

**Exploring Sexual Orientation Disclosure to Health Care Providers
among Sexual Minority Women**

by

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ABSTRACT

Sexual orientation disclosure (or, “coming out”) to one’s health care provider is championed by members of the medical and public health communities as a lynch pin to improving the health of sexual minority individuals. In this dissertation, I explore and critique this strategy in the context of young adult sexual minority women’s (YSMW’s) lives. Using data from the Michigan Smoking and Sexuality Survey (M-SASS), a web-based cross-sectional study of YSMW ages 18-24, I conducted two sets of analyses. First, I explored individual and interpersonal level factors associated with coming out to health care providers. These results suggest YSMW’s sexual identity and same-sex sexual experiences, along with how “out” they are to others and their experience of internalized homophobia, influence whether or not women in this sample had disclosed their sexual orientation to their health care provider. Second, I examined the relationship between clinical disclosure and discussions about, recommendations for, and receipt of sexual and reproductive health care services. My results suggest that YSMW who had come out to their providers were equally or more likely than those who had not disclosed their sexual orientation to have discussed, been recommended, or received these services. This analysis also showed important differences in receipt of sexual health services based on race, ethnicity, geography, and sexual identity, highlighting the importance of examining the experiences of a diverse sample of YSMW. For my final empirical chapter, I conducted a literature review assessing how sexual orientation disclosure is being measured in the current health science literature. This review also documented the extent to which studies focusing on disclosure attempt to link this health behavior to health outcomes or health care utilization. My review

found a great deal of variability in the items researchers employ to measure sexual orientation disclosure to health care providers, and few attempts to explore relationships between disclosure and health or health care utilization. Overall, this dissertation critiques the current state of the science on coming out to providers, seeks to address existing gaps in the disclosure literature, and offers directions for health promotion and future research focused on YSMW's clinical disclosure experiences.

CHAPTER I

Introduction

Health disparities overview

Health disparities between heterosexual and non-heterosexual (or, sexual minority) patients are increasingly recognized (Dean et al., 2000; Institute of Medicine, 2011). Many of these disparities are differentially distributed in the population when gender, age, and sexual orientation, among other factors, are considered. Within sexual minority health research, sexual minority women's health remains understudied (Coulter, Kenst, Bowen, & Scout, 2013; Kapadia & Landers, 2013). Broadly, compared to heterosexuals, sexual minority women (SMW) are at greater risk for numerous chronic diseases (Boehmer, Bowen, & Bauer, 2007; Conron, Mimiaga, & Landers, 2010; Zaritsky & Dibble, 2010), have higher rates of mental health symptomatology (Cochran, Mays, & Sullivan, 2003; Kim & Fredriksen-Goldsen, 2012), and are more likely to engage in risky health behaviors (Burgard, Cochran, & Mays, 2005; Gruskin, Hart, Gordon, & Ackerson, 2001; Valanis et al., 2000). Given the gravity and persistence of these disparities, the U.S. Department of Health and Human Services highlighted improving sexual minority women's health as one of its *Healthy People 2020* goals (United States Department of Health and Human Services (USDHHS), 2010).

The focus of this dissertation will be on one of the USDHHS recommendations for reducing sexuality-based health disparities and improving sexual minority health: sexual orientation disclosure (or, "coming out") to health care providers. Sexual orientation disclosure is supported by vocal members of the medical, public health, and health policy communities

(Bradford, Cahill, Grasso, & Makadon, 2012; Institute of Medicine, 2011; The Joint Commission, 2011). This widespread support exists despite, as I'll argue, limited evidence showing improvements in health or health care utilization for sexual minority women. In this dissertation I seek to explore sexual orientation disclosure to health care providers among young adult sexual minority women. I will do so by (1) examining factors associated with clinical disclosure of sexual orientation, (2) assessing relationships between YSMW's sexual orientation disclosure and discussions about, recommendations for, and receipt of sexual health care services, and (3) conducting a systematic review of the literature on sexual orientation disclosure measurement and empirical efforts to link disclosure to health or health utilization outcomes.

Terminology

Researchers utilize varied measures and terminology to assess and describe sexual orientation. Measures may reflect self-reports of sexual identity, and/or reports of same-sex attraction or behavior. Self-identities may vary by age cohort, racial/ethnic identity, religion, or a number of other demographic categories. Self-identities may also vary over the life course, particularly women's lives (Diamond, 2008; Katz-Wise, 2015). Consistent measurement and terminology describing sexual minority populations remains a persistent challenge to research involving sexual minorities, and to our broader understanding of how sexual identity, attraction, or behavior influence health (for broader discussion, see Mayer et al., 2008). Throughout this dissertation, "sexual minority women" is used an umbrella term to describe women who report non-heterosexual identity, behavior, or attraction; however, when possible, I will report sexual identity labels utilized by study authors.

Health status and health behaviors

Many sexual minority women have worse health outcomes than their heterosexual peers (Institute of Medicine, 2011). Fredricksen-Golden and colleagues (2010) report that nearly 10% of lesbian-identified women report poor general health, and that number grows to more than 1 in 5 for bisexual women. SMW are more likely than heterosexual women to experience activity limitation due to physical, mental, or emotional health challenges (Conron et al., 2010), and are more likely to be on disability (Cochran & Mays, 2007).

Young adult sexual minority women (YSMW) engage in some negative health behaviors at higher rates than their heterosexual peers. Specifically, YSMW are more likely to be current smokers, to drink monthly or binge drink more, (Burgard et al., 2005; Gruskin et al., 2001; Hughes & Eliason, 2002; Rath, Villanti, Rubenstein, & Vallone, 2013) and have higher rates of illicit drug use than similar aged heterosexual women (Estrich, Gratzler, & Hotton, 2014; Green & Feinstein, 2011; Parsons, Kelly, & Wells, 2006). In addition, while some findings suggest YSMW are similarly active or more physically active than heterosexual women (Aaron et al., 2001; Boehmer et al., 2007; Hatzenbuehler, McLaughlin, & Slopen, 2013), other research indicates rates of physical inactivity are higher among YSMW (McElroy & Jordan, 2014). Increased engagement in negative health behaviors may increase SMW's relative risk for a number of chronic diseases (Conron et al., 2010; Struble, Lindley, Montgomery, Hardin, & Burcin, 2010).

Reproductive health behaviors and outcome

Alongside heightened chronic disease risk, a growing body of research suggests that SMW may have elevated risk for negative reproductive health outcomes. A recent analysis of a nationally representative sample of young adult women reports higher reproductive and sexual health risk behaviors among YSMW, compared to their heterosexual peers (Tornello, Riskind, &

Patterson, 2014). Some studies suggest that both bisexual (Charlton et al., 2011; Estrich et al., 2014) and lesbian women may have more sexual partners than heterosexual peers, and additionally that lesbian-identified women may have an earlier age of sexual debut and are less likely to engage in safe-sex practices than heterosexual women (Matthews, Brandenburg, Johnson, & Hughes, 2004). These trends have been linked to heightened sexual risk (e.g. compared to heterosexual peers, earlier onset of sexual initiation, more sexual partners, fewer monogamous partners) behaviors, which may increase SMW's risk of sexual transmitted infections (Austin, Roberts, Corliss, & Molnar, 2008; Charlton et al., 2011; Corliss, Austin, Roberts, & Molnar, 2009) and, over time, their vulnerability to cervical cancer. Recent studies suggest sexual minority women may be at greater risk for and experience higher rates of cervical cancer than heterosexual women. Valanis and colleagues (2000) found that 2.2% of lesbians and 2.1% of bisexual women in their study had been diagnosed with cervical cancer, compared to 1.3% of heterosexual women surveyed (Valanis et al., 2000). Bailey and colleagues (2000) found that 3.3% of the lesbian women in their study had cervical dysplasia, a finding that for a small subset of women leads to a diagnosis of cervical cancer (Bailey, Kavanagh, Owen, McLean, & Skinner, 2000). This number stands in contrast to an estimated lifetime risk of cervical cancer of 0.69% in the general (presumed heterosexual) population (National Cancer Institute, n.d.). Researchers also suggest that lesbians are at higher risk for breast, ovarian, and endometrial cancer than heterosexual women (Zaritsky & Dibble, 2010).

Health services utilization

Increased utilization of preventive health services is critical to reducing YSMW's disease risk broadly, and sexually transmitted infections and reproductive cancers, specifically. Yet, sexual minority women are less likely than heterosexual women to utilize preventive health care

services (Diamant, Schuster, & Lever, 2000; McNair, 2003; Wells, Bimbi, Tider, Van Ora, & Parsons, 2006), and face distinct challenges accessing high quality care. One factor underlying low preventive health care use may be reduced access to these services, based on lower insurance rates for some sexual minority individuals. Researchers report same-sex couples are less likely to have health insurance and have greater unmet medical needs than married heterosexual couples (Buchmueller & Carpenter, 2010; Gonzales & Blewett, 2013; Ponce, Cochran, Pizer, & Mays, 2010). Beyond lack of insurance, researchers report that sexual minority's concerns about how physicians will treat them during clinical encounters may influences LGBT patient's willingness to access (or return to) care (Seaver, Freund, Wright, Tjia, & Frayne, 2008). Qualitative reports from SMW indicate that negative experiences with providers diminish patient's trust in their provider, and increase patient's avoidance of clinical care (Geddes, 1994; Stevens, 1994). When patients expect to experience poor treatment, discrimination, or do not trust their providers they are less likely to utilize health care services.

These potential pathways may also explain why SMW delay or forego seeking sexual health screenings. Though the American College of Obstetricians and Gynecologists recommends that women receive clinical breast exams routinely beginning at age twenty, and pelvic exams beginning at age twenty-one, irrespective of a patient's sexual activity (American College of Obstetricians and Gynecologists, 2013), YSMW are less likely to receive these services than heterosexual women. Specifically, YSMW are less likely than heterosexual peers to receive Papanicolaou (Pap) testing (Agénor, Krieger, Austin, Haneuse, & Gottlieb, 2014; Diamant et al., 2000; Matthews et al., 2004), mammography or to complete breast self-exams (Ellingson & Yarber, 1997; Rankow & Tessaro, 1998). Reduced rates of Pap and breast screenings combined with SMW's increased rates of cancer-related risk behaviors (tobacco and

alcohol use, physical inactivity, and high body mass index), are troubling. Lower screening rates puts SMW at risk for delayed disease diagnosis and poorer disease outcomes. Intervening to improve health behaviors and concurrently addressing low uptake of disease screenings is imperative, especially among young adult sexual minority women who stand to benefit the most from early adoption of these health protective strategies. Understanding the reasons for YSWM's reduced utilization of health services is imperative to increase service utilization and improve their health status.

Sexual orientation disclosure to health care providers

Scholarly attention has converged on a singular issue hypothesized to both decrease health disparities experienced by sexual minorities and to improve their health care utilization: “coming out” to health care providers (Durso & Meyer, 2013; Hiestand, Horne, & Levitt, 2007; Meckler, Elliott, Kanouse, Beals, & Schuster, 2006). Because sexual orientation is not an observable characteristic and because heterosexuality is the presumptive social norm (Herek, 2004), sexual minority patients who want their provider to know their sexual orientation must “come out”, or disclose their sexual orientation to their provider during a medical encounter. Members of the medical and public health communities alike assert the importance of sexual orientation disclosure to providers as a mechanism for improving patient-provider communication, patient satisfaction, and for learning more about the health status and needs of sexual minority populations (Bradford, Cahill, Grasso, & Makadon, 2012; Makadon, 2006; The Joint Commission, 2011). Disclosure is touted as a direct pathway to decreasing health disparities experienced by LGBT individuals (Makadon, 2011), and to improve research data related to LGBT health (Bradford et al., 2012). Calls to examine factors that facilitate or impede disclosure in health care settings are increasingly common (Greenfield, 2008; Kuehn, 2011).

Broadly, we know communication between health care providers and patients during clinical encounters influences patients' health (Arora, 2003; Griffin et al., 2004; Kaplan, Greenfield, & Ware, 1989; M. A. Stewart, 1995; Stewart et al., 2007). Effective patient-provider communication in primary care settings is linked to positive health behavior change and improved health status including enhanced self-management behaviors, increased treatment adherence, symptom reduction, and improved functional status (DiMatteo, 1997; Frankel, Quill, & McDaniel, 2003; Roter & Hall, 2006). Patient-provider clinical encounters may also influence aspects of patients' psychosocial health. These visits are opportunities for patients to feel known, reassured, validated, and comforted by their provider (Hack, Degner, & Parker, 2005; Thorne et al., 2005). Effective patient-provider communication may help reduce anxiety, fear, worry, or despair that patients have about their health or wellbeing (Street, Makoul, Arora, & Epstein, 2009). Improvements in patient-provider communication have similarly been linked to enhanced satisfaction with care, perceptions of higher quality of care, and increased trust in providers (Clark et al., 2008; Schofield et al., 2003).

Sexual orientation disclosure is a specific aspect of communication between sexual minority patients and their providers, and disclosure may offer some of the health and relational benefits associated with improvements in generalized patient-provider communication. Preliminary research focused on sexual orientation disclosure to health care providers highlights some potential benefits to this practice. Researchers report that SMW's disclosure to providers is associated elevated utilization of preventive health care services (Dehart, 2008; Bergeron & Senn, 2003; Diamant et al., 2000; Steele, Tinmouth, & Lu, 2006; White & Dull, 1997). Lack of disclosure is also associated with reductions in patient satisfaction and poorer quality of care (Bonvicini & Perlin, 2003) and poorer psychological wellbeing (Durso & Meyer, 2013). These

findings indicate that disclosure is associated with the health and health care experiences of YSMW, and underscore the importance of further examining coming out to providers as a way to improve the health status of sexual minority women.

Limitations to disclosure literature

While preliminary findings suggest that disclosure is beneficial to SMW, the body of evidence on sexual orientation disclosure to providers remains modest. Indeed, possible improvements in service utilization and patient satisfaction with care are important outcomes, but the emphasis on disclosure as a mechanism for decreasing health disparities may be disproportionate to its true potential for improving health outcomes for sexual minority patients. Many factors mediate the relationship between what happens during a clinical encounter and a patient's health outcomes, and coming out to a provider is but a single health behavior in which sexual minority patients may choose to engage. Beyond potentially exaggerating its role in reducing health disparities, public health and medical practitioners' calling for increased disclosure have yet to theoretically situate disclosure decisions in the broader context of the everyday lives and wellbeing of sexual minority individuals. In sum, significant limitations regarding the scope of many studies examining SMW's disclosure experiences exist. Some of these limitations include: (1) concerns about generalizability of findings due to relatively homogeneous sample frames (by age, race, education, and other demographic factors); (2) minimal attention to differences by sexual identity category (lesbian v. bisexual v. other); (3) lack of theoretical clarity on the importance of disclosing sexual identity v. behavior v. attraction; and (4) a narrow focus on the benefits of disclosure while both the risks of disclosure and the potential benefits of non-disclosure remain understudied. These limitations warrant

further investigation, as does the implicit assumption embedded in calls for increased disclosure -- that increasing sexual orientation disclosure to providers universally benefits SMW's health.

Limitation: sample homogeneity.

Sample homogeneity is one factor limiting the generalizability of findings regarding the reported benefits of coming out to providers. Most studies examining SMW's disclosure experiences report the coming out experiences of middle-age, highly educated, White women (Austin & Irwin, 2010; Bjorkman & Malterud, 2009; Boehmer & Case, 2004; Polek, Hardie, & Crowley, 2008; Seaver et al, 2008; Freund, Wright, Tjia, & Frayne, 2008; see Cochran & Mays, 1988 for notable exception). Women in these studies often reside or are surveyed in urban settings (Boehmer & Case, 2004; Durso & Meyer, 2013; van Dam, Koh, & Dibble, 2001). Accordingly, results from women with this privileged demographic profile may represent the "best case scenario", as authors have noted, and may not represent the disclosure experiences of marginalized women (St. Pierre, 2012). Specifically, the educational and financial resources available to these women may not be representative of the resources of most YSMW, allowing women in the studies to access providers or care networks that are more receptive to sexual orientation disclosure. Preliminary research indicates that both race (Klitzman & Greenberg, 2002), income (Eliason & Schope, 2001), and immigration status (Durso & Meyer, 2013) may influence SMW's disclosure behavior. The extent to which race, ethnicity, socioeconomic, and related factors influence disclosure experiences, as well as subsequent health care utilization and status remains largely unexplored. Additional research is needed to explore whether improvements in care quality, patient satisfaction, and preventive service utilization are regularly associated with disclosure, or whether these improvements are limited to SMW with privileged demographic profiles.

Limitation: differences among sexual minority women.

