as "myths" even though she admits to not knowing or understanding much of what the patient was telling her. The patient is blamed for the negative nature of this encounter because he "read too much on the internet." Table 12 includes example quotes from the many episodes in which both medical providers and transgender participants described blaming, shaming, othering and discrimination enacted by health care providers toward transgender patients. This process of blaming, shaming, othering, and discrimination demonstrates medical providers' power to negatively label transgender patients and act upon those negative associations. It also reinforces the medical provider's authority by positioning the transgender patient as inherently problematic.

However, this process of stigma and discrimination was a dynamic one in which providers sometimes struggled with their participation in stigmatizing transgender patients. This is evidenced by one of the primary care providers in Table 12 who questioned whether her differential treatment of transgender patients was appropriate. Other providers described movement from initial discomfort to coming to understand transgender patients as real people

with real health care needs. And yet others described active efforts to resist transgender discrimination and protect transgender patients.

> *I spent the first 15 years of my career in the emergency room. So I had a lot of transgender patients that would come through there and I would personally try to take them as patients so that they wouldn't be discriminated or laughed at or ridiculed.*
>
> – Primary care provider

Where providers sat on the continuum between participation and resistance to transgender stigma/discrimination seemed to be a function of empathy. Lesbian and gay providers as well as other providers who felt a personal connection to transgender people were more likely to express resistance to stigmatization of transgender people.

> *I'm sure that being a gay man had helped me have an early open mindedness about difference and societal misunderstanding or non-understanding of something other than what is defined as sort of normal and mainstream. So it may have been easier for me in that regard to a degree.* – Primary care provider

This resistance to stigma was not just limited to more positive attitudes toward transgender patients, but also seemed to go hand in hand with a willingness to relinquish some power in the medical encounter and let the patient lead. As one provider stated, "*You may do some things that are unnecessary just because of the patient's outlook and their self-comfort and or let them try something and see if it seems to make any difference. There's a little bit of giving in I think sometimes.*" Another provider went as far as to say, "*My agenda has to change according to what the patient really needs that day.*"

Transgender participants also demonstrated a dynamic interplay between acceptance and resistance to stigma. Some actively resisted stigmatization and sought to claim power in their relationship with providers while a few fully acquiesced to the medical authority of the provider. One dramatic example was a transwoman who told a story of being advised by her surgeon about what breast size would be appropriate for her, agreeing to this size, then waking up to find that she had breast implants 50% larger than what they had agreed upon. When asked

if the surgeon had made this decision on his own, she replied, "*He made it on his own and I'm glad he did. It was great. It was great. I'm glad that he decided to run with his gut, you know?*" The same respondent also described having initial visits with health care providers to see if they would accept her and being concerned about not being wanted as a patient.

Whether a transgender person chose to resist stigma and discrimination by health care providers depended on whether he or she felt that she had other options. For example, one transman described himself as someone who felt very empowered and who had confronted several health care providers about their stigmatizing attitudes or behaviors; however, he also told two stories of tolerating discrimination in order to get medical care that he needed. The dilemma for transgender patients is best illustrated by a transwoman who begins the following narrative claiming the power to guide her own medical care and ends with feeling trapped in care with a provider who does not meet her needs:

> *You just have to really, really stay on them and let them know, "This is what I need. This is what I want," and talk to them. "I went online and I saw this. I think this would be good for me." You have to really-- but everybody's not that smart to do that. Some people are just so interested in transitioning or in becoming a male or becoming a female, whereas though they're not doing the research, because it's something that they want to do so bad. But my thing was: I understand that, but this is my lifestyle. I have to do the research. I have to learn as much about me and what I need than to just take what somebody gives me. So that's a little-- that makes me a little bit angry too, because I did walk away from there a couple of times-- always ended up going back because there's nowhere else to go-- so I always wind up going back. But I think they need to learn how to cater to us a little bit more-- understand every individual person's needs.*

Discussion

Functional theory asserts that we hold certain attitudes because they serve a specific function (Perloff 2003). Attitudes have been found to: (1) provide a way to make sense of the world (knowledge), (2) allow us to be accepted by others (social-adjustive), (3) let us express a core value (value-adjustive), and (4) serve as a defense against uncomfortable truths (ego-defensive). Stigmatizing attitudes towards transgender people could serve any or all of those functions. Because transgender individuals challenge societal norms for gender expression,

negative attitudes towards them can serve as a psychological defense against the uncomfortable truth that sex and gender are not fixed binaries and at the same time allow the expression of the core belief in gender conformity. Because a static gender binary is so reified in our society, negative attitudes toward gender variance can also serve to make sense of the world and allow the attitude holder to be accepted by most groups in society.

However, functional theory is limited in that it does not acknowledge the role of power. All social relationships take place within a hierarchal social structure in which some groups have more social, political, and economic power than others. Functional theory does not consider how social inequalities along lines of race, gender, and socioeconomic status affect the function of stigma. The social roles of provider and patient are one example of an institutionalized hierarchy. Therefore the provider-patient relationship provides a useful social site to examine how interpersonal stigma functions within unequal relationships.

Some stigma researchers argue that stigma is inextricably tied to the reproduction of social difference and reinforces existing inequalities (Parker and Aggleton 2003). The findings of this study provide support for this assertion. Interpersonal stigma and discrimination during transgender health care encounters served to reinforce the authority of the medical provider in the face of his or her uncertainty and ambivalence about transgender people and their care as well as the transgender patient's uncertainty about the provider's competence.

Findings from this study are also consistent with the attribution model of stigma (Weiner, Perry et al. 1988). The attribution model posits that people are more to likely to respond negatively to those whom they believe to be responsible for their stigmatized identities than those whose stigmatized identities are believed to be beyond their control. In this study, providers who expressed uncertainty about the nature of transgender identity were more likely to express stigmatizing attitudes toward transgender patients than those who felt that transgender people were innately compelled to express their gender identity.

Others have challenged the validity of the attribution model and proposed alternative theories. Hegarty and colleagues note that findings from cross-sectional studies testing the attribution model could also be explained by the justification-suppression model, which asserts that attributions to controllable causes are justifications for pre-existing prejudices (Hegarty and Golden 2008). Phelan has argued that while that attribution theory would predict that a belief in the genetic nature of an attribute would result in less stigma, evidence suggests that such "genetic essentialism" can exacerbate stigma (Phelan 2005).

Understanding the role of power may help to explain these seemingly disparate models. People who enact stigma must have access to social, economic, or political power that enables them to translate their negative attitudes into discriminatory behavior. The very reason that stigma serves to reinforce existing structural inequalities is because enacting it depends upon possession of power. If the function of stigma is to reinforce existing social hierarchies, then challenges to current power structures may be the social impetus for stigma. Those who challenge this structure would be stigmatized whether it is by assuming they are inherently inferior and justifying it or by attributing their inferiority to choices they have made.

Public Health Implications

The current study contributes to the understanding of stigma by describing the process and function of stigma in reinforcing medical authority during patient encounters. These findings expand upon functional theory by acknowledging the role of relative social power in the enactment of interpersonal stigma. As public health practitioners seek to reduce stigma that impacts the health of marginalized populations, it is critical that we have research that elucidates the causes and functions of stigma and discrimination. Better understanding how stigma operates against transgender people in health care settings can provide insights into how it may operate with other marginalized groups who experience health inequalities.

Limitations

All of the respondents were drawn from one urban area with a particular sociopolitical context and specific set of resources for transgender people. Therefore the process of stigma manifestation in health care encounters found in this study may not transfer to other settings. Transgender respondents were recruited via social networks, therefore more isolated transgender people were less likely to participate. Their experience of health care may be quite different from those of transgender people who are not as socially connected. Finally, the medical providers who participated in this study were a select group who had experience providing health care to transgender people and were willing to talk about it face-to-face with another provider. These providers may have less stigmatizing encounters with transgender patients than other providers and may have de-emphasized any negative attitudes they hold toward transgender patients knowing the topic of the research study. This context makes it likely that the role of stigma in the health care encounter with transgender people has been underappreciated in this study.

Implications for Future Research

Future research on stigma and discrimination is needed to expand upon and test this theory in other settings. Vignettes may be a useful tool for exploring stigma among medical providers who do not have experience caring for transgender patients. It will also be important to assess the content and function of stigmatizing attitudes among health care workers at different levels of the medical hierarchy, including nursing, administration, and leadership. Testing these hypothesized mechanisms of stigma and discrimination among a large number of health care providers would be an important step to inform stigma reduction interventions for marginalized groups who experience health disparities.

Table 12. Examples of interpersonal stigma and discrimination in health care encounters

Blaming	*My biggest thing that comes up is like just dealing with my own prejudice against people that have an excessive preoccupation with physical appearance. That's where I get into trouble or into judging people. . . . You know so it's not I don't have a problem with a trans woman wanting to look like a woman. But some of my experience with patients is it's this obsession and it's- like it's never going to be okay. And I understand where that comes from but I think it's more of a psychological problem.* – Primary care provider
Shaming	*The nurse actually said to me, "So, that's a pretty-- that's a boy's name. Do you think you're a little boy?"* – Transman
Othering	*These can be difficult patients, particularly trans women often have had pretty rough experiences and are pretty rough people and not necessarily compliant with visits or medications, follow up. And I swear there's a higher incidence of personality disorders among trans women so it can be a difficult group. I have no way of knowing. It could be anything from environmental stresses to something that's linked to whatever gene causes transgenderism.* – Primary care provider
Discriminating	*I almost apologize to them. I'm sorry that I bring this up so often assuming that they're having multiple partners. You know, like I don't mean to beat a dead horse but I'm like, are you really only having one partner? And what exactly are you doing? . . . .Is it my prejudice that maybe I'm testing my trans patients more often than I might be testing a gay patient or more often than I'm testing a heterosexual patient; that I'm assuming that their behavior is riskier and therefore that they need to be tested more often if they're saying that they're not having sex for money or that they are using condoms most of the time. So, I don't know. Am I doing-- I don't want to over test but I don't want to under test and it's definitely something that I fight with myself about because I don't want to make somebody uncomfortable and be like oh, well you know, they like coming to see me except for the fact that every time they see me, I swab something and make them pee in a cup and give blood work because that's not fun either. I don't do that to every other patient.* – Primary care provider

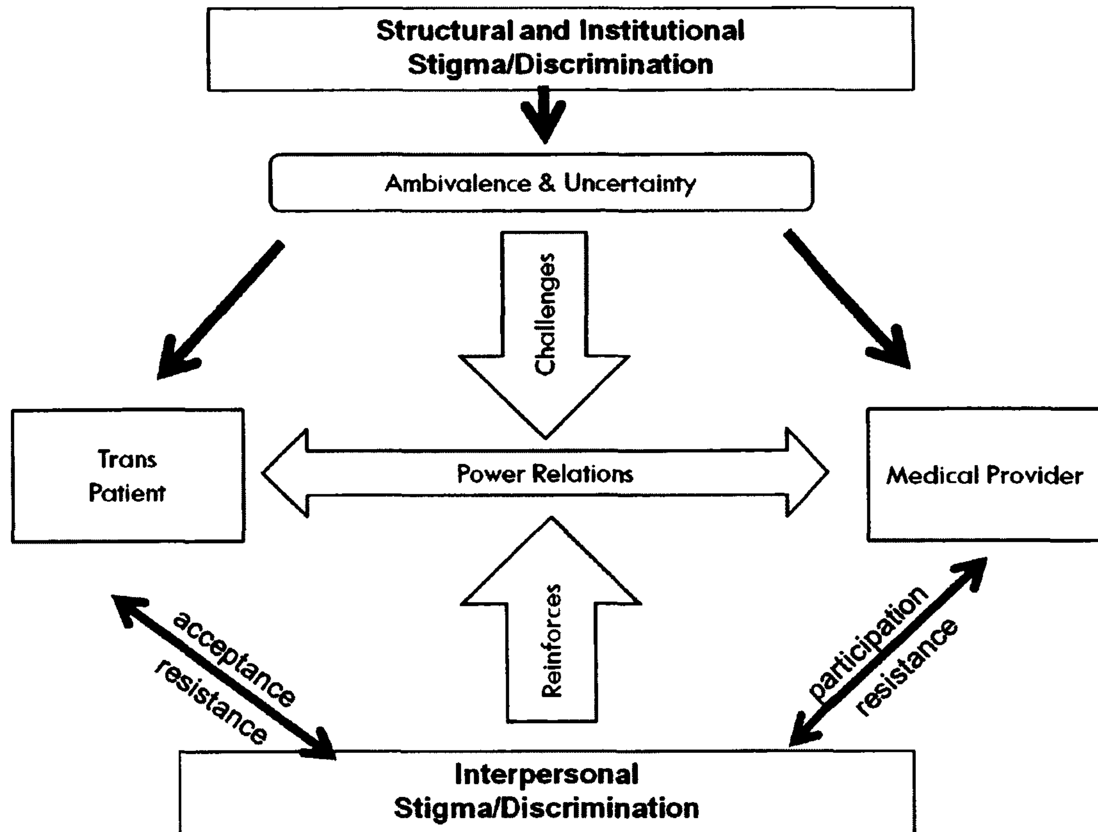


Figure 2. Establishing Authority in Transgender Health Care Encounters

References

Charmaz, K. (2006). Constructing grounded theory: A practical guide through qualitative analysis. London, Sage Publications Ltd.

Corrigan, P., F. E. Markowitz, et al. (2003). "An attribution model of public discrimination towards persons with mental illness." Journal of Health and Social Behavior **44**(2): 162-179.