A recent review (St. Pierre, 2012) suggests one shortcoming of the current literature on coming out to providers: a failure to critically assess differences in disclosure experiences based on sexual identity categories. St. Pierre's review (2012) indicates that half of the studies examining disclosure only report the experiences of homosexually-identified (gay or lesbian women), a lesser number reflecting the experiences of both lesbian and bisexual women, and a small handful of studies that included women who identify as queer, same-sex attracted, same-sex behaving, or women who prefer "no label". The extent to which disclosure experiences vary based on sexual identity category is presently unclear. Researchers find some evidence that lesbian versus other non-heterosexual (i.e. bisexual, same-gender loving, etc.) women engage in preventive health behaviors at disparate rates (Wells et al., 2006) and behave differently when it comes to disclosing their sexual orientation to health care providers (Hiestand et al., 2007; Meckler et al., 2006; Polek et al., 2008). Recently, Durso & Meyer (2013) found significant differences in disclosure rates between bisexual and lesbian women, with a smaller percentage of bisexual women reporting being out to their health care provider. Researchers cite the unique struggles bisexual individuals face when coming out to family and friends (Greenfield, 2008), but differential patterns in disclosure to providers remain largely unexamined in the scientific literature. Understanding differences in disclosure rates, experiences, and how these differences influence patient-provider relationships, health care utilization, and health status may be important to understanding health differences by sexual identity category, and to increasing disclosure rates among bisexual women.

Along these lines, the discourse on disclosure fails to meaningfully consider how multiple marginalized identities may influence SMW disclosure experiences. Little attention is

given to differential risk association with coming out among women who, in addition to holding a sexual minority, are also racial or ethnic minorities, or women who are impoverished or live outside urban areas. Accounting for the experiences of multiply marginalized women is necessary to more fully understanding how disclosure affects the health and health care utilization of the diverse SMW's community.

Limitation: examining identity versus attraction versus behavior.

A significant limitation of the current discourse on coming out to providers is theoretical clarity regarding exactly what SMW should be disclosing --- one's sexual identity, same-sex sexual behavior or same-sex attraction. Mayer and colleagues (2008) state:

The provision of optimal care to sexual and gender minority patients requires welcoming clinical and program environments that promote good communication and allow individuals to feel comfortable discussing matters of their sexual identity, behavior, attractions . . . (pp. 993).

Yet despite Mayer's call, the extent to which each type of disclosure improves the clinical experience or health of SWM is unknown. Why is it relevant that a doctor knows who a patient is sexually attracted to? How do clinical recommendations change when a provider learns a patient identifies as bisexual? Will a female patient's clinical experience be altered if she discloses that she has sex with women? The answers to these questions are not available in the current disclosure literature. Certainly, this gap is linked to the broader dearth of knowledge regarding the relative influence of one's sexual identity versus her sexual behavior or attraction on one's health. Researchers increasingly find that same-sex attraction (Johns, Zimmerman, & Bauermeister, 2013; Lindley, Walsemann, & Carter, 2011) and same-sex sexual behavior (Cochran & Mays, 2007) influence women's health. Attraction, identity, and same-sex sexual behavior do not always align (one may be attracted to men and women yet have sex with men, exclusively), nor do sexual identities remain fixed throughout the life course (Diamond, 2008).

These factors are largely ignored in the current discourse on sexual orientation disclosure in clinical settings. Interrogation of the relevance to, and relative influence of, disclosing sexual identity versus sexual attraction versus sexual behavior on clinical encounters and YSMW's health is needed.

Limitation: risks of disclosure; benefits of non-disclosure.

Implicit in the invocation for LGB patients to come out to providers is the assumption that doing so universally leads to better health and health care, yet the evidence for such improvements is both nascent and conflicting. Studies report sexual minorities may experience better (Pachankis, Cochran, & Mays, 2015) or worse (Cohen, Blasey, Barr Taylor, Weiss, & Newman, 2016) mental health outcomes by choosing not to disclose (or, to conceal) their sexual orientation from others. With regard to disclosure in clinical settings, the risks of coming out and potential benefits of not disclosing are often ignored. The insistence on patient disclosure persists despite abiding negative attitudes toward sexual minorities among health care providers (see Dorsen, 2012 for review) and patient fears about discrimination and reductions in care quality (Bjorkman & Malterud, 2007; Stevens, 1994; Williams-Barnard, Mendoza, & Shippee-Rice, 2001). Also underappreciated are the lengths to which some patients go to ensure that their disclosure is not met with a negative provider response. Reports from study participants highlight practices that some SMW employ prior to coming out to their provider. Qualitative reports of SMW's disclosures experiences often describe the exacting measures SMW go to ensure their safety upon coming out. Women in these studies assume a tremendous burden prior to disclosing, employing strategies such as soliciting clinician references, scanning a clinician's offices for LGBT-welcoming cues and paying close attention to a provider's speech (Boehmer & Case, 2004; Seaver et al., 2008). These women voice acute concerns about how coming out may

negatively alter the patient-clinician relationship, and fears that disclosing may result in worse clinical care.

Some patients report no perceived improvements in care quality following disclosure (Matthews et al., 2002), and others describe negative experiences including discrimination, worse treatment, and poorer quality of care after coming out to their provider (Barbara, Quandt, & Anderson, 2001; Eliason & Schope, 2001; Seaver et al., 2008; van Dam et al., 2001). Indeed, given the demographically privileged samples that often comprise studies on disclosure, it is possible that experiences of poor treatment, discrimination, or other health risks following disclosure are underreported.

Also understudied are the benefits, or perceived benefits, of non-disclosure. In settings where a provider holds negative attitudes toward sexuality minority individuals, it may be in a patient's best interest *not* to come out to her provider, as doing so might have no influence or potentially harm her care experience. Currently, the discourse around disclosure in clinical settings presumes universal benefits, and does not consider instances when disclosure avoidance may be clinically appropriate (or at least, unnecessary). Negative attitudes toward sexual minority patients persist in some clinical environments (Hinchliff, Gott, & Galena, 2005), where clinicians express discomfort providing certain types of care to LGB patients (Khan, Plummer, Hussain, & Minicheillo, 2008). Additionally, even well-meaning, non-discriminatory clinicians may have concerns about training and their ability to provide appropriate care for sexual minority patients (Obedin-Maliver et al., 2011; Sanchez, Rabatin, Sanchez, Hubbard, & Kalet, 2006). Given documented negative attitudes and gaps in culturally competent training in sexual minority health, it may well be the case that in some circumstances non-disclosure has no effect, or may benefit, patients.

Additional concern with the disclosure discourse.

Another noteworthy concern with the discourse on coming out to providers is the limited extent to which this conversation is focused on reaching patients and uncovering patient-oriented solutions to increasing clinically-based disclosure. Medical and public health communities largely emphasize the clinical importance of sexual orientation disclosure to *providers*, and in doing so have yet to articulate to *sexual minority patients* when disclosure matters, or how coming out to one's doctors may improve their relationship with their provider or their health. Practitioners' efforts are focused on persuading providers about the importance of disclosure, and to a lesser extent, improving clinical environments to be more welcoming to sexual minority patients. This provider-focused approach recognizes the important ways providers and clinical settings may influence patients' decision to come out, and attempts to share the burden of disclosure amongst both patients and providers. A critique of this approach, however, is that it disproportionately focuses on how clinic and provider-level factors relate to disclosure, and fails to offer patient-oriented solutions for increasing disclosure. Creating more welcoming clinical environments and appropriately educating physicians are important steps, yet patients also need to understand how disclosure relates to their health and wellbeing. Fundamentally, in each clinical encounter experienced over their life course, sexual minority patients will be faced with the decision to either disclose or conceal their sexual orientation. Sexual minority patients need to know *what* is important to disclose to their provider (attraction v. identity v. behavior), *when* in the life course is it important to come out, *in what clinical settings* does coming out (or, not coming out) influence patient care and health outcomes, and *why* or the *mechanisms* by which coming out influences their health. More research is needed to help answer these questions on behalf of sexual minority patients.

Factors influencing sexual orientation disclosure to providers: Theoretical approaches

Psychology and public health theories can be drawn upon to more systematically explore factors influencing sexual orientation disclosure in clinical settings. *Figure I.1* shows a conceptual model integrating constructs from three theories (Personal Risking Theory, the Health Belief Model, and the Minority Stress Model) that guide my approach to studying sexual orientation disclosure among young adult sexual minority women. Some of these factors will be examined as part of this dissertation, while others will be left to future study, beyond this dissertation. I describe each theory and how it relates to coming out to providers, and then propose how these theories will be joined in this dissertation's exploration of disclosure.

Personal Risking Theory.

In an early attempt to explore lesbian's sexual orientation disclosure to primary care providers, Hitchcock and Wilson (1992) conducted a qualitative study among a sample of lesbian-identified women living in the San Francisco Bay area. The purpose of their study was to generate a theory of self-disclosure to providers, and based on their interviews and data analysis their research team developed the Personal Risking Theory (Hitchcock & Wilson, 1992). According to this theory, disclosure of sexual orientation to providers is based on cognitive processes where lesbian patients seek to "attain and maintain a health environment that provides safe health care and psychological comfort that is as free as possible from medical reprisals and personal rejection" (pp. 179). Hitchcock and Wilson argue that there are three preconditions that influence this process for lesbian patients: personal attributes (including comfort with her sexual identity, relationship status, and personal attitudes and beliefs about health care), the health care context (including provider-level factors, patient's prior health care experiences, and the health care environment), and perceived relevance of sexual orientation to one's health status (see

underlined constructs in Figure I.1 representative of these preconditions) . In deciding whether or not to disclose their sexual orientation to providers, the authors suggest lesbian patients go through an anticipatory phase (where disclosure is deliberated and imagined) and subsequently an interactional phase (when the patient enters the health care setting and engages in either passive or active disclosure or nondisclosure). Though unevenly cited in subsequent studies of SMW's disclosure behavior, Hitchcock and Wilson's framework provided an important context for future explorations on this topic.

Health Belief Model (HBM).

If sexual orientation disclosure is conceptualized as a health behavior, a better understanding of this behavior may be gained from utilizing a theoretical lens to investigate it. Health behavior theories are an important tool for building a better understanding of a health phenomenon, and, when appropriate, developing interventions to change health behaviors (Noar & Zimmerman, 2005). As previously mentioned, patients have thus far been relatively sidelined in efforts to increase sexual orientation disclosure to health care providers. To reorient the dialogue and put patients at the center of the conversation, an individual-level theoretical approach is warranted. Individual-level theories posit that individuals are the key decision makers responsible for their own health or health behavior change, assume that individuals both value good health and will make behavioral changes to improve health outcomes, that health behavior changes are both volitional and the results of rational decision making processes (DiClemente, Crosby, & Kegler, 2009).

The Health Belief Model (HBM) is perhaps the most common and widely used theory for understanding health-related behavior change (Strecher, Champion, & Rosenstock, 1997). Originally developed in the 1950s to better understand participation in public health screening

programs (Janz & Becker, 1984), the theory has used to explore patient's response to symptoms (Kirscht, 1974), medical adherence (Becker, 1974), and a wide variety of other health-related behaviors (Carpenter, 2010). HBM remains particularly salient for predicting screening behavior, including mammography (Champion, 1999) breast self-exam (Champion, 1984, 1993), colorectal (Rawl, Menon, Champion, Foster, & Skinner, 2000) and cervical screening (Burak & Meyer, 1997; Hennig & Knowles, 1990; Hill, Gardner, & Rassaby, 1985)

The Health Belief Model is a value expectancy theory, positing that patients *value* avoiding illness and remaining healthy, and *expect* that specific behaviors will help promote health or prevent illness (Champion & Skinner, 2008). HBM provides an instructive theoretical framework for exploring sexual minority women's decision to come out to their health care provider. Viewing disclosure as the behavior of interest, we can evaluate how different constructs in the model influence the likelihood that SMW will come out to their clinician. First, HBM posits that behavioral change is influenced by one's *perceived susceptibility* of a health risk and the *perceived severity* of that health risk (the combined evaluation of these is termed the *perceived threat* of the health risk). In a given clinical encounter, the health concern motivating the visit may differently influence SMW's perceived threat of a health risk (akin to Hitchcock and Wilson's perceived relevance). For instance, as previously referenced, if the reason for the visit is a general or minor health issue (i.e. a cold or bone fracture), the perceived threat of these conditions is low, and the woman may be unlikely to disclose her sexual identity. Conversely, if the medical visit is motivated by a more serious health risk (i.e. a pre-natal health screening or cancer treatment), the (relatively) higher medical and emotional stakes of this visit may increase one's perceived threat, subsequently increasing the likelihood the SMW patient comes out to

her clinician. Patient beliefs regarding the threat of an illness or health concern (an evaluation of both susceptibility and severity) may influence one's disclosure behavior.

The Health Belief Model also posits that likelihood of behavior change is influenced by one's evaluation of the *benefits* of making the change versus the *barriers* or costs to changing one's health behavior. According to HBM, SMW's decision to come out may be shaped by an appraisal of the benefits of coming out weighed against the costs or ramifications of disclosing to one's provider. Preliminary research on SMW's perceived benefits of disclosure include being known as a whole person, partner inclusion in medical conversations, ease of communication with clinician, and simpler explanations to some health-related questions (Bjorkman & Malterud, 2007). The perceived benefits of coming out may be weighed against barriers to disclosure, such as time constraints during an office visit and concerns about confidentiality, negative provider response, paucity of knowledge related to SMW-specific health concerns (Seaver et al., 2008) other health context-related factors (i.e. past disclosure experiences; Hitchcock & Wilson, 1992). Though understudied, patients' assessment of the benefits of or barriers to non-disclosure may also inform their coming out decisions.

As outlined by HBM, *individual characteristics* (i.e. age, socioeconomic status, personality, etc.; indistinguishable from Hitchcock and Wilson's *personal attributes*) may contextualize one's perceived threat and appraisal of benefits of barriers, and therefore influence the likelihood of behavioral change. Individual characteristics may shape both threat perception and the barriers one has or benefits one sees to coming out. Though numerous studies have examined the influence of individual characteristics on SMW's coming out behavior, there is limited agreement regarding what characteristics consistently relate to disclosure. St. Pierre (2012) reports that across twenty-three studies evaluating how individual-level characteristics

influence disclosure, four factors positively and consistently increase disclosure (being in a relationship, having a high income, low levels of internalized homophobia, and positive attitude towards feminism). How other individual characteristics -- such as age, race, education, and sexual identity (among others) – influence disclosure remains unclear.

The potential influence of *self-efficacy* is also presently unknown. Self-efficacy describes one's perceived confidence to perform a specific task or behavior (McAlister, Perry, & Parcel, 2008). Though not an original component of HBM, self-efficacy is regarded as one of the most important predictors of health behavior change (Bandura, 1997; Strecher, DeVellis, Becker, & Rosenstock, 1986), and the model has been expanded to include this critical construct. If a patient has low self-efficacy around coming out, meaning she is not confident in her ability to effectively communicate about her sexual orientation to her provider, low self-efficacy may negatively influence disclosure. Conversely, if a patient believes she is capable of initiating a conversation about her sexual orientation with her provider she has high self-efficacy, and, high self-efficacy may increase the likelihood that a patient comes out to her provider. Self-efficacy regarding coming out to providers has not been empirically explored. Understanding the role of self-efficacy, and further investigating how other individual level characteristic modify other HBM constructs is an important component of assessing the utility of HBM's ability to predict SMW's disclosure decisions.

Lastly, the Health Belief Model contains a construct that captures how people, events, or things may motivate people to change their behaviors (Hayden & Hayden, 2013). These *cues to action*, components of Hitchcock and Wilson's (1992) health care context, are theorized as factors that modify one's perceived threat of a health risk, but may also directly influence one's behavior change intentions. A number of factors may "cue" SMW to disclose their sexual

identity to their health provider. SMW report scanning office environments for indications that the staff or clinician is LGB-friendly (i.e. posters or pamphlets featuring same-sex couples, rainbow stickers, etc.; Eliason & Schope, 2001). Observing these non-verbal cues may influence their health seeking behaviors (McGarry, Hebert, Kelleher, & Potter, 2008). Provider questions about sexual behavior, identity, or relationship status may serve as important prompts for patient's to come out. Makadon (2011) urges clinicians to be proactive in getting to know their patients, arguing that patients are often willing to discuss personal matters if questions are asked in a respectful, sensitive manner. Patient perspectives support this assertion, emphasizing the importance of provider's communication techniques in helping SMW feel comfortable discussing sensitive topics (White & Dull, 1997). Asking about one's sexual identity can cue to the patient that sexual orientation is relevant to one's health, while conversely failing to inquire about sexual orientation may signal to patients that it is not an important health related factor (Boehmer & Case, 2004).

Beyond the constructs provided by the Health Belief Model, it is also vital to consider how psychosocial stressors may influence their sexual orientation disclosure, both as an internal process (e.g., internalized homophobia) and external process (e.g., openness to disclose their sexuality with others). The Minority Stress Model (Meyer, 2003) offers an additional lens through which we may consider the context underlying SMW's decisions to come out or conceal their sexual identity in a given clinical encounter.

Minority Stress Model.

Meyer's (2003) Minority Stress Model describes LGB patients' increased risk for health problems due to social stressors linked to their sexual orientation. The Minority Stress Model describes how experiencing prejudice events or discrimination, concealing one's sexual identity,

anticipating rejection, and internalized homophobia influence LGB individuals mental health and ability to cope with stressful life events (Meyer, 2003). Meyer's model, originally proposed to explain increased mental health burdens among sexual minority individuals, is widely accepted among LGB health researchers, and is increasingly employed to explain mental (Cochran, Mays, Alegria, Ortega, & Takeuchi, 2007; Frost & Meyer, 2009) and physical health concerns (Cochran & Mays, 2007; Hatzenbuehler, 2009) among sexual minorities.