De Santis, J. P. (2009). "HIV infection risk factors among male-to-female transgender persons: a review of the literature." J Assoc Nurses AIDS Care **20**(5): 362-372.

Deacon, H. (2006). "Towards a Sustainable Theory of Health-Related Stigma: Lessons from the HIV/AIDS Literature." Journal of Community & Applied Social Psychology **16**(6): 418-425.

Dworkin, S. H. and H. Yi (2003). "LGBT identity, violence, and social justice: The psychological is political." International Journal for the Advancement of Counselling **25**(4): 269-279.

Goffman, E. (1963). Stigma: Notes on the Management of Spoiled Identity. New York, Simon & Schuster, Inc.

Grant, J. M., L. A. Mottet, et al. (2011). Injustice at Every Turn: A Report of the National Transgender Discrimination Survey. Washington, National Center for Transgender Equality and National Gay and Lesbian Task Force.

Hegarty, P. and A. M. Golden (2008). "Attributional beliefs about the controllability of stigmatized traits: Antecedents or justifications of prejudice?" Journal of Applied Social Psychology **38**(4): 1023-1044.

Kenagy, G. P. (2005). "Transgender health: findings from two needs assessment studies in Philadelphia." Health Soc Work **30**(1): 19-26.

Krieger, N. (1999). "Embodying inequality: A review of concepts, measures, and methods for studying health consequences of discrimination." International Journal of Health Services **29**(2): 295-352.

Krieger, N. (2012). "Methods for the Scientific Study of Discrimination and Health: An Ecosocial Approach." American Journal of Public Health: e1-e10.

Lambda Legal (2010). When Health Care Isn't Caring: Lambda Legal's Survey of Discrimination Against LGBT People and People with HIV. New York, Lambda Legal.

Law, G. U., H. Rostill-Brookes, et al. (2009). "Public stigma in health and non-healthcare students: Attributions, emotions and willingness to help with adolescent self-harm." International Journal of Nursing Studies **46**(1): 107-118.

Lawrence, A. A., I. H. Meyer, et al. (2007). Transgender health concerns. The health of sexual minorities: Public health perspectives on lesbian, gay, bisexual, and transgender populations. New York, NY US, Springer Science + Business Media: 473-505.

Link, B. G. and J. Phelan (1995). "Social conditions as fundamental causes of disease." J Health Soc Behav **Spec No**: 80-94.

Link, B. G. and J. C. Phelan (2001). "Conceptualizing stigma." Annual Review of Sociology **27**: 363-385.

Lombardi, E. L., R. A. Wilchins, et al. (2001). "Gender violence: Transgender experiences with violence and discrimination." Journal of Homosexuality **42**(1): 89-101.

Meyer, I. H. and M. E. Northridge (2007). Prejudice and discrimination as social stressors. The health of sexual minorities: Public health perspectives on lesbian, gay, bisexual, and transgender populations. New York, NY US, Springer Science + Business Media: 242-267.

Parker, R. and P. Aggleton (2003). "HIV and AIDS-related stigma and discrimination: a conceptual framework and implications for action." Social Science & Medicine **57**(1): 13-24.

Perloff, R. (2003). The dynamics of persuasion: Communication and attitudes in the 21st century (3rd edition). Mahwah, NJ, Lawrence Erlbaum.

Phelan, J. C. (2005). "Geneticization of deviant behavior and consequences for stigma: The case of mental illness." Journal of Health and Social Behavior 46(4): 307-322.

Pinel, E. C. (1999). "Stigma consciousness: the psychological legacy of social stereotypes." Journal of personality and social psychology 76(1): 114.

Risser, J. M. H., A. Shelton, et al. (2005). "Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas." International Journal of Transgenderism 8(2/3): 67-74.

Sanchez, N. F., J. P. Sanchez, et al. (2009). "Health care utilization, barriers to care, and hormone usage among male-to-female transgender persons in New York City." Am J Public Health 99(4): 713-719.

Weiner, B., R. P. Perry, et al. (1988). "An attributional analysis of reactions to stigmas." Journal of Personality and Social Psychology 55(5): 738-748.

Xavier, J. M., J. A. Hannold, et al. (2007). "The health, health-related needs, and lifecourse experiences of transgender Virginians " Retrieved November 30, 2009, from http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/pdf/THISFINALREPORTVol1.pdf

DISCUSSION

The Experiences of Transgender Discrimination (ETD) scale developed during this study provides an important tool for better understanding how discrimination is experienced by transgender people, documenting the extent of that discrimination, and examining the relationship between discrimination and health. When the ETD was used to examine relationships between discrimination and specific health outcomes, the resulting models provide important insights into the complex ways that multiple forms of discrimination and disadvantage such as racism, poverty, and diminished educational opportunities may impact the health of transgender people. Finally, the Grounded Theory analysis of interactions between health care providers and transgender people adds to our understanding of stigma and discrimination by providing a theoretical model of how stigma functions to reinforce medical authority in the face of uncertainty.

Strengths and Limitations

The use of a pre-existing data set for scale development limited the number and type of items that could be included in the item pool for development of the ETD. The cross-sectional nature of the data precludes making causal inferences during quantitative analysis. The qualitative study was limited by the lack of theoretical sampling to allow for recruitment of additional participants to further expand the theory.

This study benefited from the investigator's deep and prolonged engagement with the community both during and prior to qualitative data collection, analysis, and interpretation. The use of a large and geographically representative sample for the quantitative analyses provided a rare opportunity for an ample enough sample size of transgender people to conduct exploratory and confirmatory factor analysis as well as stratified regression modeling. The use of qualitative data from both medical providers and transgender people for building grounded theory allowed for a fuller examination of dynamic interactions that take place during the medical encounter. Finally, the multiple methods research design allowed for a richer understanding of stigma and

discrimination at the structural, institutional, and interpersonal levels of the social ecological model.

Public Health Implications

Addressing social determinants of health is key to eliminating health disparities and improving population health. Reducing the stigma and discrimination faced by marginalized populations is a necessary step to make this happen. The study findings presented here provide actionable opportunities for change. Having a valid tool to measure transgender discrimination over time allows for monitoring the effectiveness of interventions designed to reduce stigma and discrimination. Identifying how intersecting oppressions related to gender, race and socioeconomic status may impact HIV and health care utilization is essential for designing effective interventions that address the complex realities of people's lives. Understanding the dynamic process of how enacted stigma functions in health care settings allows us to identify salient intervention points.

The results of the quantitative study indicate that change is needed in public policy to address the ubiquitous discrimination experienced by transgender people. The frequency and saliency of employment discrimination make employment protections an imperative. Lack of employment opportunity can have a cascade effect by reducing financial stability, increasing likelihood of engagement in high risk sex work, reducing access to health care, and increasing risk for HIV. Public facilities and government institutions must be held accountable for ensuring that everyone has access to public services.

The qualitative and quantitative findings provide ample evidence that a change is needed in both the content and the context of medical training. At the most basic level, health care providers need training in both cultural and medical competency in the care of transgender people. However, the study findings suggest a more fundamental change is needed. Both patients and providers could benefit from a radical restructuring of health care training and practice such that a partnership rather than a hierarchy is expected and enacted during medical

encounters. Ideally, what has been learned in this study can inform and support advocacy efforts by transgender communities to reduce stigma and discrimination and ensure basic human rights.

Future Research

While experiences of transgender discrimination are associated with health care utilization and HIV when examined in isolation, other factors such as race, income, health insurance, and strength of family support have significant associations with transgender health. It is important for future research and interventions to take an intersectional approach both to the further development of stigma measures as well to examining how matrices of oppression impact health outcomes. Future research on stigma and discrimination is needed to expand upon the theory that stigma functions to maintain authority in settings of uncertainty. More specifically, it will be important to examine the content and function of stigma and discrimination among health workers at different levels of the social structure of medicine, eg. clerks, medical assistants, nurses, doctors, and other leaders. One goal would be to test hypothesized mechanisms of stigma among a large number of health workers in order to use the findings to develop interventions that reduce health disparities. A longitudinal cohort study of transgender individuals would provide an excellent opportunity to fill important gaps in our knowledge of social and biomedical determinants of transgender health.

Appendix A. Experiences of Transgender Discrimination

Factor 1: Institutional Discrimination
Because of being transgender/gender non-conforming, which of the following experiences have you had at work? Please mark each row.

	Yes	No	Not applicable
I did not get a job I applied for because of being transgender or gender nonconforming.			
I was removed from direct contact with clients, customers or patients.			
I was harassed by someone at work..			
I was forced to present in the wrong gender to keep my job.			
I was denied access to appropriate bathrooms.			
I was asked inappropriate questions about my transgender or surgical status.			
Stayed in a job I'd prefer to leave			
Changed jobs			

Because you are transgender/gender non-conforming, have you experienced any of the following housing situations? Please mark "Not applicable" if you were never in a position to experience such a housing situation. For example, if you have always owned your home as a transgender/gender non-conforming person, you could not have been evicted.

	Yes	No	Not applicable
I have been evicted.			
I was denied a home/apartment.			

Factor 2: Interpersonal Discrimination
Based on being transgender/gender non-conforming, please check whether you have experienced any of the following in these public spaces. (Mark all that apply.)

	Denied equal treatment or services	Verbally harassed or disrespected	Not applicable
Retail store, hotel or restaurant, bus, train, or taxi, airplane or airport staff/TSA			
Doctor's office or hospital			
Govt. agency/official			
Police officer			

Because of being transgender/gender non-conforming, which of the following experiences have you had in your interaction with the police? (Mark all that apply.)

	Officers generally treated with disrespect
	Officers have harassed me

Because you are transgender/gender non-conforming, have you been a target of harassment, discrimination or violence at school?

	Harassed or bullied by students, teachers or staff
Elementary, Junior high/middle school, or High School	
College, Graduate or professional school, or Technical school	

Because you are transgender/gender non-conforming, have you had any of the following experiences? (Please check an answer for each row. If you have NEVER needed medical care, please check "Not applicable")

	Yes	No	Not applicable
I have postponed or not tried to get medical care because of disrespect or discrimination from doctors or other healthcare providers.			

Appendix B. Interview Guides

INTERVIEW GUIDE
Transgender participants

Introduction

Thank you for agreeing to be interviewed. I'm interested in any experiences, stories, and ideas you'd like to share, so it's important for you to do most of the talking. There are no right or wrong answers. Please feel free to share your honest thoughts and opinions.

I'll ask you a few questions about your background, then I will focus on questions about your health, including questions about sexuality, HIV, and mental health. I expect the interview to last between an hour and an hour and a half. I will be taking notes as well as recording the interview so that I can capture all that you have to say.

1. **Background** (eg. "Tell me about yourself")
   The intent of this topic is to set the tone for the conversational nature of the interview and to get a sense of the respondent and what s/he feels is important to share about his/her life.
   - Daily life
     - Home, work, relationships, family (children, spouse, parents, significant others, partners), living situation, occupation, spirituality/faith, social life, fun.
   - Process of recognizing/naming gender identity
     - Gender affirming actions: coming out, dress, hormones, silicone, surgeries, name changes (legal, informal, etc.)
     - Preferred pronoun, gender identity
     - Level of outness: with whom, why or why not
     - Level of gender conformity, "passing," etc.

2. **Health** (eg. "Tell me about your health")
   The goal of this topic is to better understand how the respondent conceptualizes his/her health, how s/he seeks to meet those health needs, and to describe his/her health care experiences/utilization.
   - In general, how would you describe your health? Any specific health concerns?
     - Probe <u>mental health</u> and <u>drug treatment as well as general health</u>
     - Transgender-specific needs, eg. Hormones, surgery, etc
     - Preventive care: mammograms, pap smears, prostate exams
   - What do you look for in a health care provider? How do you find a provider? What are the reasons you go to see a health care provider? (hormones, illness, etc.)
   - Disclosure in health care settings? Why/Why not? When? How? To whom?
   - Tell me about your recent health experiences?
     - In the last few years. how many times have you seen a health care provider
     - What types of providers have you seen?
       - Professional discipline, role, emergency v. primary/speciality
       - Purpose of those visits (type of care sought/received)
     - Of the providers you saw, which of those were trans friendly and/or knowledgeable?
     - Have you had health problems in that period of time that you <u>didn't</u> get care for (or delayed care for)? What were the circumstances of that event?
       - What was the last time? Take me start to finish – what did you think about, how did you decide to go/or not go, did you get care eventually? If so, how and where.

- Describe last experience with a health care provider: what made you decide to go, how did you pick this one, walk through the visit (from calling, front desk, through check out) and evaluate in retrospect if it felt safe and comfortable, anything you'd change – both in terms of how you were treated and the quality of care provided. How did you prepare for the emotionally, physically?
    - HAVE THEM GO THROUGH ABOVE SEQUENCE FOR CBHS and OTHER SITES.
    - Ask specifically about informal care (from friends, lovers, internet, pumping parties, etc.)
- Describe how cope with negative experiences (probe: resilience? support? religion?)

3. **HIV** (eg. "How has HIV impacted the trans community?")
The goal of this topic area is to allow the respondent to describe his/her understanding of HIV as well as his/her risk and/or experiences living with HIV.
    - How has HIV impacted YOUR life?
        - If HIV +, ask about finding out, getting care, etc.
    - You don't have to disclose your status. I'd like to know if you know your HIV status? HOW do you know your status?
    - Where have you been tested? What was that experience like (walk through from decision to test to getting results (if that happened).
    - How/where/when do you get information about HIV, safer sex, safer injection, etc?
    - How do you decide when to use or NOT use a condom/barrier? When to share needle? When to get body modifications and how?
    - How do you protect yourself/partners?
    - Tell me about the last time you felt you put yourself at risk (eg: used a needle that was not purchased new, had sex without a barrier, etc.) What were the circumstances?
    - What resources exist in Baltimore for transgender people regarding HIV?
        - Testing, Treatment, Social Services.