LGB health scholars posit that one component of the Minority Stress Model, patients' internalized homophobia, may particularly influence coming out to providers (Greenfield, 2008). Internalized negative feelings about one's sexual identity may act as a barrier for disclosure for some sexual minority patients (Austin, 2013; Bergeron & Senn, 2003; Durso & Meyer, 2013). Bergeron and Senn (2003) report internalized homophobia influenced disclosure to providers indirectly via global disclosure (outness to others). Women in their study who had lower levels of internalized homophobia were more likely to be out to family, friends, and co-workers, and being out globally was predictive of being out to one's health care provider. Importantly, global outness was a significant predictor of being out to one's provider in six additional studies (Dardick & Grady, 1980; Eliason & Schope, 2001; Hitchcock & Wilson, 1992; Steele et al., 2006; van Dam et al., 2001). Durso & Meyer (2013) report that women with lower levels of internalized homophobia had twice the odds of being out to their provider as women with higher levels of internalized homophobia. Though unexamined by Bergeron and Senn (2003), Durso and Meyer (2013) also evaluated the role of other Minority Stress variables, specifically rejection expectations and past experiences of discrimination. Neither of these variables significantly predicted disclosure, and, as the authors suggest, may indicate that disclosure to providers is more closely linked to the internal, cognitive process of identity

development (Durso & Meyer, 2013). Austin (2013) reported similarly results to Durso & Meyer (2013), finding that internalized homophobia was negatively associated with disclosure, but neither stigma nor past discrimination experiences were significantly different among SMW who had disclosed versus those who had not come out to their provider.

In sum, recent findings suggest internalized homophobia may be a barrier to disclosure for some SMW. How other minority stress variables inhibit disclosure, or influence other Health Belief Model constructs, warrants further investigation.

Integrating theoretical frameworks to form conceptual model of disclosure.

The three theories described above inform my investigation of YSMW's clinical disclosure of sexual orientation throughout this dissertation. As available in the data, I will explore constructs and pathways outlined in *Figure 1.1* to explore factors influencing YSMW's experiences coming out in clinical settings. Pathway A indicates that demographic and contextual characteristics may influence YSMW's perceptions of benefits and barriers to disclosure, as well as perceived disease threat. In *Chapter II*, however, I will investigate differences in sexual orientation based directly on these demographic factors. I am unable to explore Pathways B and D using available study data, but will explore how past discrimination experiences and internalized homophobia may serve as barriers to sexual orientation disclosure (Pathway C). I am also unable to explore Pathways E and F, how cues to action and self-efficacy to disclose influence YSMW's disclosure decisions. Given their theoretical importance to disclosure, however, I included them in this conceptual model. My future work related to coming out to providers, beyond this dissertation, endeavors to investigate constructs and pathways I am unable to examine here.

Description of studies

The broad purpose of my dissertation is to explore sexual orientation disclosure to health care providers among young adult sexual minority women. Coming out to providers is broadly supported by members of the medical and public health communities, but available evidence on the relationships between disclosure and health and health care utilization may render this widespread support premature. Using a three paper approach, this dissertation will add to the nascent body of evidence regarding YSMW's disclosure experiences. An outline of each of dissertation chapter is provided, below.

Chapter II: “Coming Out” to Health Care Providers: Exploring Individual and Interpersonal Influences on Young Sexual Minority Women’s Disclosure Behavior

The purpose of Chapter II is to investigate what patient-level attributes predict sexual orientation disclosure to providers among young adult sexual minority women. A secondary aim is to explore whether one's LGBT social network – specifically, connection to other sexual minority women or the local LGBT community, influences disclosure. Specifically, using data from the Michigan Smoking and Sexuality Study (M-SASS) I investigate the likelihood that YSMW came out to their provider based on predictors across five domains of interest: patient-level demographics, psychosocial resources, sexuality-related factors, health and health care access, and social relationships with other SMW. My analysis includes patient-level predictors hypothesized as relevant to provider disclosure by Hitchcock and Wilson (1992), Minority Stress variables (including internalized homophobia and discrimination) theorized by Meyer and colleagues as relevant to SMW's health behaviors, and items capturing social relationships with other YSMW, shown to have protective health effects in another analysis using M-SASS data (Johns et al., 2013). The results of this study offer guidance for clinicians and public health advocates seeking to increase sexual orientation disclosure in health care settings.

Chapter III: Examining Sexual Health Care Discussions, Recommendations, and Receipt of Services among Young Adult Sexual Minority Women

The purpose of Chapter Three is to better understand the relationships between YSMW's disclosure status and discussion of, recommendations for, and receipt of sexual health screenings. A recent analysis of Youth Risk Behavioral Survey (YBRS) data finds that YSMW report riskier sexual health behaviors (using drugs and alcohol during sexual encounters, condomless sex, and two or more sexual partners) and higher rates of pregnancy than heterosexual youth (Riskind, Tornello, Younger, & Patterson, 2014). These and similar findings suggest the importance of examining receipt of sexual health services among YSMW patients. In this chapter I again draw on M-SASS data to explore how disclosure status and additional predictors (demographic characteristics, health care utilization, and sexual health history) relate to discussing sexual health screenings, receiving recommendations for sexual health screenings, and receipt of health screenings for YSMW. The results of this study suggest the promise and limitations of sexual orientation disclosure for increasing YSMW's health service utilization.

Chapter IV: Assessing Disclosure Measurement and Evidence of its Relationship to Health and Health Care Utilization Outcomes

The purpose of Chapter IV is to assess how coming out to health care providers is currently measured in the health science literature, and to evaluate the evidence base these studies offer supporting disclosure as a path to improving health care outcomes and utilization for sexual minority women. In light of the overwhelming endorsement for sexual orientation disclosure in clinical settings among members of the medical and public health communities, my intention here is to critically evaluate the body of knowledge that may lend support to the practice of clinical disclosure. Reviewing works published in the last five years, I explore how health science researchers are conceptualizing and measuring disclosure, and the extent to which

study authors investigated and have successfully linked SMW's clinical disclosures to changes in health outcomes or health care utilization patterns. This chapter concludes with my recommendations for expanding and standardizing disclosure measurement, and a call to increase efforts to link SMW disclosure behavior to health outcomes.

Public health contribution of proposed dissertation

Differences in health behaviors, health status, and health care utilization exist between heterosexual and sexual minority patients. The medical and public health communities currently emphasize increasing sexual orientation disclosure to providers as one pathway to improving the health and health care experiences of sexual minority patients. The body of evidence supporting the importance of disclosure for LGB health and the broader discourse surrounding disclosure has important limitations that warrant further investigation. My dissertation seeks to address existing gaps in the literature by reporting on the disclosure experiences of a demographically diverse set of YSMW and by examining rates of disclosure by both sexual identity category and using varied measures of sexual orientation (identity v. attraction v. behavior). My dissertation will offer a preliminary look at relationships between disclosure and clinical care for YSMW. This dissertation may provide foundational work for future efforts to design individual-level disclosure promotion interventions that meet the needs and address the challenges of a diverse set of young adult sexual minority women. This research may also be instructive to developing culturally appropriate interventions designed at improving clinician's skills soliciting patient disclosures and offering recommendations to the public health and medical communities regarding instances or settings where coming out to providers is particularly relevant to improving YSMW's health.

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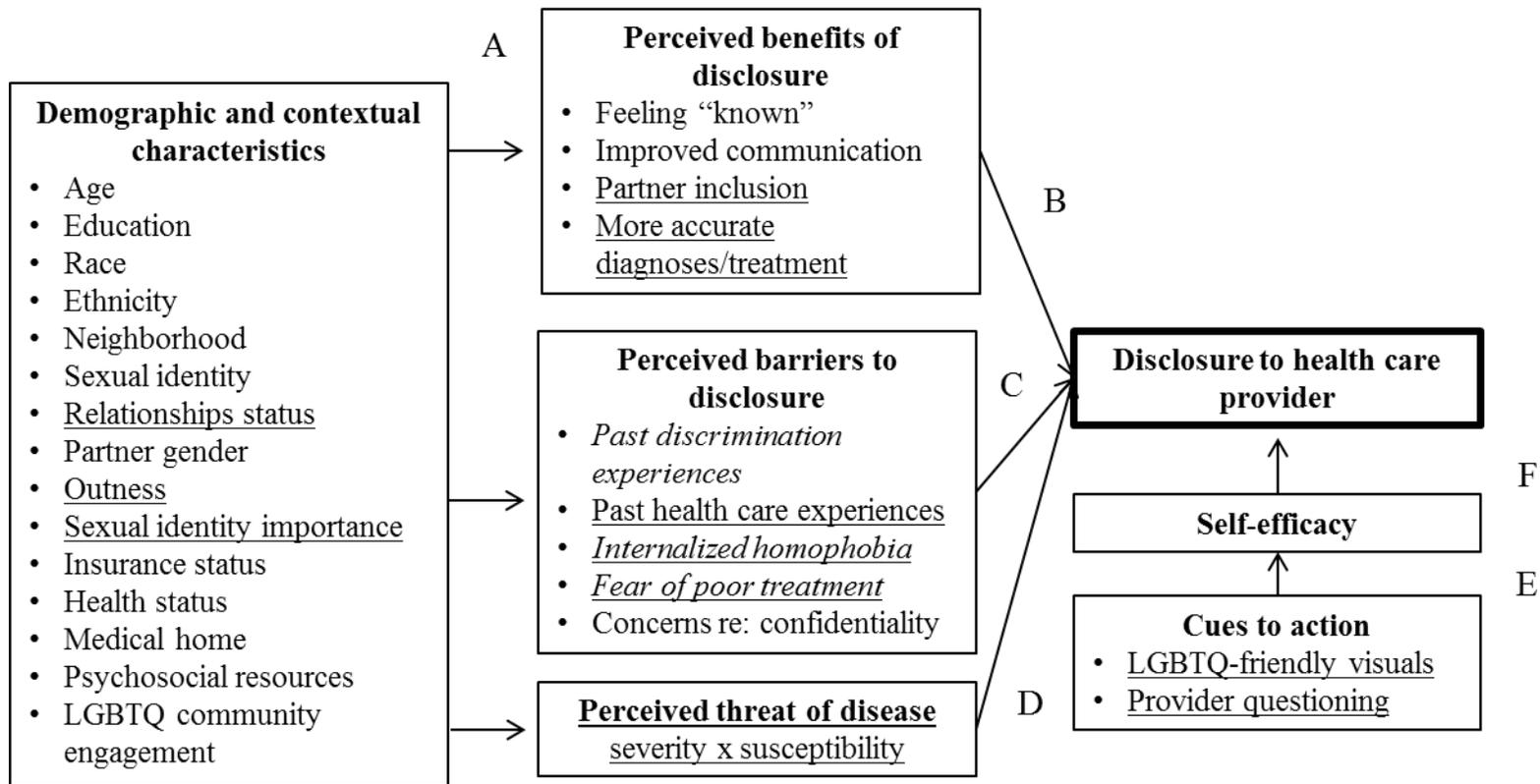
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Figure I.1: Factors Influencing Sexual Orientation Disclosure to Providers among Young Adult Sexual Minority Women (YSMW)*



*Personal Risking Theory constructs underlined

*Minority Stress Model constructs *italicized*

CHAPTER II

“Coming Out” to Health Care Providers: Exploring Individual and Interpersonal Influences on Young Sexual Minority Women’s Disclosure Behavior

Introduction

Health disparities between heterosexual and sexual minority women (SMW; women who report same-sex attraction or sexual activity, or a non-heterosexual identity) are well-documented (Conron, Mimiaga, & Landers, 2010; Institute of Medicine, 2011; United States Department of Health and Human Services, 2010). Compared to heterosexual women, SMW may be at elevated risk for chronic diseases (Boehmer, Bowen, & Bauer, 2007; Struble, Lindley, Montgomery, Hardin, & Burcin, 2010; Zaritsky & Dibble, 2010), report higher rates of mental health symptoms (Colledge, Hickson, Reid, & Weatherburn, 2015; Kerr, Ding, & Thompson, 2013; Koh & Ross, 2006), and report risky health behaviors at greater frequency (Burgard, Cochran, & Mays, 2005; Gruskin, Hart, Gordon, & Ackerson, 2001). Understanding and addressing the root causes for disparities in health behaviors and outcomes between heterosexual and sexual minority women is imperative from a social justice perspective, and is critical to improving population health.

A strategy for reducing sexual orientation-based health disparities advocated by members of the medical and public health communities is sexual orientation disclosure to health care providers (Bradford, Cahill, Grasso, & Makadon, 2012; Cahill & Makadon, 2014). Champions of this strategy assert that disclosure or “coming out” to health care providers is a critical step

toward addressing health concerns that disproportionately affect sexual minority patients, while simultaneously boosting patient satisfaction and care utilization (Makadon, 2011). Disclosure proponents further argue that health care providers must know a patient's sexual orientation in order to provide culturally competent and clinically relevant care (Cahill & Makadon, 2014). Though evidence is limited, available data suggests some sexual minority patients also see the value in coming out to their provider. Patients believe that coming out in clinical settings leads to better health care, helps them avoid unnecessary clinical procedures, and leads to more honest, open relationships with providers (Bjorkman & Malterud, 2007; Stein & Bonuck, 2001). SMW who are out to their provider indeed report higher levels of patient satisfaction (Bonvicini & Perlin, 2003; Mosack, Brouwer, & Petroll, 2013; Polek, Hardie, & Crowley, 2008), and may use preventive health care services more often than women who are not out to their doctor (Bergeron & Senn, 2003; Dehart, 2008; Diamant & Wold, 2003; Steele, Timmouth, & Lu, 2006; White & Dull, 1997).

Despite evidence suggesting the value of disclosure, many SMW are not out to their provider. Community-based samples report 30% (Smith, Johnson, & Guenther, 1985) to 87% (Durso & Meyer, 2013) of SMW patients are out to their health care provider. The variability of these estimates makes it difficult to predict at a population level what percentage of SMW disclose their sexual orientation to their provider. Yet, what is evident across these studies is that there is a sizeable portion of SMW who regularly see their provider and receive medical treatment without their provider knowing their sexual orientation. In this chapter, I seek to understand what factors predict sexual orientation disclosure to providers among sexual minority women using a socioecological framework (Bronfenbrenner, 1994). My investigation focuses on two levels of this framework: the individual and interpersonal (social network) levels. Within

these two levels I focus on five separate domains: patient-level demographic characteristics, psychosocial resources, sexuality-related factors, health and health care access (individual level) and social networks (interpersonal level).

Patient-level demographic characteristics

Individual (also known as personal or patient) level characteristics are the most proximate level of influence on young SMW's (hereafter, YSMW's) disclosure deliberations. Researchers have frequently explored patient-level demographic influences, seeking to determine relationships between race, age, education, income and other characteristics and disclosure (St. Pierre, 2012). Findings on these patient-level factors are mixed: some studies found that SMW of different races or ethnicities come out to their providers at different rates (Durso & Meyer, 2013; Klitzman & Greenberg, 2002) while others report no differences across racial groups (Stein & Bonuck, 2001). Similarly, age was a significant predictor of disclosure in some studies (Neville & Henrickson, 2006; Stein & Bonuck, 2001), but not in others (Eliason & Schope, 2001; Polek et al., 2008). St. Pierre's review (2012) affirms that findings on the role of patient-level demographic characteristics in predicting disclosure behavior are inconsistent. The homogeneity of many studies on SMW's disclosure with race, education, and income (Barbara, Quandt, & Anderson, 2001; Bergeron & Senn, 2003; Johnson, Guenther, Laube, & Keettel, 1981; Steele et al., 2006; White & Dull, 1997) merits further examination to understand how these factors may influence coming out to providers among diverse samples of YSMW. Demographic characteristics, along with other individual-level predictors, may importantly influence YSMW's disclosure behavior.

Psychosocial resources

An individual's psychosocial resources are an overlooked but potentially important influence on SMW's disclosure behavior. Building on Bandura's (1977) theory of self-efficacy, SMW with greater psychosocial resources may feel more confident initiating conversations about disclosure with their health care provider, and may be better able to cope with experiences of discrimination or negative treatment. Spencer and Patrick (2009) report the positive effects of mastery, or a sense that one has control over the forces affecting their life, on lesbian and gay young adult's psychological well-being. This study, among others (Lehavot, Walters, & Simoni, 2009; Miller, Rote, & Keith, 2013; Watkins, Hudson, Caldwell, Siefert, & Jackson, 2011), showed that one's sense of mastery can importantly buffer the negative effects of discrimination minorities often experience. SMW with greater psychosocial resources may be more likely to come out to their provider.