4. **Sexuality** (eg. "Tell me about your sexual experiences and relationships")
The goal of this topic area is to seek information about how gender identity as well as stigma and discrimination affect sexual behavior and HIV risk.
    - Type of partners desired. Type of partners experienced.
    - How meet and chose partners. Gender and number of partners. Concurrency.
    - Participation in sex work and/or exchange sex
    - Type of sex and ways to protect sexual health

5. **Stigma/discrimination**
The goal of this topic area is to learn about the respondents experiences of stigma and discrimination without requiring them to name them as such.
    - DISCRIMINATION SCALE (10 questions)
        - "Now I'd like to ask you some questions about how specific people or groups of people have treated you"
        - After each item response on the scale, probe for details. Possible probes:
            - Tell me more about that. What happened?
            - How did you respond? (feelings, actions)
            - How did it affect your subsequent behavior (seeking care, etc?)
            - What/Who helps you to cope with those types of experiences?

- If no: Tell me what has prevented you from having to face those types of experiences?

Closing

Thank you for taking the time to talk with me. Is there anything else that you would like to say about the things we've discussed today? [PAUSE AND WAIT]. If not, then I'd like to ask you a few demographic questions. Some of these questions we may have discussed before, but I want to make sure I get it right. After that, we can wrap up the interview and take care of your reimbursement.
[DEMOGRAPHIC QUESTIONS FROM COVER SHEET]

INTERVIEW GUIDE

Health staff

Introduction
Thank you for agreeing to be interviewed. The purpose of this interview is to learn about your thoughts, feelings, and experiences related to transgender health and health care. There are no right or wrong answers. I am interested in your perspective, so it's important for you to do most of the talking. I'll ask you a few questions about your background, then I will focus on questions about health services available at your organization and your experience providing care to transgender clients. I will also ask about the background of your organization. I expect the interview to last between an hour and an hour and a half. I will be taking notes as well as recording the interview so that I can capture all that you have to say.

1. **Personal Background** (eg. "Tell me about yourself")
   The intent of this topic is to set the tone for the conversational nature of the interview and to get a sense of the respondent and what s/he feels is important to share about himself or herself.
   - Education and training
   - Career trajectory: when, where, why, how?
   - Current job/role: describe – what, when, how, why? Likes/dislikes.
   - Previous jobs/roles both at the organization and before arrival
   - Future goals for self at organization and beyond

2. **Organization background** (eg. "Tell me about the health center")
   The intent of this topic is to better understand the organizational structure, context, and general practices.
   - If in leadership role:
     - When organization got started, why & how, by whom.
     - How it has changed over time?
     - Future plans/goals for the organization.
   - What is your role at the health center?
     - Describe a typical day, a day in the life. . . .
     - How did you find out about a job here? Hiring process?
     - How long, responsibilities, changes over time
     - Why this work, in particular
     - Why this place, in particular
     - Rewards and Challenges: pay, benefits, hours, time off, etc.
     - How do others in your role/your title experience work
     - Trans employees?
   - Norms of the health center
     - Describe organization culture
       - Probe: strict, relaxed, high pressure, open, family-like, busy
     - How is the organization structured: hierarchy/egalitarian
     - How do staff communicate with each other/leadership
     - How do policies/procedures get implemented?
     - When/how does training take place?

3. **Health services** (eg. "Tell me about services at the health center")
   The intent of this topic is to understand how patients know about and access health services.

For Non-Clinicians:

- What services are available?
    - Primary care, specialty care, mental health, case management, etc.
    - Who accesses this care? What type of patients do you see?
        - Insurance status, age, race, SES, special populations?
- How do patients find out about this place? Why do you think they come?
    - Pros/Cons
    - Facilitators/Barriers to care
- Walk me through a typical patient experience here – from entry to departure?
- Experience providing services to transgender patients/clients
    - First clinical encounter with a transgender person
    - Describe your interactions with trans clients/patients
    - Narrate a typical visit or series of visits
    - How has the experience changed over time
    - What supports are in place for transgender clients/patients?
    - Most memorable, most satisfying, least satisfying
    - Likes/Dislikes; Hard/Easy about working with this population
- Interactions/friendships/relationships with trans people outside of work?
- Ideal set of resources for learning about transgender care
- Facilitators of health care access and utilization by transgender patients
- Barriers to health care access and utilization by transgender patients
- How does stigma impact transgender clients/patients?
- How does HIV impact transgender clients/patients?

For Clinicians (RN, PA, NP, MD, DO):

- What services are available?
    - Primary care, specialty care, mental health, case management, etc.
    - Who accesses this care? What type of patients do you see?
        - Insurance status, age, race, SES, special populations?
- How do patients find out about this place? Why do you think they come?
    - Pros/Cons
    - Facilitators/Barriers to care
- Walk me through a typical patient experience here – from entry to departure?
- What is transgender? What is a trans person? Why are people trans?
- What is "transgender health care?"
    - Probe the clinician's definition
    - How does transgender health differ from general patient population
- How s/he learned about the practice of transgender medical care
    - Where did you look for information? What did you find?
    - What did you do with this information? (how incorporated)
    - Walk me through a transgender patient visit
- Gaps in knowledge both personally and clinically
    - Probe about what's missing, what's known
- Experience providing care to transgender patients/clients
    - First clinical encounter with a transgender person
    - Describe your interactions with trans clients/patients
    - Narrate a typical visit or series of visits
    - How has the experience changed over time

    - What supports are in place for transgender clients/patients?
    - Most memorable, most satisfying, least satisfying
    - Likes/Dislikes; Hard/Easy about working with this population
- Interactions/friendships/relationships with trans people outside of work?
- Ideal set of resources for learning about transgender care
- Facilitators of health care access and utilization by transgender patients
- Barriers to health care access and utilization by transgender patients
- How does stigma impact transgender clients/patients?
- How does HIV impact transgender clients/patients?

4. **Environment/Context** (eg. "What is it like to live as a transgender person in Baltimore?)
   The intent of this topic is to gather information about the respondents understanding of the social and political context for transgender people in Baltimore.
   - How does stigma/discrimination in lives of transgender clients/patients impact your interactions?
   - How do you talk about your work with trans patients? How do family/friends/colleagues respond?
   - What legal issues come up for your clients/patients? Rights/protections? (national, local, statewide) Discriminatory laws?
     - Impact of current legal environment impact on work with trans people?

Closing

Thank you for taking the time to talk with me. Is there anything else that you would like to say about the things we've discussed today? [PAUSE AND WAIT]. If not, then I'd like to ask you a few demographic questions before we move on to wrapping up the interview. [DEMOGRAPHIC QUESTIONS FROM COVER SHEET]

TONIA POTEAT, MMSc, PA-C, MPH, PhDc
3135 N. Calvert St. #2, Baltimore, Maryland 21218
Place of birth: Mount Vernon, New York
Date of Birth: April 25, 1969
Email: TPoteat123@gmail.com
Mobile phone: +1-404-484-1118

SUMMARY OF QUALIFICATIONS

- Expertise in domestic and international quantitative and qualitative research
- Over a decade of teaching experience with multicultural and multidisciplinary participants
- Fifteen years of clinical experience providing medical care to people with HIV
- Six years of public health practice at national and international governmental organizations
- Demonstrated commitment to sexual health, human rights, and marginalized populations

EDUCATION

May 2012 — **Johns Hopkins Bloomberg School of Public Health**
Doctor of Philosophy (PhD), Social and Behavioral Interventions, Department of International Health, Baltimore, Maryland
Thesis: Gender and Health - Understanding Health Care Access and HIV Risk among Transgender Adults

May 2007 — **Emory University Rollins School of Public Health**
Master of Public Health (MPH), Department of Behavioral Science and Health Education, Atlanta, Georgia
Thesis: Balm in Gilead – Religious Coping and Health Outcomes among People Living with HIV/AIDS in Clinical Care

December 1995 — **Emory University School of Medicine**
Master of Medical Science (MMSc), Department of Family and Preventive Medicine, Physician Assistant Program, Atlanta, Georgia
Thesis: Effects of Needle Exchange on HIV Transmission
summa cum laude

May 1991 — **Bachelor of Arts** in Biology, Yale University, New Haven, Connecticut
Thesis: Locomotion and Siphon Withdrawal in *Aplysia Californicus*
magna cum laude

SCHOLARSHIP & GRANT AWARDS

- National Organization of Gay and Lesbian Scientists & Technical Professionals, 2011.
- Training Fellowship, Summer Institute in LGBT Population Health, The Fenway Institute & Boston University School of Public Health, Boston, MA, July 18-August 12, 2011.
- Johns Hopkins Center for Public Health and Human Rights Student Grant Award, 2010.
- Frameworks Program for Global Health Award, Johns Hopkins University, 2009.
- National Research Service Award institutional training grant, 2008 – 2011.
- Charles and Sue Hardman Scholarship Award, 2005-2006.
- Point Foundation Scholarship Award, 2004 – 2007.
- National Health Service Corps Scholarship Award, 1993 – 1995.
- National Achievement Scholarship Award, 1987.

RESEARCH EXPERIENCE

Johns Hopkins Bloomberg School of Public Health
October 2010 – present: Student Investigator (dissertation research) for "Gender and Health: Understanding Access to Care and HIV Risk among Transgender Adults." Responsibilities include securing funding, recruitment and coordination of community advisory board, development of research

plan and instruments, application to university institutional review board, data collection and transcription, analysis, and writing of manuscripts and reports.
Funded by the Johns Hopkins Center for Health Disparities Solutions and the Johns Hopkins School of Public Health Center for Public Health and Human Rights Student Grant Award.
Faculty Advisor: Dr. Deanna Kerrigan, Department of Health, Behavior, and Society

June 2011 – January 2012: Research Assistant for the systematic review and country case study components of "The Global Epidemics of HIV among Sex Workers: Epidemiology, Prevention, Access to Care, Costs and Human Rights," a collaborative project of the Johns Hopkins Center for Public Health and Human Rights and the World Bank. Project Director: Dr. Deanna Kerrigan, Department of Health, Behavior, and Society

June 2010 – September 2010: Research Interviewer for "Aligning Law Enforcement and HIV Prevention in Baltimore City." Responsibilities included assessing eligibility, providing clear informed consent, and interviewing needle exchange clients about experiences with police.
Principle Investigator: Dr. Susan Sherman, Department of Health, Behavior, and Society.

June 2009 – June 2010: Student Investigator for "The impact of human rights violations on the health care seeking behavior of MSM in Senegal: A qualitative assessment." Responsibilities included development of research plan and instruments, application to university institutional review board, data collection and transcription, analysis, and writing of manuscript and report.
Funded by the Johns Hopkins University Frameworks Award in Global Health and the United Nations Development Program. Principle Investigator: Dr. Chris Beyrer, Director of Center for Public Health and Human Rights.

September 2009 – December 2009: Research Interviewer for "BESURE," Baltimore site for the Centers for Disease Control and Prevention's National HIV Behavioral Surveillance study. Responsibilities included assessing eligibility, providing clear informed consent, and interviewing current injection drug users. Principle Investigator: Dr. David Holtgrave, Department of Health, Behavior, and Society.

September 2008 – June 2009: Graduate Research Assistant for "Healthy Bodies, Healthy Souls" research project. Responsibilities included conducting qualitative interviews with leaders of African-American churches in Baltimore. Funded by the American Diabetes Association. Principle Investigator: Dr. Joel Gittelsohn, Department of International Health, Program in Human Nutrition.

University of Missouri Kansas City School of Medicine, Department of Gastroenterology.
September 2000- 2001: Research Assistant with Dr. Wendell Clarkston on two clinical trials:

- "An Open-label randomized, parallel group study comparing the effectiveness of Procrit administered once weekly versus standard of care in Hepatitis C/HIV co-infected patients treated with combination ribavirin/interferon."
- "A Randomized placebo-controlled trial of sertraline for prevention of depression among patients being treated with pegylated interferon and ribavirin for chronic hepatitis C."

Yale University School of Arts and Sciences, Department of Biology, Dr. Thomas Carew.
September 1990 – May 1991: Student researcher in behavioral biology laboratory. Conducted research on the learning and behavior of *Aplysia californicus* in response to noxious stimuli.

Yale University School of Medicine, Department of Gynecology, Dr. Bruce Littlefield lab.
September 1988 – May 1989: Research Assistant in ovarian cancer research laboratory. Primary responsibilities including maintaining tissue cultures and preparing cell media.

LANGUAGE AND COMPUTER SKILLS

- Analytic software: Stata, Atlas.ti, NVivo, EpiInfo, SPSS, SAS, UCINet, MPlus, Anthropac
- Word processing and data management: Microsoft Office, including Access and Excel
- Languages: Fluent English, Proficient French

TEACHING EXPERIENCE

Johns Hopkins Bloomberg School of Public Health, *Baltimore, Maryland*
2011-2012: Member of course development team of the LGBT Health Certificate working group

- Developed a plan for initiating an LGBT Health Certificate program at Johns Hopkins
- Determined appropriate objectives and competencies for an LGBT Health curriculum
- Designed course syllabus for introductory course in LGBT Health Certificate series

Summer 2011: Course Instructor for Public Health Studies Department at Homewood Campus

- Developed and taught 5-week summer course on Public Health, Sexual Orientation, and Gender Identity for students in the undergraduate Public Health Studies Department
- Designed syllabus, developed course materials, coordinated guest lecturers, and led course activities, including lectures, article discussions, and participatory exercises
- Provided individual feedback and grading on student assignments, including reading responses, in-class writings, papers, and class presentations

January – March 2011: Graduate Assistant for International Health Department

- Course: Qualitative Research Theory and Methods. Responsible for developing interactive laboratory sessions for master's level course.