Sexuality-related factors

Factors related to SMW's sexuality and experience as a sexual minority may also influence disclosure behavior. Their experiences can be operationalized as positive or negative. How salient or important one's sexual orientation is to SMW's sense of self may influence whether or not one comes out to her provider; so too might the extent to which a SMW patient is out to others. Researchers have found that SMW that are out in other social relationships (i.e. to family, friends, or coworkers) are more likely to be out to their health care provider (Boehmer & Case, 2004; Durso & Meyer, 2013; van Dam, Koh, & Dibble, 2001). Conversely, negative sexuality-related experiences may decrease the likelihood that SMW disclose their sexual orientation to their provider. Meyer's Minority Stress Model (2003) describes the negative health consequences of social stressors including prejudice, discrimination, and internalized homophobia on sexual minorities' health. This model has been used to explore mental (Cochran,

Mays, Alegria, Ortega, & Takeuchi, 2007; Frost & Meyer, 2009) and physical health concerns (Cochran & Mays, 2007; Hatzenbuehler, 2009) among sexual minorities. Three studies have explicitly looked at the role of one stressor – internalized homophobia -- on SMW’s disclosure behavior (Austin, 2013; Bergeron & Senn, 2003; Durso & Meyer, 2013). Each investigation of the effect of internalized homophobia on disclosure found that higher levels of internalized homophobia were associated with lower levels of disclosure to providers.

Health & health care access

Though health care *context* (Fogel, 2005; Mulligan & Heath, 2007; White & Dull, 1998) and personal attributes of health care *providers* (Edwards & van Roekel, 2009; Geddes, 1994; Klitzman & Greenberg, 2002; Stein & Bonuck, 2001, among others) have often been examined as potential influences on SMW’s disclosure decisions, less examined are the roles of *health* and health care *access* on disclosure. Limited information on the effect of SMW’s health or their access to health care services on their decision to come out to health care providers means the medical and public health communities cannot articulate the causal pathway through which disclosure may influence SMW’s health and health access. In other words, does coming out to one’s provider improve SMW’s health, or are SMW with better health more likely to come out to their provider? Durso and Meyer (2013) report SMW with a history of physical illness were less likely to come out to their provider than healthy SMW, suggesting health status is indeed related to disclosure, but their study does not further elucidate this relationship. Among studies that have examined whether having a regular care provider influences SMW’s disclosure decisions, the consensus is that having a regular provider is associated with higher rates of disclosure (Diamant, Schuster, & Lever, 2000; Fogel, 2005). The relationship between health status (both

physical and mental), health behaviors, and additional indicators of health care access on disclosure merits greater exploration.

Social networks

At the interpersonal level, social networks are another domain of influence worthy of investigation, as one's network and personal relationships help shape individual attitudes and perspectives. Social relationships between SMW may importantly affect the decision to come out to one's doctor, as the perspectives of important others may influence SMW's health behaviors (Montãno & Kasprzyk, 2008). Boehmer and Case (2004) report that a major difference between SMW in their study who had disclosed versus those who had not was the existence of social ties that supported disclosure. Women who had disclosed knew people that helped them identify providers or clinics known to be accepting of SMW; whereas women who had not disclosed lacked these supportive resources (Boehmer & Case, 2004). Another study suggests that SMW in same-sex relationships may be more likely to come out to their provider than those who are unpartnered (Hitchcock & Wilson, 1992). This finding is consistent with qualitative work that stresses the importance of welcoming attitudes toward partners as a meaningful component of positive relationships between SMW patients and their providers (Bjorkman & Malterud, 2007; Seaver, Freund, Wright, Tjia, & Frayne, 2008).

Chapter goals and objectives

The purpose of the following study is to examine how five domains of influence, patient-level demographics, psychosocial resources, sexuality-related factors, health and health care access, and social relationships with other SMW affect SMW's decisions to come out to their health care providers (*see Figure II.1*). My focus here is specifically on disclosure among young adult sexual minority women, a demographic group whose disclosure behavior has received little

explicit attention (St. Pierre, 2012; see Lehmann, Lehmann, & Kelly, 1998 for a notable exception), despite calls by the medical and public health community to provide culturally appropriate, responsive clinical care to this population (Mayer, Garofalo, & Makadon, 2014).

Young adulthood is a developmental period where individuals often lack the structure and support of childhood, yet have yet to adopt the social roles and responsibilities related to (older) adulthood (Arnett, 2000), making this an especially vulnerable and disorienting point in the life course. Some young adults may find themselves without health care for the first time in their life (aging out of their parent's coverage), losing the support of the social welfare system and available to children under 18, and/or otherwise responsible for navigating health care environments independently. Sexual minority young adults may be emerging from homes where rejection, isolation, and discrimination were normative events (Newman & Muzzonigro, 1993), and even sexual minority youth who live in supportive homes exist in a society where disapproval of sexual variance remains normative. These experiences may have profound negative effects on the mental health of young adult sexual minority individuals (D'Augelli, 2002; Harrison, 2003). To the extent that coming out to providers offers the health benefits disclosure proponents advocate, YSMW stand to benefit the most from this practice, and a targeted investigation of how individual and social network factors influence their disclosure behaviors is warranted.

Given inconsistent evidence on the influence of individual-level characteristics on YSMW's disclosure behavior, I hypothesize that demographic variables will have little influence on disclosure, while sexuality-related variables, psychosocial resources, and health and health care access will be associated with higher rates of disclosure. I predict more engagement with the LGBTQ community will lead to higher rates of disclosure, but that when all five domains of

influence are considered, sexuality-related factors will be most strongly associated with disclosure.

Research questions and hypotheses

This chapter will address the following research questions:

RQ1: How does the likelihood of disclosure to providers vary based on YSMW's patient-level attributes?

H1: *I hypothesize no differences in disclosure rates by demographic characteristics. Rates of disclosure will vary by psychosocial resources, sexuality-related variables and health and health care access variables.*

RQ2: How does the likelihood of disclosure to providers vary based on YSMW's social network characteristics?

H2: *YSMW who have more social ties to the lesbian, gay, bisexual, transgender, or queer (LGBTQ) community will be more likely to come out to their providers than those with fewer LGBTQ community ties.*

RQ3: In a multivariate model, what patient-level attributes or social network characteristics predict disclosure to health care providers?

H3: *Sexuality-related variables, above all other variables, will best predict disclosure.*

Methods

Recruitment

Data for the present study are taken from a cross-sectional, web-based survey of YSMW's health behaviors. Conducted in the summer of 2011, participants in the study were recruited via promotions in online LGBTQ-listserves, flyers in local gay-friendly venues and community-based organizations, and advertisement through Facebook Ads. Recruitment via Facebook Ads allowed for tailored study advertisements to appear on women's profiles who fit the eligible age range and who marked themselves as interested in relationships with women (or

men and women). Use of social media for web-based survey recruitment is a common method for reaching potential young sexual minority participants, as it allows for reaching those who may not socialize in LBGTQ-specific venues either in-person or online (Bauermeister, 2012). All promotional materials displayed a synopsis of eligibility criteria, a mention of a \$25 electronic gift card incentive, and directed interested parties to visit the survey's website to learn more about the study.

Procedures

Upon entering the study website, participants were asked to enter a valid and private email address, which served as their survey username. This allowed participants to save their answers and complete their survey in more than one sitting if necessary. Participants were asked eight questions during the eligibility screener. To be eligible for study participation, recruits had to be between the ages of 18 and 24 (i.e., born between 1987 and 1993) and either identify as any sexual identity other than heterosexual, *or* reply *yes* to a single item that asked if they had any sexual experiences with one or more women in the past year. If eligible, participants read a detailed consent form explaining the study purpose and their rights as participants. YSMW who remained interested in study participation were asked to acknowledge that they read and understood each section of the consent form. Consented participants completed a 45-60 minute survey regarding their demographic characteristics, smoking attitudes and behaviors, health care utilization and experiences, sexuality, experiences of discrimination, and psychosocial wellbeing. For participant privacy, all study data were protected with a 128-bit SSL encryption and kept within a University of Michigan firewalled server. Study data were protected by a Certificate of Confidentiality. All study procedures were approved by the Institutional Review Board of the University of Michigan, Ann Arbor.

The final dataset reflects removal of duplicates and suspected falsified entries, using best practices for web-based survey research (Bauermeister et al., 2012). The analytic sample ($N=386$) is comprised of participants with complete survey data on all measures of interest.

Measures

Demographics

Participants were asked a series of questions about their demographic characteristics including their sexual identity, race, ethnicity, employment status, neighborhood description, and age.

Sexual identity. Participants were asked two questions to measure what sexual identity label best represented the way they thought about themselves: “How do you identify your sexual orientation?” and “If you had to pick ONE of the following labels to best represent the way you think about yourself, which would it be?” To the former question, participants were instructed to select all categories that applied; for the latter, participants could choose only one category. For both questions, participants could select *heterosexual, lesbian or gay, bisexual, queer, other, or no label*. This combination of questions was meant to indicate that the study team understands the variety of ways people may identify their sexual orientation. From their responses to the second question participants were grouped into three categories: lesbians, bisexual women, and other non-heterosexual identities. In the multivariate model, lesbians serve as the referent group.

Race. We also asked women to indicate their racial identity, selecting as many options as applied from a list of racial categories. Based on their response, women were categorized as White/Caucasian, Black/African-American, or Other. White women serve as the referent group in the multivariate models.

Ethnicity. To assess ethnicity, women were asked, “Are you Hispanic or Latina?”

Neighborhood. To measure the influence of neighborhood contexts, we asked participants “How would you characterize the area where you live?” Response options for this question were as *urban, rural, or suburban*. Respondents living in urban areas serve as the referent group in the multivariate model.

Education. Participants’ were also asked about the education they have received. We asked, “What is the highest level of education that you have completed?” From their responses we grouped women’s educational status into *high school or less* and *at least some college*.

Age. Participants were asked to provide their age (in years). Age is entered into all models as a continuous variable.

Psychosocial resources

Mastery and control. Participants were asked a number of questions to gauge their sense of mastery and control. Specific questions were taken from the Pearlin Mastery Scale (1981). These items have been used to measure the resources of youth and adolescents in the National Longitudinal Survey of Youth and the National Survey of American Life. Sample items include, “In the past month, how often have you been able to control the hassles in your life” (*control*); “In the past month, how often have you felt that you were able to successfully handle the important changes occurring in your life?” (*mastery*). Participants responded using a Likert-type scale from 1 (*Never*) to 5 (*Very often*). For this analysis, some items were reverse coded so that when summed, higher score equals higher sense of mastery and/or control. Cronbach’s alpha for the mastery subscale is $\alpha=0.65$; $\alpha=0.68$ for the control subscale.

Sexuality-related variables

Participants were surveyed regarding a number of sexuality-related stressors or experiences related to being a sexual minority.

Internalized homophobia. Internalized homophobia was measured using a 9-item scale adapted from the Internalized Homophobia Scale (Meyer, 1995). Participants were asked to indicate the extent to which they disagreed or agreed with statements about their level of comfort with their lesbian/bisexual identity or attraction toward women. Sample items include “I wish I weren’t [lesbian or bisexual],” “I have tried to stop being attracted to women in general,” and “I feel alienated from myself because of being [lesbian or bisexual].” Participants responded on a 4-point Likert-type scale ranging from 1 (*Strongly disagree*) to 4 (*Strongly agree*). An internalized homophobia score was calculated by averaging the responses to the nine items, where a higher mean score was indicative of greater internalized homophobia ($\alpha=0.90$).

Sexual identity importance. Participants were asked a series of questions to assess how salient their sexual identity is to their sense of self. Sample items include, “Overall, being [lesbian or bisexual] has very little to do with how I feel about myself,” “In a typical week, how often do you think about being [lesbian or bisexual]?” Participants responded on a 4-point Likert-type scale ranging from 1 (*Strongly disagree*) to 4 (*Strongly agree*) or on a 5-point Likert-type scale 1 (*Never*) to 5 (*Always*). Sexual identity importance was calculated by averaging the responses to the five items, where higher mean score indicates sexual identity is more important to a respondent’s sense of self ($\alpha=0.73$).

Discrimination. To understand participants’ lifetime exposure to discrimination related to their sexuality, participants were asked, “Growing up, how frequently did the following people call you names, tease you, or verbally harass you because they thought or knew you were [lesbian or bisexual]?” and given a list of possible relationships including school teachers/faculty, other students, parents, siblings, etc. Participants responded on a 5-point Likert-type scale 1 (*Never*) to 5 (*Always*). Lifetime discrimination was calculated by averaging the responses to the ten items,

where higher mean scores indicated greater experience of lifetime discrimination ($\alpha=0.90$). This item was modified from the 8-item instrument originally developed by Williams et al. (1997), and revised by Meyer and colleagues (2008) to be used among sexual minority populations.

Outness scale. We also assessed how “out” participants were to other individuals in their lives. Participants indicated whether or not they had disclosed their attraction to women to their mother or female person who raised you (them), father or the male person who raised you (them), siblings, other family members, friends, co-workers. Response options were *Yes*, *No*, or *Not applicable*. An “outness” score was calculated for each individual based on the percentage of their network they were out to (# of yes / total number of applicable relationships).

Health and health care access

Survey participants were asked to describe their current health and recent health care experiences.

General health status. General (physical) health status was gauged using the item, “In general how is your health?” Response options for this question were *excellent*, *very good*, *good*, *fair*, *poor*. In regression models this variable is treated as continuous from 1 (*excellent*) to 5 (*poor*).

30 day physical and mental health. Using items from the Health-Related Quality of Life series of the Behavioral Risk Factor Surveillance System (BRFSS) health survey, we inquired about participants’ physical and mental health in the prior 30 days. Current physical health status was assessed using the item, “Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” Similarly, current mental health status was assessed using an item which asked, “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” Given the count nature of these two variables, a log transformation was conducted to reduce skewness.

Depression and anxiety. Using the shortened version the Center for Epidemiologic Studies Depression Scale (CES-D 10), we measured participants' feelings of depression. Using this scale, participants are asked to consider how often in the past month they had a given experience. Sample experiential items included "been upset because of something that happened that you didn't expect" and "felt that you had so many problems that you could not deal with them". Participants' anxiety was measured using a six item subscale of the Brief Symptoms Inventory – 18 (BSI-18), a widely used measure of general psychological distress. Participants are asked to respond how often in the past week they had experienced a list of problems, including "feeling fearful" or "spells of terror or panic". Response options for both the CES-D 10 and the BSI-18 are *never, almost never, sometimes, fairly often, very often*. For both variables, reverse coding occurred as necessary and a composite measure was created by mean scoring participants' responses (depression scale: $\alpha=0.74$; anxiety scale: $\alpha=0.86$).

Smoking behavior. Participants were asked to report their current cigarette use. Participants could respond that they now smoke *every day, some days, or not at all*. Women who reported *not at all* serve as the referent group.

Alcohol use. Survey respondents were asked about their alcohol use in the past thirty days. In this analysis, 30 day alcohol use is dichotomized into *yes* or *no*.

Medical home. We were also interesting in better understanding participants' health care access and utilization patterns. Participants' were asked where they routinely go to receive medical care. From their responses we group women into two categories: *yes* (have medical home), and *no* (no medical home).

Insurance status. We also asked participants' about health care coverage. Participants were asked, "Do you have any kind of health insurance coverage, including health insurance, prepaid

plans such as HMOs, or government plans such as Medicare?” Response options were *yes* (insured) or *no* (uninsured).

Recent medical care. Participants were asked to provide the year in which they last visited a doctor or other medical provider for a routine check-up. Responses were grouped into those who received recent care (medical visit in 2011 or 2010) versus those who do not receive recent medical care (visit prior to 2009 or earlier).

Social relationships with other YSMW

Number of same sexual orientation friends. To understand non-sexual relationships with other same-sex attracted women, we asked participants about the proportion of their friends who share their sexual orientation; this variable was treated as continuous from 0 (*None of them*) to 3 (*Almost all of them*).

Leisure time spent with same-sex attracted women. We also asked participants to gauge the amount of leisure time they spent with other same-sex attracted women, ranging from 0 (*None*) to 3 (*A lot*). This variable is treated as continuous in analyses.

Community involvement measures. We were also interested in participants’ engagement with their local LGBTQ communities. Participants were asked to provide the number of *local LGBTQ organizations* to which they belonged. Participants’ responses ranged from 0 to 10. To account for the negative skew of participants’ answers, this variable was recoded as into a 3-level variable, where 0 = No organization, 1 = 1 organization, and 2 = 2 or more organizations.

Several survey items assessed participants’ *participation in LGBTQ social life*. Three questions measure participants’ level of social involvement in the LGBTQ community: (1) “Did you attend programs at a LGBTQ organization?” (2) “Did you go to LGBTQ social events (parties, dances, Pride)?” and (3) “Have you gone to a LGBTQ bar or club?” Response items ranged from

1(*Never*) to 6 (*Once a week or more*). A composite measure was created by mean scoring participants' responses on these three items ($\alpha = 0.79$), with higher scores indicating higher participation in the LGBTQ community. To assess participant's sense of *community connection*, participants were asked to evaluate the degree to which they considered themselves part of their local LGBTQ community on a 4-point scale ranging from 0 (*Not at all*) to 3 (*A lot*).

Relationship status and partner gender. With respect to romantic or sexual relationships, participants were asked whether or not they currently had a girlfriend, boyfriend, or partner. Participants not in a relationship serve as the referent group in the multivariate model.

Lifetime female partners. Participants were asked, "With how many women have you had sexual (genital) experiences in your lifetime?". Given the count nature of this variable, a log transformation was conducted to reduce skewness.