March 2011: Guest Lecturer for Cultural Issues in Public Health course at Homewood Campus

- Topic: Introduction to Sex and Gender.

February 2010, 2011, 2012: Guest Lecturer for Social and Behavioral Interventions seminar

- Topic: Health and Human Rights in Social and Behavioral Interventions.

December 2010 and 2011: Guest Lecturer for Advanced Topics in HIV course

- Topic: HIV in Trans Populations.

December 2010: Guest Lecturer for Health Behavior Change course

- Topic: Social Ecological Models: A Case Study of Transgender Health in Baltimore.

September 2010: Co-Instructor for Research to Prevention Small Grants Workshop

- Topic: Qualitative Research Methods and Data Analysis.

October – December 2009: Teaching Assistant for International Health Department

- Course: Health Behavior Change at the Community, Household, and Individual Level. Responsible for facilitating weekly small group discussion sessions, managing online course website, and grading student assignments for master's level course.

Mercer University Physician Assistant Program, *Atlanta, Georgia*
Fall 2010: Guest lecturer for Gynecology and Sexually Transmitted Disease Module

- Presented didactic lectures and facilitated case-based discussions for the clinical medicine series as well as the laboratory and diagnostic medicine series.

Emory University Physician Assistant Program, *Atlanta, Georgia*
Spring 2008 – 2010: Guest lecturer for Gynecology and Sexually Transmitted Disease Module

- Presented didactic lectures and facilitated case-based discussions for the laboratory and diagnostic medicine series.

Southeast AIDS Training and Education Center, *Atlanta, Georgia*
May 2001 – present: Consultant Clinical Instructor with focus on women, co-morbidities, prevention with positives, cultural competency, correctional health, and harm reduction.

- Present didactic lectures, facilitate case-based discussions, and provide clinical mentorship for health care providers, 2001- present.
- Led four southeast regional trainings on HIV care for transgender patients, 2010-2011.
- Facilitated religion and sexual health workshops for adolescents and clergy, 2009.
- Created and updated HIV training material for clinicians, 2005 - 2008.
- Represented the southeast region on AIDS Education and Training Center (AETC) work groups. Outcomes of the AETC women's health work group presented at the 2008 Ryan White HIV/AIDS Program Meeting.
- Served as clinical trainer, interviewer, and qualitative data analyst for HIV prevention project at historically black colleges and universities (HBCU). Abstract for HBCU project presented at the 2007 National HIV Prevention Conference.

PUBLIC HEALTH PRACTICE EXPERIENCE

Global AIDS Program, Centers for Disease Control and Prevention, *Atlanta, Georgia*
September 2004 – May 2010: Health Scientist contractor, HIV Care and Treatment Branch.

- Monitoring and evaluation as well as site assessments of HIV treatment programs in sub-Saharan Africa funded through the President's Emergency Plan for AIDS Relief, 2004-5.
- Interagency collaborations with the World Health Organization in the development of *Patient Monitoring Guidelines for HIV Care and Antiretroviral Therapy* as well as guidelines on *Essential Prevention and Care Interventions for Adults and Adolescents Living with HIV in Resource-Limited Settings*, and *Operations Manual for Delivery of HIV Prevention, Care and Treatment at Primary Health Centers in High-Prevalence, Resource-Constrained Settings*, 2005-8.
- Co-coordinated a technical consultation on cervical cancer screening in HIV-positive women through the President's Emergency Plan for AIDS Relief, March 2008.
- Provided data analysis support for monitoring HIV treatment programs, 2008-2010.

International Center for Equal Healthcare Access, *Maseru, Lesotho*
Summer 2006: Volunteer Clinical Mentor providing technical assistance with implementation of prevention of mother-to-child-transmission (PMTCT) and HIV care services at an outpatient clinic supported by the Clinton Foundation HIV/AIDS Initiative.

Project Open Hand, *Atlanta, Georgia*
November 1992 – August 1993: Recruited and managed volunteers for agency that delivered meals to people living with HIV. Revised volunteer manual.

CLINICAL EXPERIENCE

Chase Brexton Health Services, *Baltimore, Maryland*
September 2008 – February 2012: Primary care provider for women and men living with HIV disease as well as family medicine patients in a federally qualified community health center whose vision statement includes providing quality compassionate care for lesbian, gay, bisexual, and transgender patients.

Grady Health System Infectious Disease Program, *Atlanta, Georgia*
September 2001 – August 2008: Primary care provider for women and men living with advanced HIV disease. Initiated and coordinated the first public HIV/HCV co-infection clinic in Atlanta. Served as preceptor for Emory University allied health and medical students.

University of Missouri – Kansas City School of Medicine, *Kansas City, Missouri*
September 2000 – September 2001: Schering Fellowship in Liver Disease completed through the Department of Gastroenterology. Participated in the care of patients with chronic viral hepatitis as well as other forms of chronic and advanced liver disease.

Southwest Boulevard Family Health Care, *Kansas City, Kansas*
July 1999 - August 2001: Provided comprehensive medical services to indigent adolescents and adults with a focus on HIV care. Preceptor for nurse practitioner and medical students.

Michael Callen - Audre Lorde Community Health Center, *New York, New York*
July 1996 – June 1999: Provided culturally competent primary care services to lesbian, gay, bisexual, and transgender patients. Established protocols for treatment of patients seeking transgender hormone therapy. Provided clinical leadership in HIV care.

Beth Israel Medical Center, *New York, New York*
January 1996 – February 1998: Provided primary medical care for HIV-infected patients and conducted annual medical screenings for patients in the methadone maintenance treatment program. Preceptor for physician assistant students from Harlem Hospital PA Program.

Atlanta Northside Family Planning Services, *Atlanta, Georgia*
August 1993 - August 1994: Performed gestational ultrasounds. Provided reproductive counseling as well as pre-operative and post-operative care for surgical patients.
Feminist Women's Health Center, *Atlanta, Georgia*
June 1991 – October 1992: Provided reproductive health counseling and clinic assistance. *December 1991 – October 1992*: Co-founded and coordinated volunteers for the first AIDS Hotline for Women in the southeast. Recruited, trained, and supervised telephone counselors.

EDITORIAL ACTIVITIES

- Medical Editor, The Well Project online HIV information, 2008 - present.
- Reviewer for *Journal of the American Academy of Nurse Practitioners*, 2007-present.
- Member of the Editorial Advisory Group for *HIV Specialist*, 2008-2011.
- Assistant editor of LAP Notes, newsletter of the Lesbian AIDS Project, 1997.