Disclosure

Active disclosure. To measure whether participants had come out to their health care provider participants' were asked a series of questions regarding their provider's knowledge of their sexual orientation. After being asked whether they believed their doctor knew about their sexual orientation, participants were also asked, "How does your doctor know your sexual orientation?" Response options include "*doctor doesn't know, probably assumes it, some else told, I disclosed it without being asked, or, I disclosed because my doctor asked me.*" Given this analysis' focus on active disclosure, responses were dichotomized into "*yes disclosed*" (I disclosed it without being asked, I disclosed because my doctor asked me, or someone else told) and "*no disclosure*" (doctor doesn't know). Those who stated that their doctor *probably assumes* their sexual orientation were treated as missing data ($N=25$).

Data analytic strategy

Bivariate relationships between disclosure and predictors of interest were assessed using chi-square tests (for categorical predictors) or *t*-tests (for continuous variables). In order to ensure sufficient statistical power for multivariate regression analyses and avoid multicollinearity across domains, I ran logistic regression models to predict the independent associations between disclosure and variables of interest within our theoretical domains (demographic, social relationships with other YSMW, health and health care resources, psychosocial resources, and sexuality-specific experiences). Based on the within-domain multiple logistic regression models, we then created a logistic regression model that incorporated all variables that were significantly correlated with disclosure in the previous models.

Results

Sample description and bivariate analyses

The majority of study participants identified as lesbian, White and non-Hispanic/Latina, and had at least some college education (Table II.1). The mean age for the sample was 21.35 years old ($SD=1.79$). Slightly more than half of our sample reported living in an urban area, 27% lived in suburban communities, and nearly a fifth resided in rural locations. 63% of participants were in a relationship, and the majority of those in a relationship were partnered with another woman. Approximately 85% of YSMW reported that they were currently insured, more than 80% had a medical home, and nearly 70% of participants received routine medical care in the current calendar year or the year prior.

Bivariate differences in disclosure status were observed across numerous variables (see Table II.1). Compared to bisexual and other non-heterosexual women, coming out to health provider was more common among lesbians ($\chi^2(2, N=386) = 7.01, p=0.03$). Being insured ($\chi^2(1, N=386) = 3.82, p=0.05$) and having a medical home ($\chi^2(1, N=386) = 5.08, p=0.02$) were

associated with greater rates of disclosure. Women who reported being in a relationship with another woman ($\chi^2 (1, N=386) = 4.48, p=0.03$) were out to health providers at greater rates than their peers. Disclosure was more common among participants who reported everyday smoking versus those who smoke some days or not at all ($\chi^2 (2, N=386) = 24.04, p<0.001$). Compared to those who had not disclosed, YSMW who were out to their providers scored lower on measures of anxiety and depression, and reported a greater sense of mastery and control. YSMW who were out to their provider scored poorer on our measure of mental health ($M=6.71, SD=8.74$) than did women who had not disclosed ($M=4.19, SD=7.36$) $t(384) = -3.29 p=0.001$). Women who were out to their providers ($M=0.67, SD=0.83$) belonged to fewer LGBTQ organizations than those who had not disclosed their sexual orientation ($M=0.92, SD=0.80$) $t(384) = 2.79. p=0.006$). Women who had more same-sex sexual partners ($M=0.66, SD=0.30$) were more likely to be out to their provider than women with fewer same-sex partners ($M=0.57, SD=0.22$) $t(384) = -3.53. p<0.001$). On average, women who were out to the provider reported fewer instances of lifetime discrimination, less internalized homophobia, greater sexual identity salience, and were out to more people in their personal lives. No additional bivariate differences were observed.

Correlates of sexual orientation disclosure to health care providers

Variables with significant differences in the bivariate model, as well as additional demographic characteristics related to social determinants of health, were entered into regression models.

Demographic variables – Model II.1

I ran a logistic regression model to determine if the likelihood of disclosure was associated with participants' demographic characteristics. Women who identified as lesbian were 2.22 times as likely to be out to their provider compared to women who identified as bisexual ($OR=0.45, 95%$

CI: 0.27, 0.76, $p=0.003$). YSMW living in suburban areas more likely than women residing in urban communities to have come out to their provider ($OR=1.89$, 95% CI: 1.11, 3.23, $p=0.02$). No other significant differences in disclosure status by demographic characteristics were found.

Psychosocial resources – Model II.2

In a model examining differences in likelihood of disclosure by YSMW's psychosocial resources, I found perceived control was associated with increased odds of having come out to a health care provider ($OR=1.47$, 95% CI: 1.03, 2.10, $p<0.04$). No differences in odds of disclosure were observed based on participant's sense of mastery.

Sexuality-related variables – Model II.3

A third logistic regression model examined differences in likelihood of disclosure based on factors and experiences related to participants' sexuality. In this model, for each additional important relationship in which a participant was out the odds of being out to their provider were over 10 fold greater ($OR=10.38$, 95% CI: 4.37, 24.61, $p<0.001$). Participants' who scored high on measures of internalized homophobia were less likely than those with lower scores to be out to their provider ($OR=0.61$, 95% CI: 0.39, 0.98, $p<0.04$).

Health and health care access – Model II.4

I ran a fourth logistic regression model to observe differences in likelihood of disclosure based on the state of participant's health and health care access. Great depression symptomatology was associated with reduced odds of being out to one's provider ($OR=0.39$, 95% CI: 0.21, 0.70, $p=0.002$). Likelihood of disclosure also increased based on days of poor mental health ($OR=1.88$, 95% CI: 1.14, 3.10, $p=0.01$). I found no additional differences in likelihood of disclosure based on other aspects of participant's health or access to health care.

Social relationships with other YSMW – Model II.5

The model examining differences in likelihood of disclosure based on participants' social relationships with other YSMW indicates a number of significant differences. Women who reported a greater number of sexual relationships with women were more likely to be out to their provider ($OR=4.33$, $95\% CI: 1.67, 11.26$, $p=0.003$), and women who were in a romantic relationship with a man had reduced odds of being out to their health care provider ($OR=0.46$, $95\% CI: 0.23, 0.91$, $p=0.03$). Participants reporting greater involvement in local LGBTQ organizations were less likely to have disclosed their sexual identity to their doctor ($OR=0.60$, $95\% CI: 0.45, 0.81$, $p=0.001$). No additional significant differences were found.

Fully integrated model – Model II.6

Based on the findings from the within-domain multiple models, a logistic regression model that incorporated all significant variables was created. In this fully integrated model I found significant differences in the likelihood of disclosure based on a numerous participant characteristics: sexual identity, lifetime number of female sexual partners, how “out” a woman is to others, and internalized homophobia. Compared to women who identify as lesbian, bisexual women ($OR=0.41$, $95\% CI: 0.20, 0.85$, $p=0.02$) and women who identify as non-heterosexual had significantly lower odds of being out to their health care provider ($OR=0.24$, $95\% CI: 0.09, 0.60$, $p=0.002$). The likelihood that a woman is out to her provider increased as the number of female sexual partners over her lifetime increased ($OR=2.84$, $95\% CI: 0.99, 8.15$, $p=0.05$). Controlling for other variables, the likelihood that a woman has disclosed her sexual identity to her health care provider increased by over six fold for every additional important person she had also come out to ($OR=6.39$, $95\% CI: 2.52, 16.20$, $p<0.001$). As participants' internalized homophobia score increased, the likelihood that she is out to her provider is reduced ($OR=0.45$, $95\% CI: 0.27, 0.76$, $p=0.003$). No additional significant relationships between disclosure and predictors of interest were observed.

Discussion

I proposed to analyze various pathways that may influence YSMW's decisions to come out to their doctor, focusing on the socioecological model's individual and interpersonal levels. The entrance into young adulthood represents a critical window in the lives of SMW, and their experiences disclosing to providers have thus far been unexplored. This investigation focused on five domains of influence hypothesized as relevant to disclosure or found to be predictive of disclosure in older samples of SMW: demographic characteristics, psychosocial resources, sexuality-related factors, health and health care access, and social network ties.

My examination of demographic influences indicated no differences in rates of disclosure by race, Latino ethnicity, education, age. These findings echo a review of coming out to providers among lesbians (St. Pierre, 2012), which noted no relationships between these demographic characteristics and disclosure. While residing in a suburban area was associated with greater odds of being out in the within-domain model, only one demographic characteristic remained significant in the multivariate model: sexual identity. Significant differences in coming out to providers exist based on YSMW sexual identity, with lesbians being more likely to disclose their sexual identity than bisexual or other non-heterosexual women. This finding is consistent with other recent analyses of disclosure to health care providers (Durso & Meyer, 2013; Mosack et al., 2013; Polek et al., 2008). Lack of disclosure among bisexual YSMW is noteworthy, given evidence suggesting bisexual women carry a larger burden of negative health outcomes (Bostwick, Boyd, Hughes, & McCabe, 2010; Kerr et al., 2013; Kim & Fredriksen-Goldsen, 2012) and engage in poor health behaviors (Conron et al., 2010; Fredriksen-Goldsen, Kim, Barkan, Balsam, & Mincer, 2010; McCabe, Hughes, & Boyd, 2004) at higher rates than lesbian women. To the extent that nondisclosure shrouds providers' ability to promptly screen

for health problems or address risky behaviors, lower rates of disclosure may exacerbate health disparities for bisexual women.

Though identifying the factors that may lead to lower rates of disclosure among bisexual and other non-heterosexual YSMW is beyond the scope of this analysis, numerous possibilities for this disparity may exist. One factor to consider is how doctors and clinical practices are soliciting sexual orientation disclosure. Are non-binary sexual identities listed as options on medical forms or inquired about during patient-provider interactions (choices beyond heterosexual/straight v. homosexual/gay/lesbian)? If not, failure to inquire about non-lesbian sexual minority identities may suggest a provider's lack of knowledge about sexual minority identities or indicate to non-lesbian YSMW that disclosing their sexual identity is not relevant to her clinical experience or health. Separately, lack of inclusivity regarding bisexual and non-heterosexual sexual identities may lead some YSMW to perceive the clinical environment or providers themselves to be unwelcoming to women of their sexual identity. Research evidence suggests distinct negative attitudes and biases toward bisexual individuals persist (Friedman et al., 2014). Fears of these attitudes and their potential influence on care may accompany young bisexual women to their clinical encounters. Another factor that may lead to lower rates of disclosure among non-lesbian YSMW is the types of questions that may (or may not) be asked about sexual orientation during clinical encounters. Specifically, do medical forms or verbal questions about sexual orientation related to YSMW's sexual identity, behavior, or same-sex attraction? As these three components of sexual orientation do not align for all YSMW (Diamond, 2008), failure to inquire about all aspects of sexual orientation may mean some patients are not afforded the opportunity to disclose their sexual minority status. Bisexuality, particularly among women, is often characterized as both fluid and complex (Diamond, 2008;

Kinnish, Strassberg, & Turner, 2005), and bisexual or other YSMW who do not identify exclusively as lesbian may feel reticent to disclose their sexual attractions or same-sex behavior if these components of their sexuality are not directly asked about as part of their clinical experience. If clinic-based inquiries into sexual orientation focus solely on binary identities categories or on a single component of sexual orientation some YSMW may not disclose a minority sexual orientation. These possibilities and additional reasons for differential rates of disclosure by sexual orientation require greater exploration, and highlight crucial gaps remaining in the disclosure discourse: the need to articulate *which* components of sexual orientation (attraction, identity, and/or behavior) are necessary to disclose, and *how* disclosure of each element influences clinical care and well-being (or, does not).

At the interpersonal level, while bivariate and within-domain models showed some support for the influence of social relationships on YSMW's disclosure behavior, these effects are largely rendered insignificant in the fully integrated logistic regression model. Social relationships – measured in terms of LGBTQ connectedness, participation in social events, and organization membership, number of same-sex attracted friends, time spent with same-sex attracted women, and being in a same-sex relationship – do not significantly influence YSMW's disclosure behavior, after accounting for other influences. Though traditional models of sexual identity development are under increased scrutiny and debate (see Morgan, 2013 for review), such models may be useful in better understanding the limited influence of same-sex relationships on coming out to providers, as found in my data. Specifically, Cass (1979) theorized sexual identity development as a six stage process. The latter three stages of the process include, “identity acceptance”, “identity pride”, and “identity synthesis” (Cass, 1979). Using this conceptualization, we might expect that YSMW who are more connected to or

participatory in the LGBTQ community are in the “identity acceptance” phase, where increased contact with sexual minority communities is normative. Though some selective disclosure may occur for individuals in the “identity acceptance” phase, more widespread disclosure is not common until sexual minorities reach the fifth and sixth processes of sexual identity development (Cass, 1979). Based on my findings, it may be the case that YSMW who have reached the “identity synthesis” phase – who have successfully adopted their sexual identity into their overall self-concept and are more likely to be “out” to others in their life – are less connected to the LGBTQ community, and its influence on their behaviors (including coming out to providers) is attenuated.

Only one type of social relationship, lifetime number of female sexual partners, significantly influenced disclosure when accounting for all covariates. This analysis showed, independent of how YSMW identified their sexual identity, YSMW who reported a greater number of same-sex sexual partners were more likely to come out to their provider than YSMW who had fewer same-sex partners. This finding suggests that inquiring specifically about same-sex partners (or, the gender of those with whom YSMW have been sexual activity), in addition to sexual identity and sexual attraction, may solicit important information that is not gathered by asking about other components of YSMW’s sexual orientation. To offer tailored sexual and reproductive health strategies, health care providers should have as complete a perspective on YSMW’s lives as possible, including knowing about patient’s sexual identity and history of same (and opposite) sex partners.

Though the findings here may be explained by theories of sexual identity development, the possibility that non-sexual social relationships influence YSMW’s disclosure behavior remains an important area of future research. The low degree of LGBTQ community

involvement and extent of relationships with other same-sex attracted women among YSMW in our sample is striking, and may not be representative of the extent and depth of same-sex social relationships among other YSMW. Scores on each measure of social relationships suggest that our participants may not have abundant ties to other same-sex attracted women or their local LGBTQ community, which may reduce my ability to detect the influence of these (scarce) relationships on disclosure. Social spaces for YSMW to interact are few, broadly, and in comparison to the availability of spaces for young sexual minority men. Examining the effects of social relationships on YSMW's disclosure behavior may yield different results in samples where YSMW had stronger LGBTQ social networks.

Though significant in the bivariate and within-domain models, when looked as part of the fully integrated model I do not see significant differences in coming out to providers based on measures of health or health care access. Neither routine contact with medical providers nor the presence of poor physical or mental health are associated with differences in YSMW's disclosure behavior. This finding stands in contrast to Hitchcock and Wilson's (1992) Personal Risking Theory, which posits that both care frequency and health status predicts greater rates of sexual orientation disclosure. While some researchers found differences in disclosure behavior based on having a routine source of care (Diamant, Schuster, & Lever, 2000) or routine provider (Lehmann et al., 1998), others report no differences based on either insurance status, frequency of care (Klitzman & Greenberg, 2002), or the duration of the clinical relationship (Geddes, 1994). This analysis suggests health care access and utilization do not significantly influence YSMW disclosure behavior. Despite this finding, I suggest it remains important to examine access to health care resources and utilization when examining sexual orientation disclosure to providers. The relative good health and high levels of insurance among our sample may not be

representative of the general YSMW population, and certainly may not be the case among older cohorts of SMW. Differences in health status may be more pronounced among older SMW, and with age may come increased health concerns and needs. More visits, and visits with different types of clinicians provides more opportunities for disclosure. Future research on ways SMW's health status influences their disclosure behavior remains worthy of investigation.

My findings do not support the supposition that psychosocial resources, specifically mastery and control, are associated with YSMW's disclosure behavior. Indeed, it may be the case that possessing a greater sense of mastery and control offers no advantage toward disclosure. It may also be the case that this measure operates poorly in this population, as indicated by the Cronbach's alpha statistics. Other studies using this scale reported similar rates of internal consistency when using this measure among adolescents (Winzer & Brucefors, 2007) and SMW (Lehavot et al., 2009). Investigating the role of psychosocial resources on YSMW's disclosure behavior with different or additional measures may better clarify how such resources may influence disclosure.

Two measures of sexuality-related experiences and processes significantly influenced whether YSMW had come out to their doctor: internalized homophobia and how "out" participants' were in other aspects of their lives. In this analysis, higher levels of internalized homophobia were associated with lower rates of disclosure among YSMW. This type of minority stressor, which reflects internal processes of identity acceptance and development, has been linked to coming out to providers in previous studies (Bergeron & Senn, 2003; Durso & Meyer, 2013). This finding suggests that community or public health programs that promote self-acceptance of one's minority sexual orientation or work to reduce YSMW's internalized homophobia may promote disclosure (in addition to more direct mental health benefits for

YSMW). Given that high levels of internalized homophobia may deter some YSMW from disclosing, clinical environments and health care providers may need to be exceptionally, outwardly supportive and welcoming toward sexual minorities. Providers and their offices should attempt to combat the potential stigmatized self-concept YSMW patients may hold through previously recommended mechanisms including posted signs (stickers/symbols, etc.) that indicate support for LGBTQ individuals, available health information (pamphlets, brochures, etc.) relevant to same-sex sexual behavior and same-sex relationships, medical forms that ask about (non-binary) sexual behavior, attraction, and identity, and cultural humility training relating to LGBTQ identities for all office staff and clinicians (St. Pierre, 2012). These visible signifiers of acceptance offer an important counter to the internalized negative self-perceptions held by some YSMW. Importantly, providers should be aware that coming out can be a fraught, stressful experience, and as appropriate, offer support to YSMW who come out during a clinical encounter. Guidelines and best practices for caring for and creating safe environments for LGBTQ patients are available from the Gay and Lesbian Medical Association and the National LGBTQ Health Education Center, among other resources. Beyond the strategies enumerated above, these resources describe techniques for increasing clinician's knowledge of sexual minority health concerns, improving verbal communication between physicians and sexual minority patients, and for generally creating more welcoming clinical environments.

Integrating findings across domains

My results show the single greatest predictor of whether YSMW are out to their providers is the extent to which they are out to other individuals in their lives. YSMW who have come out to other people in their lives may feel more comfortable disclosing their sexual orientation to their health care provider, and may feel they have the tools necessary to initiate disclosure

conversations. Conversely, YSMW who are out to fewer individuals may not feel comfortable or believe they have the ability to initiate or negotiate conversations about sexual orientation with their provider. Similar findings have been published elsewhere (Boehmer & Case, 2004; Eliason & Schope, 2001; Martinson, Fisher, & DeLapp, 1996; van Dam et al., 2001). Again, this finding suggests that inquiring about sexual orientation via medical forms or via direct questioning from providers may yield more disclosures than relying on YSMW to initiate coming out conversations. Specifically, YSMW who are less out may be more likely to disclose if their sexual orientation is solicited and they do not have to instigate conversations around sexual orientation. Medical providers should receive training (during medical school and as part of continuing medical education courses) to communicate with students about their sexual identity and non-heterosexual sexual activity. Sexual minority women report that both written and verbal questioning around sexual orientation would make coming out to their health care provider easier (van Dam et al., 2001). Programs that seek to reduce internalized homophobia and/or seek to build confidence, provide skills, or offer support to YSMW who are coming out may help increase disclosure in clinical settings. Building one's skills and confidence around coming out generally may help grow confidence in coming out during clinical encounters, specifically. These programs and resources may additionally consider providing specific information and skill-building training around coming out to medical providers.

It is noteworthy that less than a third of YSMW in the sample reported coming out to their doctor. Recent studies on SMW's disclosure behavior report disclosure rates well above our estimates (Durso & Meyer, 2013; Mosack et al., 2013). Low rates of disclosure are particularly noteworthy, given the relative social privilege associated with the demographic characteristics of participants included in this analysis (White, educated, mostly insured, and with a medical

home). Given previous studies report that younger cohorts of sexual minorities (to which this sample of YSMW belong) come out to others at significantly younger ages than older cohorts (Groves, Bimbi, Nanín, & Parsons, 2006; Martos, Nezhad, & Meyer, 2014), low rates of disclosure to providers among this sample are especially surprising. Though reasons why YSMW in our sample are less out to their providers than other samples of sexual minority women are unclear, this may be an artifact of collecting data from YSMW predominately residing in the U.S. Midwest, versus sexual minority women residing in urban or coastal settings (Durso & Meyer, 2013; Klitzman & Greenberg, 2002; Polek et al., 2008; Seaver et al., 2008). Additionally, numerous studies that examine disclosure have used LGBTQ community centers or Pride events as their sampling frame (Geddes, 1994; Mosack et al., 2013; Polek et al., 2008). Given that the vast majority of our sample came from a non-LGBTQ specific social networking website, our population may be less out than other sample SMW.

Limitations

Several study limitations should be noted. The sample was gathered using web-based convenience sampling techniques and therefore may not be generalizable to the broader YSMW population. Participants in the study are largely White, non-Hispanic, educated, insured YSMW. Given the paucity of information on coming out to providers, especially among young adult women of varied sexual orientations, I believe my findings here provide an important baseline of information for future studies on sexual orientation disclosure in health care settings among YSMW. Future research in this area should strive to collect data from a more diverse sample. Though my analysis did not find differences in disclosure based on these characteristics, it is possible that the small number of minority YSMW made these differences difficult to detect. To the extent that this sample does not mirror the broader YSMW community, these estimates may

be biased. Additionally, recruitment efforts centered on spaces where LGBTQ individuals gather and were targeted to YSMW who proclaimed an interest in women on their Facebook profile. These strategies favor YSMW who are “out” to some degree, as those who are not comfortable socializing in LGBTQ venues or who do not advertise their same-sex attraction in their Facebook profile would not have the opportunity to participate in the survey. My results indicate differences in rates of disclosure based on both outness and internalized homophobia: therefore is it possible that women who were not reached via study sampling techniques may be comparatively less out and have more internalized homophobia than those in this sample, resulting in more conservative estimates than reported here. Future studies may consider recruitment strategies that would reach YSMW who are not public with their same-sex attraction (e.g. respondent driven sampling, time venue sampling).

The measures used to assess disclosure were somewhat narrow in scope and leave numerous aspects of YSMW’s healthcare experiences unexplored. We do not know if YSMW came out to their primary care physician or a specialist, what age YSMW came out, or if disclosure to their provider proceeded or came after disclosure to relevant others. Also unknown is what motivated YSMW women to disclose without being asked, or why some YSMW believe their provider assumes their sexual orientation. More detailed investigations into YSMW’s disclosure deliberations and decisions making processes are warranted, perhaps including qualitative explorations of this aspect of YSMW’s health care experience. Neither clinic level nor provider level influences on disclosure were assessed, though some research suggests these factors influence disclosure (Barbara et al., 2001; Bjorkman & Malterud, 2007; Fogel, 2005). Interestingly, though dozens of studies assess coming out to providers, no standard measures of disclosure exists, complicating comparisons across studies.

The measures used to assess disclosure also do not indicate in what format the disclosure was transmitted (whether the disclosure was verbal, written on a medical form, entered electronically into a medical record by the YSMW patient, etc.). Though concerns about privacy and confidentiality of information may be a concern for some sexual minority patients (Mayer et al., 2008), recent changes made by the Department of Health and Human Services to include sexual orientation information in electronic medical records signals an important shift and standardization in how sexual orientation will be documented in patients' health records (The Fenway Institute, 2015). As the ability to enter sexual orientation (and gender identity) information into one's permanent health record becomes a reality, it will be important to document how this technological advancement may influence YSMW's clinically-based disclosures.

Though the present analysis accounts for a wide range of variables across five distinct domains, it may be the case that factors that importantly contribute to coming out to providers are not examined. Specifically, there may be confounding variables that may better explain relationships between independent variables and YSMW's disclosure decisions. For example, while disclosure has repeatedly been theorized as a key milestone in sexual identity development (Calzo, Antonucci, Mays, & Cochran, 2011; Floyd & Stein, 2002; Rosario, Schrimshaw, Hunter, & Braun, 2006), disclosure may be link to personality or other psychosocial factors that were not considered in this analysis. Future research on coming out to providers (and, perhaps, sexual orientation disclosure broadly), may consider other influences on disclosure, beyond those examined in this analysis.

Conclusion

The socioecological framework, particularly the individual and interpersonal levels examined here, provides a useful lens for examining coming out to providers among YSMW. Factors influencing coming out to providers among YSMW mirror closely factors that have been found to predict disclosure among SMW of all ages: lesbian sexual identity, being “out” in other social relationships, and lower rates of internalized homophobia. Additionally, YSMW who report a greater number of same-sex sexual partners, regardless of sexual identity, are more likely to come out to their health care provider than peers with fewer female sexual experiences. These findings, coupled with generally low rates of disclosure in my sample, suggest that current clinical practices to encourage disclosure are substandard in eliciting disclosure from many YSMW. Future clinical approaches should reflect a nuanced understanding of multiple components of sexual orientation (attraction, behavior, and identity) as well as the deleterious effects of internalized homophobia on disclosure. Medical and public health practitioners intent on increasing rates of disclosure to health care providers may need to target their advocacy efforts toward YSMW explicitly. YSMW report being out in many other social relationships, but may need direct advice and invitations to come out to health care providers. A recent nationwide study indicates that nearly a quarter of YSMW did not believe it was important to share their sexual orientation with their provider (Durso, Baker, & Cray, 2013), possibly suggesting that YSMW remain skeptical about how disclosure meaningfully influences their health or health care experiences. This skepticism, and recognition of the multitude of negative consequences that may result from sexual orientation disclosure, should not be overlooked. It is incumbent upon researchers and providers invested in improving sexual minority health to more clearly articulate the known benefits of disclosure, and to offer evidence showing what is important to disclose to their provider (attraction v. behavior v. identity), and why coming out (or, not coming

out) influences their health. More research is needed to help answer these questions on behalf of sexual minority patients.

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Figure II.1 Conceptual model: Five domains of influence on YSMW's clinical disclosure decisions

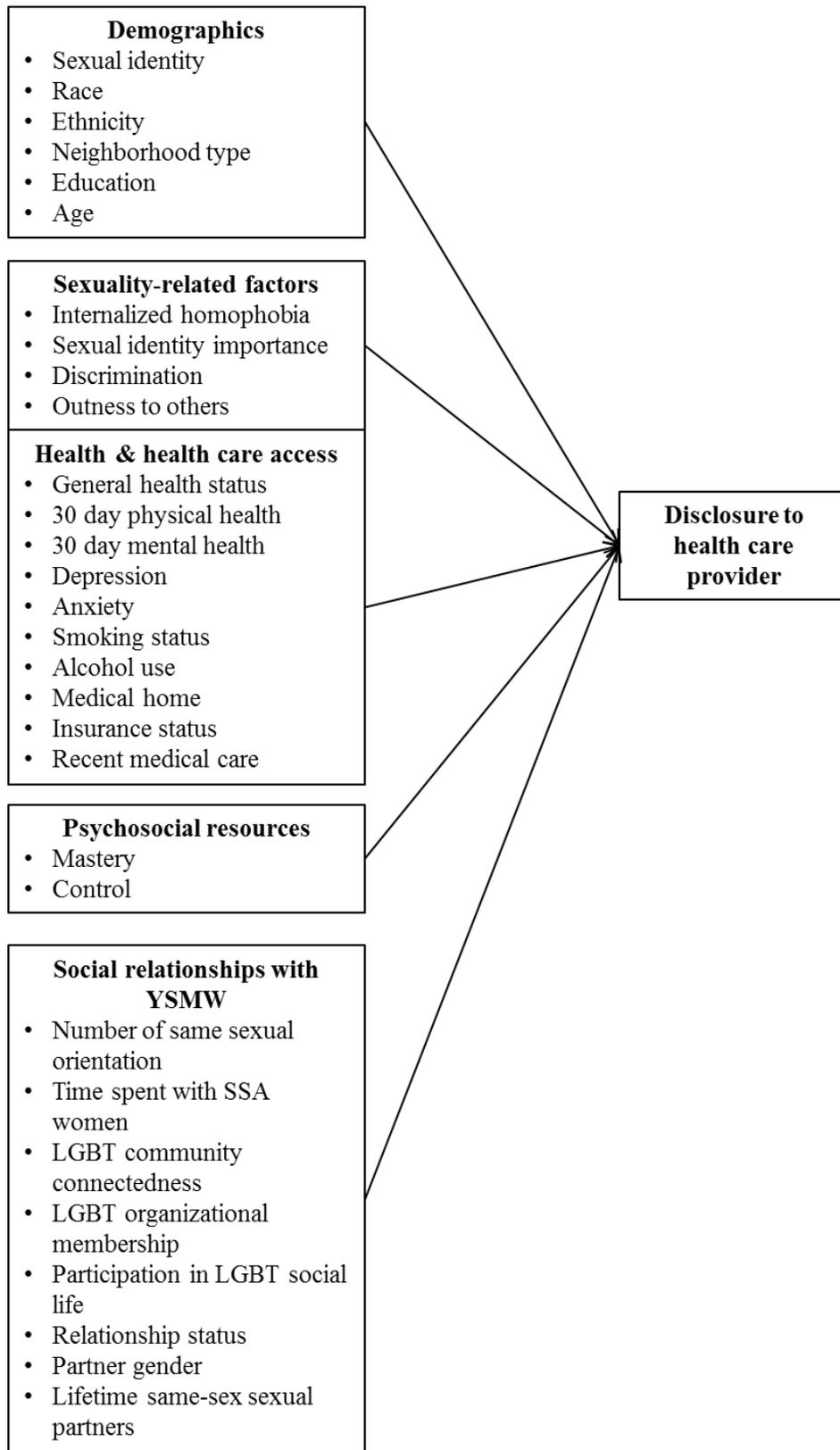


Table II. 1: Bivariate statistics by disclosure status

| | Disclosure Status (Y/N) | | | Test Statistic | p-value |
|--|----------------------------|----------------|---------------|-------------------|---------|
| | Total Sample (N=386) | Yes (N=118) | No (N=268) | | |
| | # (%) | # (%) | # (%) | | |
| Sexual identity | | | | 7.01 | 0.03 |
| <i>Lesbian/gay</i> | 209 (54.1) | 75 (63.6) | 134 (50.0) | | |
| <i>Bisexual</i> | 134 (34.7) | 30 (25.4) | 104 (38.8) | | |
| <i>Other non-heterosexual</i> | 43 (11.1) | 13 (11.0) | 30 (11.2) | | |
| Race | | | | 1.10 | 0.58 |
| <i>White/European American</i> | 267 (69.2) | 86 (72.9) | 181 (67.5) | | |
| <i>Black/African American</i> | 48 (12.4) | 13 (11.0) | 35 (13.1) | | |
| <i>Other</i> | 71 (18.4) | 19 (16.1) | 52 (19.4) | | |
| Ethnicity | | | | 0.36 | 0.55 |
| <i>Not Hispanic or Latina</i> | 348 (90.2) | 108 (91.5) | 240 (89.6) | | |
| <i>Hispanic or Latina</i> | 38 (9.8) | 10 (8.5) | 28 (10.4) | | |
| Education | | | | 0.83 | 0.36 |
| <i>HS or less</i> | 59 (15.3) | 21 (17.8) | 38 (14.2) | | |
| <i>At least some college</i> | 327 (84.7) | 97 (82.2) | 279 (85.8) | | |
| Neighborhood | | | | 3.53 | 0.17 |
| <i>Urban</i> | 209 (54.1) | 58 (49.2) | 151 (56.3) | | |
| <i>Suburban</i> | 103 (26.7) | 39 (33.1) | 64 (23.9) | | |
| <i>Rural</i> | 74 (19.2) | 21 (17.8) | 53 (19.8) | | |
| Medical home | | | | 5.08 | 0.02 |
| <i>No</i> | 75 (19.4) | 31 (26.3) | 44 (16.4) | | |
| <i>Yes</i> | 311 (80.6) | 87 (73.7) | 264 (83.6) | | |
| Insurance status | | | | 3.82 | 0.05 |
| <i>Uninsured</i> | 55 (14.2) | 23 (19.5) | 32 (11.9) | | |
| <i>Insured</i> | 331 (85.8) | 95 (80.5) | 236 (88.1) | | |
| Recent medical care | | | | 0.00 | 0.99 |
| <i>No</i> | 118 (30.6) | 36 (30.5) | 82 (30.6) | | |
| <i>Yes</i> | 268 (69.4) | 82 (69.5) | 186 (69.4) | | |
| Relationship status | | | | 0.54 | 0.46 |
| <i>Not in a relationship</i> | 140 (36.3) | 46 (39.0) | 94 (34.7) | | |
| <i>In a relationship</i> | 246 (63.7) | 72 (61.0) | 174 (64.9) | | |
| Partner's gender (of those in a relationship) | | | | 4.48 | 0.03 |
| <i>Female</i> | 171 (69.5) | 57 (79.2) | 114 (65.5) | | |
| <i>Male</i> | 75 (30.5) | 15 (20.8) | 60 (34.5) | | |