LEADERSHIP ACTIVITIES

- Abstract reviewer for the American Public Health Association conference, 2012.
- Executive Committee Member, Women's Research Initiative on HIV/AIDS, 2011 – present.
- Education Committee for the Gay and Lesbian Medical Association, 2011 – present.
- Best Practices Working Group leader, Transgender Response Team, 2011 – present.
- Abstract reviewer for the World Professional Association for Transgender Health, 2011.
- Grant Reviewer for Research to Prevention (R2P) intervention studies, 2010.
- Planning committee member for American Conference on Treatment of HIV, 2009-present.
- Grant reviewer for Health Resources and Services Administration, 2009 – present.
- Advisory Board member for the National Resource Center (NRC) of the AIDS Education and Training Centers (AETC), 2006 – present.
- Thought leader for the Women's Research Initiative on HIV/AIDS, 2003 –present.
- Board member, Atlanta Harm Reduction Coalition, 2007 – 2008.
- National board member for the Physician Assistant AIDS Network, 2004 – 2007.
- Board member of ZAMI, an organization for lesbians of African descent, 2002-2005.
- President of Lydia Moore Lesbian Health Project, 1999-2000.
- Board member of the Atlanta AIDS Survival Project, 1994-1995.
- Coordinator of the Atlanta Lesbian AIDS Project, 1992-93.

COMMUNITY SERVICE

- Volunteer Coordinator, Transgender Day of Remembrance, Baltimore, 2011.
- Volunteer outreach worker, Baltimore Needle Exchange Program, 2010 - 2011.
- Volunteer clinician, South Dekalb Center for Healthy Living, 2007-2008.
- Volunteer advocate with the Georgia Campaign for Microbicides, 2003 – 2005.
- Volunteer facilitator of safer sex workshops for women, 1996 – 2006.
- Volunteer clinician with the Community Health Project in New York, 1996-98.

HONORS

- Center for Population Research on LGBT Health Summer Institute Scholar, 2011.
- Distinguished Fellow, American Academy of Physician Assistants, since 2007.
- HIV University Volunteer Appreciation Award, 2000 and 2001.
- Who's Who Among Students in American Colleges and Universities, 1995.
- Award for Outstanding Commitment to Women and AIDS, 1992.
- World AIDS Day Volunteer Achievement Award, 1990.
- Yale Community Service Award, 1989.

PROFESSIONAL ACCREDITATIONS

- Certified HIV Specialist by the American Academy of HIV Medicine
- Certified by the National Commission on Certification of Physician Assistants
- Licensed by the Maryland Board of Physicians

PROFESSIONAL ASSOCIATIONS

- Member of the American Public Health Association
- Member of the American Academy of HIV Medicine
- Member of the International AIDS Society
- Member of the American Academy of Physician Assistants

PEER-REVIEWED PUBLICATIONS

Baral S, Beyrer C, Muessing K, **Poteat T**, Wirtz A, Decker M, Sherman S, Kerrigan D. (2012) High and Disproportionate Burden of HIV among Female Sex Workers in Low and Middle Income Countries: A Systematic Review and Meta-Analysis. In press with *Lancet Infectious Disease*.

Poteat T, Diouf D, Drame FM, Ndaw M, Traore C, et al. (2011) HIV Risk among MSM in Senegal: A Qualitative Rapid Assessment of the Impact of Enforcing Laws That Criminalize Same Sex Practices. *PLoS ONE* 6(12): e28760. doi:10.1371/journal.pone.0028760

Surkan P and **Poteat T.** (2011) Relevance of the Quality of Partner Relationships and Maternal Health to Early Child Wellness. *Journal of Developmental and Behavioral Pediatrics,* 32(4), 292-300.

Poteat, T. (2007) HIV and Motherhood. *Advance for Physician Assistants,* 15(7), 26-28.

Poteat, T and McCaffrey M. (2002) Body Image: What can we do about HIV-related fat changes? *Advance for Physician Assistants,* 8(11), 56-58.

Poteat, T. (1998) Hepatoxicity of p-xylene. *Yale Scientific,* 62(2).

PUBLICATIONS IN PREPARATION

Baral, S, **Poteat T**. Beyrer C, Wirtz A, Systematic Review of Global HIV Prevalence among Male-to-Female Transgender People.

Poteat, T, Adams D, Lebona J, et al. Sexual Health and Human Rights among Women Who Have Sex with Women in Lesotho.

Poteat, T, Sifakis F, Flynn C, German, D. The Impact of Gender Categories in HIV Surveillance: An Analysis of Data among MSM and Transgender Women.

OTHER PUBLICATIONS

Center for Public Health and Human Rights. The Global Epidemics of HIV among Sex Workers: Epidemiology, prevention, access to care, costs and human rights. Report commissioned by the World Bank. 2012.

Baral, S, Beyrer C, Ratevosian J, **Poteat T**. Human Rights, the Law, and HIV among Transgender People. Report commissioned by the Global Commission on HIV and the Law. 2011.

Disease-Specific Treatment: Hepatitis B Infection. In: Coffey, S, ed. *Clinical Manual for Management of the HIV-Infected Adult. 2006 Edition.* AIDS Education and Training Centers; 2006.

Don't Forget Your Head: HIV and Mental Health. *Positively Aware: The Journal of the Test Positive Aware Network*, Special Issue, Fall 2006.

Case Study: HIV Disclosure in Pregnancy. *PAAN News: Newsletter of the Physician Assistant AIDS Network*, December 2000.

Black Women at the Center: Expanding the Meaning of Reproductive Choice. *Sojourner: The Women's Forum*, November 1998.

SCIENTIFIC CONFERENCE PRESENTATIONS

The Picture of Health: How Statistics will Change LGBT Health Care; December 3, 2011; International Gay and Lesbian Leadership Conference, Houston, Texas.

Human Rights, HIV, and Sexual Health among Women who have Sex with Women in Lesotho; September 22, 2011; Gay and Lesbian Medical Association Conference, Atlanta, Georgia.

The Many Faces of Black Lesbian Health Disparities; September 23, 2011; Gay and Lesbian Medical Association Conference, Atlanta, Georgia.

The Impact of Public Health Categories for HIV Data among MSM and Transgender women; September 24, 2011; Gay and Lesbian Medical Association Conference, Atlanta, Georgia.

Maternal Psychosocial Correlates of Child Health in Urban Northeast Brazil; November 9, 2010; American Public Health Association Conference; Denver, Colorado.

The Impact of Increased Enforcement of Laws Criminalizing MSM in Senegal; July 20, 2010; International AIDS Conference; Vienna, Austria.

There is A Balm in Gilead: Religious Coping Among Patients on HAART; May 16, 2009; American Conference on the Treatment of HIV; Denver, Colorado.