| | | | | | |
|---|--------------|--------------|--------------|-------|--------|
| Current smoking status | | | | 24.04 | <0.001 |
| <i>None</i> | 94 (24.4) | 37 (31.4) | 51 (19.0) | | |
| <i>Some days</i> | 199 (51.6) | 39 (33.1) | 160 (59.7) | | |
| <i>Everyday</i> | 93 (24.1) | 42 (35.6) | 51 (21.3) | | |
| Alcohol use in last 30 days | | | | 0.34 | 0.56 |
| <i>No</i> | 75 (19.4) | 25 (21.2) | 50 (18.7) | | |
| <i>Yes</i> | 311 (81.3) | 93 (78.8) | 218 (81.3) | | |
| | <i>x(sd)</i> | <i>x(sd)</i> | <i>x(sd)</i> | | |
| Age | 21.35 (1.79) | 21.31 (1.84) | 21.37 (1.78) | 0.26 | 0.79 |
| Friends of same sexual orientation | 1.52 (0.74) | 1.57 (0.86) | 1.49 (0.68) | -0.84 | 0.40 |
| Time with SSA women | 1.47 (0.74) | 1.59 (0.88) | 1.42 (0.66) | -1.94 | 0.05 |
| Lifetime same-sex partners | 3.75 (4.02) | 5.03 (6.12) | 3.19 (2.41) | -3.17 | 0.002 |
| Health-related variables | | | | | |
| <i>General health status</i> | 2.56 (0.93) | 2.49 (1.01) | 2.59 (0.89) | 0.92 | 0.36 |
| <i>30 day physical health</i> | 2.45 (5.93) | 3.25 (6.75) | 2.10 (5.51) | -1.89 | 0.06 |
| <i>30 day mental health</i> | 4.96 (7.88) | 6.71 (8.74) | 4.19 (7.36) | -3.29 | 0.001 |
| <i>Anxiety (α=0.86)</i> | 2.50 (0.88) | 2.35 (0.89) | 2.56 (0.87) | 2.19 | 0.029 |
| <i>Depression (α=0.74)</i> | 2.32 (0.47) | 2.20 (0.57) | 2.38 (0.41) | 3.13 | 0.002 |
| Psychosocial resources | | | | | |
| <i>Mastery (α=0.67)</i> | 3.08 (0.83) | 3.23 (0.91) | 3.01 (0.78) | -2.45 | 0.02 |
| <i>Control (α=0.69)</i> | 3.08 (0.70) | 3.23 (0.74) | 3.01 (0.67) | -2.96 | 0.003 |
| Sexuality-related variables | | | | | |
| <i>Outness</i> | 0.54 (0.34) | 0.73 (0.31) | 0.45 (0.31) | -8.32 | <0.001 |
| <i>Internalized homophobia</i> (α=0.90) | 1.92 (0.65) | 1.60 (0.63) | 2.05 (0.62) | 6.55 | <0.001 |
| <i>Discrimination (α=0.90)</i> | 1.77 (0.76) | 1.63 (0.65) | 1.83 (0.79) | 2.57 | 0.01 |
| <i>Sexual identity importance</i> (α=0.73) | 2.77 (0.59) | 2.91 (0.69) | 2.71 (0.53) | -2.71 | 0.007 |
| LGBTQ Community | | | | | |
| <i>Connectedness</i> | 1.19 (0.86) | 1.30 (0.90) | 1.14 (0.84) | -1.67 | 0.1 |
| <i>Org. membership</i> | 0.84 (0.81) | 0.67 (0.83) | 0.92 (0.80) | 2.79 | 0.006 |
| <i>Social participation scale</i> (α=0.79) | 2.19 (0.94) | 2.26 (1.00) | 2.16 (0.91) | -0.90 | 0.37 |

| Model II.1: Demographics | | | | |
|-------------------------------|------------|--------------|---------------|---------|
| Variable | Odds Ratio | 95% CI | Wald χ^2 | p-value |
| Sexual Identity ^a | | | | |
| <i>Bisexual</i> | 0.42 | (0.25, 0.71) | 10.34 | 0.001 |
| <i>Other non-Heterosexual</i> | 0.63 | (0.30, 1.31) | 1.53 | 0.22 |
| Age | 1.02 | (0.89, 1.17) | 0.08 | 0.76 |
| Education | 0.57 | (0.29, 1.12) | 2.67 | 0.10 |
| Race ^b | | | | |
| <i>Black</i> | 0.72 | (0.35, 1.49) | 0.78 | 0.37 |
| <i>Other non-White</i> | 0.72 | (0.39, 1.32) | 1.13 | 0.29 |
| Neighborhood ^c | | | | |
| <i>Rural</i> | 1.14 | (0.62, 2.10) | 0.19 | 0.67 |
| <i>Suburban</i> | 1.89 | (1.11, 3.23) | 5.48 | 0.02 |
| LR χ^2 | | 16.71* | | |
| Pseudo R2 | | 0.06 | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model II.2: Psychosocial Resources | | | | |
|------------------------------------|------------|--------------|---------------|---------|
| Variable | Odds Ratio | 95% CI | Wald χ^2 | p-value |
| Mastery | 1.21 | (0.91, 1.63) | 1.67 | 0.20 |
| Control | 1.47 | (1.03, 2.10) | 4.39 | 0.04 |
| LR χ^2 | | 10.47** | | |
| Pseudo R2 | | 0.04 | | |

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model II.3: Sexuality-related variables | | | | |
|---|------------|----------------------|---------------|---------|
| Variable | Odds Ratio | 95% CI | Wald χ^2 | p-value |
| Sexual identity importance | 1.32 | (0.89, 1.95) | 1.86 | 0.17 |
| Out to others | 10.38 | (4.37, 24.64) | 28.14 | <0.001 |
| Lifetime discrimination | 0.92 | (0.62, 1.34) | 0.20 | 0.65 |
| Internalized homophobia | 0.61 | (0.39, 0.98) | 4.24 | 0.04 |
| LR χ^2 | | 73.01 ^{***} | | |
| Pseudo R ² | | 0.24 | | |

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model II.4: Health and health care access | | | | | |
|---|-----------|----------------------|-------|---------------|---------|
| Variable | Odd Ratio | 95% CI | | Wald χ^2 | p-value |
| Insured | 1.19 | (0.60, | 2.39) | 0.24 | 0.62 |
| Have medical home | 0.82 | (0.44, | 1.54) | 0.38 | 0.54 |
| Mental health | | | | | |
| <i>Depression</i> | 0.39 | (0.21, | 0.70) | 9.72 | 0.002 |
| <i>Anxiety</i> | 0.72 | (0.69, | 1.30) | 0.13 | 0.72 |
| <i>30 day mental health (log)</i> | 1.88 | (1.14, | 3.10) | 6.08 | 0.01 |
| Smoking status ^a | | | | | |
| <i>Some days</i> | 0.64 | (0.35, | 1.19) | 1.97 | 0.16 |
| <i>Everyday</i> | 1.76 | (0.94, | 3.29) | 3.09 | 0.08 |
| LR χ^2 | | 43.64 ^{***} | | | |
| Pseudo R2 | | 0.15 | | | |

^a Not at all (no current smoking) serve as referent group

* p ≤ .05, ** p ≤ .01, *** p ≤ .001

| Model II.5: Social relationships with other YSMW | | | | | |
|--|------------|----------|--------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| LGBTQ Org. membership | 0.60 | (0.45, | 0.81) | 11.52 | 0.001 |
| Time with SSA women | 1.27 | (0.93, | 1.73) | 2.25 | 0.134 |
| Lifetime female partners | 4.33 | (1.67, | 11.26) | 9.06 | 0.003 |
| Partner status ^a | | | | | |
| <i>Female partner</i> | 1.01 | (0.61, | 1.67) | 0.001 | 0.98 |
| <i>Male partner</i> | 0.47 | (0.23, | 0.91) | 4.90 | 0.03 |
| LR χ^2 | | 30.42*** | | | |
| Pseudo R2 | | 0.11 | | | |

^a Non-partnered (single) participants serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model II.6: Full model | | | | | |
|------------------------------------|------------|-----------------------|--------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| Sexual identity^a | | | | | |
| <i>Bisexual</i> | 0.41 | (0.20 | 0.85) | 5.84 | 0.02 |
| <i>Other non-Heterosexual</i> | 0.24 | (0.09 | 0.59) | 9.45 | 0.002 |
| Neighborhood^b | | | | | |
| <i>Rural</i> | 1.04 | (0.52 | 2.10) | 0.003 | 0.92 |
| <i>Suburban</i> | 1.21 | (0.65 | 2.24) | 0.36 | 0.55 |
| Partner status^c | | | | | |
| <i>Female partner</i> | 1.00 | (0.56 | 1.78) | 0.00 | 0.99 |
| <i>Male partner</i> | 0.58 | (0.25 | 1.35) | 1.60 | 0.21 |
| Time spent with SSA women | 1.18 | (0.84 | 1.66) | 0.90 | 0.34 |
| LGBTQ Org. membership | 0.77 | (0.54 | 1.10) | 2.15 | 0.14 |
| Lifetime female partners (log) | 2.84 | (0.99 | 8.15) | 3.75 | 0.05 |
| Mental health | | | | | |
| <i>Depression</i> | 0.96 | (0.51 | 1.79) | 0.02 | 0.89 |
| <i>30 day mental health (log)</i> | 1.43 | (0.74 | 2.76) | 1.12 | 0.29 |
| Control | 1.41 | (0.96 | 2.08) | 3.05 | 0.08 |
| Out to others | 6.39 | (2.52 | 16.20) | 15.26 | <0.001 |
| Internalized homophobia | 0.45 | (0.27 | 0.76) | 9.13 | 0.003 |
| LR χ^2 | | 102.39 ^{***} | | | |
| Pseudo R2 | | 0.33 | | | |

^a Lesbians serve as referent group

^b Women living in urban environments serve as referent group

^c Non-partnered (single) participants serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

CHAPTER III

Examining Sexual Health Care Discussions, Recommendations, and Receipt of Services among Young Adult Sexual Minority Women

Introduction

Receiving appropriate sexual and reproductive health care is an important component of young adult women's overall health care experience. Nearly nine out of ten women ages 20-29 seek medical care annually (Cohen & Bloom, 2010), many of these visits initiated due to a need for sexual health or family planning services. Despite universal need for education and access to sexual health services, access and utilization of these services is unequally distributed among women in the United States. Researchers have identified differences in key sexual health services – including human immunodeficiency syndrome and sexually transmitted infection (HIV/STI) testing, Papanicolaou testing, and human papillomavirus (HPV) vaccination – across numerous social determinants of health. Numerous studies report differences in regard to initiation (Chao, Velicer, Slezak, & Jacobsen, 2010; Cook et al., 2010) and completion (Daniel-Ulloa, Gilbert, & Parker, 2016; Neubrand, Breitkopf, Rupp, Breitkopf, & Rosenthal, 2009; Widdice, Bernstein, Leonard, Marsolo, & Kahn, 2011) of the HPV vaccine series by race and ethnicity, where African American and Hispanic/Latina women have poorer vaccination rates than White women. National data further shows Hispanic/Latina women are least likely to have received a

Pap test in the past three years, (National Center for Health Statistics, 2015). In addition to racial and ethnic differences, the residential area where young women reside may also affect their access and utilization of health services. Higher rates of HPV vaccination are recorded in urban areas (Reiter et al., 2010; Staras, Vadaparampil, Haderxhanaj, & Shenkman, 2010) with lower vaccination rates occurring in suburban and rural communities. Possibly, as is the case in neighborhood-based disparities in STI testing, this is due to limited access to sexual health testing and prevention services, skepticism that STIs occur in non-urban communities, and stigma around STIs (Dreisbach, 2009). Taken together, these data suggests women with marginalized identities may lack timely access to sexual and reproductive health services.

A small but growing body of research explores the sexual health behaviors and reproductive health service needs of sexual minority women (SMW; women who report same-sex attraction or sexual activity, or a non-heterosexual identity) (Bradford & Van Wagenen, 2013). Like other health behaviors, outcomes, and services, SMW share many of the same risks and concerns to sexual health as their heterosexual peers (American College of Obstetricians and Gynecologists, 2012; United States Department of Health and Human Services, Office of Women's Health, 2009). Like heterosexual women, SMW require routine breast and pelvic exams (American College of Obstetricians and Gynecologists, 2013), should be screened for STIs, and may need help preventing or achieving pregnancy (Wojnar & Katzenmeyer, 2014).

Despite overwhelming similarities in the sexual health care needs between sexual minority and heterosexual women, recent studies suggest YSMW are less likely than heterosexual young adults to receive needed reproductive health care (Agénor, Krieger, Austin, Haneuse, & Gottlieb, 2014b; Charlton et al., 2011; Kerr, Ding, & Thompson, 2013; Matthews,

Brandenburg, Johnson, & Hughes, 2004) In their study of heterosexual and sexual minority college students, Kerr and colleagues (2013) report lesbian participants were least likely to have received a Pap test in the last year (though, importantly, rates of these tests were higher among bisexual v. heterosexual study participants) (Kerr et al., 2013). Lower rates of Pap test utilization were also documented among women who only had female sex partners (in the previous year) versus women with only male sex partners (Agénor et al., 2014b), and among mostly heterosexual/bisexual women and lesbian women (versus completely heterosexual women)(Charlton et al., 2011). Receipt of other sexual health services, including STI screenings and HPV vaccination, is also a concern for YSMW. New evidence suggests YSMW are less likely than heterosexual peers to be vaccinated against HPV (Agénor, Peitzmeier, et al., 2015). Lower rates of HPV vaccination are especially troubling, when coupled with lower rates of Pap testing among YSMW, as lack of Pap testing may mean abnormal, cancer causing cells are not detected. Low rates of Pap testing and HPV vaccination may, in the long term, lead to later diagnoses or higher rates of cervical cancer among SMW.

As an antidote to sexual health utilization and other care disparities facing YSMW, sexual orientation disclosure is offered as a key strategy for improving utilization of these services and the poor health outcomes that may result from low testing and vaccination rates (Peitzmeier, 2013; Steele, Tinmouth, & Lu, 2006). Of course, a patient's sexual orientation need not be known for a physician to recommend appropriate sexual health services. Clinical guidelines for sexual health screenings are the same no matter a patient's sexual orientation: providers should offer all women routine sexual health screenings provided a patient meets guidelines requirements (i.e. age, sexual onset, family disease history) (McNair, Hegarty, & Taft,

2012; Mosack, Brouwer, & Petroll, 2013; Sanchez, Rabatin, Sanchez, Hubbard, & Kalet, 2006). In fact, the relationship between a provider's knowledge of a SMW patient's sexual orientation and discussions about, referrals for, and the patient's receipt of services is not well elucidated.

One recent study reports SMW who are out to their providers are more satisfied with clinical sexual health conversations than SMW who were not out (Mosack et al., 2013), and numerous studies show positive associations between sexual identity disclosure (or, "coming out") to providers and some preventive service utilization (Bergeron & Senn, 2003; Dehart, 2008; Diamant, Schuster, & Lever, 2000; Steele et al., 2006). Yet, it may also be the case that disclosure reduces the likelihood that SMW are appropriately counseled regarding their sexual health care needs. A lack of familiarity with sexual health screening guidelines, coupled with a paucity of knowledge regarding SMW's sexual health risk behaviors, may mistakenly lead some providers to suggest SMW avoid or delay seeking some forms of needed care (Peitzmeier, 2013). Evidence from qualitative studies among SMW provides some support for this concern. SMW in these studies reveal a variety of negative experiences related to their sexual health care following sexual identity disclosure, including a sense of judgement and ridicule (Eliason & Schope, 2001), lack of provider acknowledgement of the disclosure (Agénor, Bailey, Krieger, Austin, & Gottlieb, 2015), lack of disease preventive information and resources (McIntyre, Szewchuk, & Munro, 2010; Seaver, Freund, Wright, Tjia, & Frayne, 2008), and a myopic focus on one's sexual identity (versus other behavioral risk factors; (Bjorkman & Malterud, 2007). Whether or not these negative care experiences translate into reduced utilization of sexual health care services or fewer clinical conversations or referrals for sexual health services for YSMW is presently unknown. More research investigating *if* sexual orientation disclosure is linked to

YSMW's access to and utilization of sexual health services, and if so, *how* does disclosure influence care is needed.

Chapter goals and objectives

The purpose of the following study is to examine relationships between sexual orientation disclosure to providers and patient-provider *discussions* regarding sexual health, provider *recommendations* for sexual health screenings, and patients' *receipt* of sexual health screenings. Given poor training and abundant misconceptions about disease risk, I hypothesize that YSMW who disclosure their sexual orientation will receive poorer care than women who are not out to their provider. In addition to disclosure, this study investigates the influence of demographic variables, measures of health care utilization, and YSMW's sexual health history on YSMW's sexual and reproductive health care.

Research questions and hypotheses

This chapter will address the following research questions:

RQ1: How do patient-provider discussions of sexual health vary based on disclosure status?

H1: *I predict disclosure will reduce instances of sexual health screening discussions.*

RQ2: How do provider recommendations for sexual health screenings vary based on disclosure status?

H2: *I predict disclosure will reduce instances of sexual health screening recommendations.*

RQ3: How does receipt of sexual health screenings vary based on disclosure status?

H3: *I predict that disclosure will reduce receipt of sexual health screenings.*

Methods

Recruitment

Data for study are taken from a cross-sectional, web-based survey of YSMW's health behaviors. Conducted in the summer of 2011, participants in the study were recruited via promotions in online LGBTQ listservs, flyers in local gay-friendly venues and community-based organizations, and advertisement through Facebook Ads. Recruitment via Facebook Ads allowed for tailored study advertisements to appear on women's profiles who fit the eligible age range and who marked themselves as interested in relationships with women (or men and women). Use of social media for web-based survey recruitment is a common method for reaching potential young sexual minority participants, as it allows for reaching those who may not socialize in LGBTQ-specific venues either in-person or online (Bauermeister et al., 2012). All promotional materials displayed a synopsis of eligibility criteria, a mention of a \$25 electronic gift card incentive, and directed interested parties to visit the survey's website to learn more about the study.

Procedures

Upon entering the study website, participants were asked to enter a valid and private email address, which served as their survey username. This allowed participants to save their answers and complete their survey in more than one sitting if necessary. Participants were asked eight questions during the eligibility screener. To be eligible for study participation, recruits had to be between the ages of 18 and 24 (i.e., born between 1987 and 1993) and either identify as any sexual identity other than heterosexual, *or* reply *yes* to a single item that asked if they had any sexual experiences with one or more women in the past year. If eligible, participants read a detailed consent form explaining the study purpose and their rights as participants. YSMW who

remained interested in study participation were asked to acknowledge that they read and understood each section of the consent form. Consented participants completed a 45-60 minute survey regarding their sociodemographic characteristics, smoking attitudes and behaviors, health care utilization and experiences, sexuality, experiences of discrimination, and psychosocial wellbeing. For participant privacy, all study data were protected with a 128-bit SSL encryption and kept within a University of Michigan firewalled server. Study data was protected by a Certificate of Confidentiality. All study procedures were approved by the Institutional Review Board of the University of Michigan, Ann Arbor.

The final dataset reflects removal of duplicates and suspected falsified entries, using best practices for web-based survey research (Bauermeister et al., 2012). Given professional guidelines regarding the timing of Pap testing (American College of Obstetricians and Gynecologists, 2013), only participants age 21 and older at the time of survey completion are included in the analytic sample. The analytic sample ($N=285$) is comprised of participants over the age of 21 (inclusive) with complete survey data on all measures of interest.

Measures

Disclosure

To measure whether participants had come out to their health care provider participants were asked a series of questions regarding their provider's knowledge of their sexual orientation. After being asked whether they believed their doctor knew about their sexual orientation, participants were also asked, "How does your doctor know your sexual orientation?" Response options include "*doctor doesn't know, probably assumes it, someone else told, I disclosed it without being asked, or, I disclosed because my doctor asked me.*" Responses were dichotomized

into “*yes disclosed*” (I disclosed it without being asked, I disclosed because my doctor asked me, or someone else told) and “*no disclosure*” (doctor doesn’t know). Those who stated that their doctor *probably assumes* their sexual orientation were excluded because of the importance of knowing affirmatively whether or not YSMW’s sexual orientation was known by their provider ($N=18$).

Demographics

Participants were asked a series of questions about their sociodemographic characteristics including their sexual identity, race, ethnicity, and neighborhood description (urban v. suburban v. rural residence).

Sexual identity. Participants were asked two questions to measure what sexual identity label best represented the way they thought about themselves: “How do you identify your sexual orientation?” and “If you had to pick ONE of the following labels to best represent the way you think about yourself, which would it be?” To the former question, participants were instructed to select all categories that applied; for the latter, participants could choose only one category. For both questions, participants could select *heterosexual, lesbian or gay, bisexual, queer, other, or no label*. This combination of questions was meant to indicate that the study team understands the variety of ways people may identify their sexual orientation. From their responses to the second question, participants were grouped into three categories: lesbian, bisexual, and other non-heterosexual identities. In the multivariate model, lesbians serve as the referent group.

Race. We also asked women to indicate their racial identity, selecting as many options as applied from a list of racial categories. Based on their response, women were categorized as

White/Caucasian, Black/African-American, or Other. White women serve as the referent group in the multivariate models.

Ethnicity. To assess ethnicity, women were asked, “Are you Hispanic or Latina?”

Neighborhood. To measure the influence of neighborhood contexts, we asked participants “How would you characterize the area where you live?” Response options for this question were as *urban, rural, or suburban.* Respondents living in urban areas serve as the referent group in the multivariate model.

Health care access and utilization

Survey participants were asked to describe their health care use.

Medical home. Participants were asked where they routinely go to receive medical care. From their responses we grouped women into two categories: *yes* (have medical home), and *no* (no medical home).

Recent medical care. Participants were asked to provide the year in which they last visited a doctor or other medical provider for a recent check-up. Responses were grouped into those who received recent care (medical visit in 2011 or 2010) versus those who did not receive recent medical care (visit prior to 2009 or earlier).

Insurance status. We also asked participants’ about health care coverage. Participants were asked, “Do you have any kind of health insurance coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?” Response options were *yes* (insured) or *no* (uninsured).

Sexual health history

Participants were asked a number of questions related to their sexual health history, including their number of male and female sexual partners, and the age at which they became sexually active.

Lifetime female partners. Participants were asked, “With how many women have you had sexual (genital) experiences in your lifetime?”. Given the count nature of this variable, a log transformation was conducted to reduce skewness.

Lifetime male partners. Participants were also asked, “With how many men have you had sexual (genital) experiences in your lifetime?”. This variable also underwent a log transformation to reduce skewness.

Age sexual onset. To measure that age at which participants became sexually active, we asked them how old they were when they engaged in a number of sexual acts (giving and receiving oral sex, vaginal sex, anal sex) with male, female, and transgender partners (if applicable). Age of sexual onset was determined based on the earliest age of any sexual act, with a partner of any gender.

Discussion, recommendation, and receipt of sexual health services

To better understand YSMW’s sexual health care landscape we asked a series of questions on clinical conversations and recommendations for sexual health care services, as well as whether participants had received specific types of sexual health care.

Sexual health care discussions. Participants were asked, “Which of the following sexual health topics has a doctor discussed with you?” and asked to select topics from a provided list. For the purpose of this analysis, we focus on discussions on HIV/STI prevention, family planning, and gynecological care.

Sexual health care recommendations. Participants were also asked to check all of the sexual health services for which they had received a recommendation from a clinician. This analysis focuses on recommendations for STI testing, Papanicolaou testing (Pap test), and Human Papillomavirus (HPV) vaccination.

Receipt of sexual health care services. To assess whether or not participants had actually received specific sexual health services we asked, “Which of the following procedures have you actually had done? (Check all that apply)”. This analysis focuses on receipt of STI testing, Pap test, and HPV vaccination. Participants were asked about STI testing in the previous 12 months. Questions regarding receipt of Pap test and HPV vaccination were not bound by time.

Data analytic strategy

I examined the sample using descriptive statistics. Bivariate relationships between clinical discussions, recommendations, and service receipt and predictors of interest were assessed using chi-square tests (for categorical predictors) or *t*-tests (for continuous variables). To address research questions one through three, I then ran logistic regression models to predict the independent associations between discussions about, recommendations for, and receipt of sexual health care services and variables of interest (demographic characteristics, health care access, utilization, and disclosure (hereto forth abbreviated as “health care use”), and sexual history variables. Only variables that were significant in bivariate models were entered into logistic regression models, alongside demographic variables related to social determinants of health.

Results

Sample description

The majority of participants in the study identify as lesbian, White, non-Hispanic/Latina, and urban dwelling (Table III.1). The average age of participants was 22 years old (SD 1.06 years) and 98% of the sample had at least graduated high school. Approximately 65% of participants reported having a regular primary care physician, and almost 70% reported receiving recent medical care. Slightly more than one third (35%) of YSMW had previously disclosed their sexual identity to a health care provider. The average age of sexual onset among participants was 17.23 years old, and the average number of male and female sexual partners was 3.5 and 3.9 partners (respectively). On whole, discussions about, recommendations for, and receipt of sexual health services were infrequent. HIV/STI prevention and testing were most common: 52% of YSMW report discussing HIV/STI prevention with their doctor, 43% report receiving a recommendation for STI testing, and 46% of participants report receiving STI testing. Just over half of the sample (51%) reported any discussions of gynecological health with a doctor, and less than 1 in 5 YSMW reported having a clinical conversation about family planning. Less than half of YSMW reported receiving a clinical recommendation for or actually receiving a Pap test (47 and 43 percent, respectively). Recommendation and receipt of HPV vaccination was rare: 27% of participants reported a doctor recommending the vaccines, and 13% actually received the HPV vaccine.

Bivariate analysis

Bivariate differences in discussion, recommendation, and receipt of sexual health services were observed across sociodemographic characteristics and measures of YSMW's sexual history.

Sexual health discussions

Disclosure and sexual health discussions. Sexual orientation disclosure, the main variable of interest in these analyses, was associated with two of three sexual health discussion topics. YSMW who had disclosed their sexual orientation to their providers were more likely to have discussed HIV/STI prevention ($\chi^2 (1, N=285) = 11.62, p<0.001$), and gynecological health ($\chi^2 (1, N=285) = 12.29, p<0.001$), with providers than YSMW who were not out to their providers (Tables III.2 and III.3, respectively). Disclosure status was not significantly related to family planning discussions for YSMW in this sample (Table III.4). A summary of other significant predictors of conversations regarding HIV/STI prevention, gynecological health, and family planning are summarized below.

HIV/STI prevention. YSMW who identified as White ($\chi^2 (2, N=285) = 13.4, p<0.001$), non-Hispanic/Latina ($\chi^2 (1, N=285) = 9.36, p=0.002$), and resided in urban areas ($\chi^2 (2, N=285) = 15.46, p<0.001$), were more likely to have discussed HIV/STI prevention with providers than minority, rural or suburban dwelling YSMW (Table III.2). YSMW who reported a greater number of female sexual partners in their lifetime were also more likely to have discussed HIV/STI prevention with a provider ($\chi^2 (283, N=285) = 2.41, p<0.02$) than those with fewer female sexual partners. Insured YSMW ($\chi^2 (1, N=285) = 12.29, p<0.001$) were more likely to have discussed HIV/STI prevention with their providers than uninsured YSMW.

Gynecological health. Differences in conversations about gynecological health occurred based on age of sexual onset ($\chi^2 (283, N=285) = -2.29, p<0.02$), and number of lifetime male sexual partners ($\chi^2 (283, N=285) = 2.40, p<0.02$), where YSMW who were younger at sexual onset, and had a greater number of male sexual partners had more frequently discussed gynecological health with a doctor (Table III.3).

Family planning. Compared to lesbians, bisexual and other non-heterosexual YSMW were more likely to have discussed family planning with a doctor ($\chi^2 (2, N=285) = 7.43, p=0.02$). Bivariate differences in family planning discussions were also observed based on age of sexual onset ($\chi^2 (283, N=285) = -3.23, p<0.001$) and number of male sexual partners ($\chi^2 (283, N=285) = 3.92, p<0.001$). YSMW with an earlier age of sexual onset and more male sexual partners had more conversations about family planning with doctors than women with a later age of sexual debut or who had fewer male partners (Table III.4).

Sexual health services recommendations

Disclosure and sexual health service recommendations. Disclosure was associated with having received a physician's recommendation for one of three sexual health services examined: Pap testing. YSMW who were out to their provider were more likely to have received a Pap test recommendation than YSMW who had not disclosed their sexual orientation ($\chi^2 (1, N=285) = 10.42, p=0.002$, Table III.6). Disclosure was not significantly associated with either STI testing or HPV vaccination recommendations.

STI testing. YSMW who identified as White ($\chi^2 (2, N=285) = 11.23, p=0.004$), non-Hispanic/Latina ($\chi^2 (1, N=285) = 9.49, p=0.002$), and resided in urban areas ($\chi^2 (2, N=285) = 16.99, p<0.001$), were more likely to have received a recommendation for STI testing from a doctor than non-White, Hispanic, rural or suburban dwelling participants (Table III.5).

Pap testing. Recommendations for Pap testing were more likely to have occurred among lesbian ($\chi^2 (2, N=285) = 11.05, p=0.004$), White ($\chi^2 (2, N=285) = 13.6, p=0.001$), non-Hispanic/Latina YSMW ($\chi^2 (1, N=285) = 7.77, p=0.01$). Pap test recommendations were more common among insured YSMW ($\chi^2 (1, N=285) = 4.02, p<0.05$), women with a younger age of

sexual onset (χ^2 (283, $N=285$) = -4.21, $p<0.001$), and a larger number of male sexual partners (χ^2 (283, $N=285$) = 5.34, $p<0.001$) (Table III.6), compared to YSMW who were uninsured, with a higher age of sexual onset, and fewer male sexual partners. .

HPV vaccination. Compared to lesbian and bisexual YSMW, recommendations for HPV vaccination were more common among women who identified their sexuality as otherwise non-heterosexual (χ^2 (2, $N=285$) = 17.48, $p<0.001$). HPV vaccination recommendations occurred more often to White YSMW (χ^2 (2, $N=285$) = 6.7, $p=0.04$) compared to their racial minority peers, and recommendations were also more common among YSMW with insurance (χ^2 (1, $N=285$) = 6.76, $p<0.001$), compared to those lacking insurance. YSMW with a lower age of sexual onset (χ^2 (283, $N=285$) = -3.03, $p<0.003$), and a greater number of male sexual partners (χ^2 (283, $N=285$) = 5.36, $p<0.001$) (Table III.7) were more likely to have received HPV recommendations than those who initiated sexual activity at an older age or had fewer male sexual partners.

Receipt of sexual health services

Disclosure and receipt of sexual health services. Sexual orientation disclosure was positively associated with receipt of all three sexual health services examined in this analysis. YSMW who were out to their provider were more likely to have received STI testing (χ^2 (1, $N=285$) = 5.06, $p=0.03$), Pap testing (χ^2 (1, $N=285$) = 11.0, $p=0.001$), and HPV vaccination (χ^2 (1, $N=285$) = 12.46, $p<0.001$) than women who had not disclosed their sexual orientation to their provider (Tables III.8, III.9, and III.10, respectively).

STI testing. YSMW who identified as bisexual or otherwise non-heterosexual (χ^2 (2, $N=285$) = 8.21, $p=0.02$), White (χ^2 (2, $N=285$) = 8.05, $p=0.02$), non-Hispanic/Latina (χ^2 (1,

$N=285$) = 5.25, $p=0.03$), and resided in urban areas (χ^2 (2, $N=285$) = 16.67, $p<0.001$), were more likely to have received STI testing than lesbian, non-White, Hispanic, rural or suburban dwelling participants (Table III.8). Insured YSMW (χ^2 (1, $N=285$) = 8.21, $p<0.01$), were also more likely to have received STI testing, as were women who had a younger age of sexual onset (χ^2 (283, $N=285$) = -2.83, $p<0.001$). Participants who had a greater number of male (χ^2 (283, $N=285$) = 4.22, $p<0.001$) and female sexual partners (χ^2 (283, $N=285$) = 3.18, $p<0.002$) were also more likely to have received STI testing than those with fewer sexual partners (Table III.8).

Pap testing. Receipt of Pap testing occurred more often among YSMW who identified their sexuality as not-heterosexual (but not lesbian or bisexual; (χ^2 (2, $N=285$) = 9.54, $p=0.01$)), White (χ^2 (2, $N=285$) = 18.53, $p<0.001$), non-and Hispanic/Latina (χ^2 (1, $N=285$) = 9.24, $p=0.002$). Higher rates of Pap testing also occurred among YSMW who were insured (χ^2 (1, $N=285$) = 6.55, $p<0.02$), had a younger age of sexual onset (χ^2 (283, $N=285$) = -2.95, $p<0.003$), and who had a greater number of male sexual partners (χ^2 (283, $N=285$) = 6.31, $p<0.001$), compared to YSMW who were uninsured, initiated sexual activity at an older age, or had fewer male sexual partners (Table III.9).

HPV vaccination. YSMW who became sexually active at a younger age (χ^2 (283, $N=285$) = -2.95, $p<0.003$), and had more male sexual partners (χ^2 (283, $N=285$) = 4.76, $p<0.001$), were also more likely to have received the HPV vaccine than YSMW who became sexually active at older age or had fewer male sexual partners (Table III.10).

Multivariate analysis

Variables with significant differences in the bivariate model were entered into multiple regression models. Additionally, given persistent disparities in sexual health service utilization

by race, ethnicity, and neighborhood type, these demographic predictors were entered into each model.

Sexual health discussions

I ran logistic regression models to determine if the likelihood of sexual health discussions was associated with participants' demographic, health care use, and sexual history characteristics.

Disclosure and sexual health discussions. Consistent with bivariate analyses, disclosure remained significant in multivariate models examining HIV/STI prevention and gynecological health discussions. The odds of YSMW having a conversation about HIV/STI prevention with a doctor were significantly higher among women who had disclosed their sexual orientation to a provider, versus women who had not come out ($OR=2.10$, 95% CI : 1.16, 3.69, $p=0.01$) (Model III.1). Women who had come out to a provider were significantly more likely to have discussed gynecological health with a doctor than women who had yet to disclose ($OR=2.36$, 95% CI : 1.37, 4.05, $p=0.002$) (Model III.2).

HIV/STI prevention. Women who resided in urban areas were 2.86 times more likely to have had a discussion about HIV/STI prevention with a doctor than women residing in suburban areas ($OR=0.35$, 95% CI : 0.18, 0.69, $p=0.002$), and 2.08 times more likely to have had such discussions as women living in rural areas ($OR=0.48$, 95% CI : 0.23, 0.99, $p=0.05$). Insured women were also 4.13 times more likely to have HIV/STI prevention discussions than uninsured YSMW ($OR=4.13$, 95% CI : 1.61, 10.64, $p=0.003$). No other significant differences in disclosure status by demographic, health care use, or sexual history characteristics were found (Model III.1).

Gynecological health. Patient-provider conversations on gynecological health were significantly more likely to occur among women with a greater number of male sexual partners ($OR=3.24$, 95% CI : 1.28, 8.23, $p=0.01$). Beyond the role of disclosure, no other significant associations were found (Model III.2).

Family planning. In a model examining correlates of family planning discussions, I found that a greater number of male sexual partners was associated with differences in the occurrence of these discussions ($OR=3.33$, 95% CI : 1.22, 9.04, $p=0.02$). No other demographic, health care use, or sexual history variables significantly influenced family planning discussion occurrence (Model III.3).

Sexual health services recommendations

Disclosure and sexual health service recommendations. Bivariate analyses showed significant differences in Pap test recommendations based on YSMW's disclosure status. Disclosure remained significant in the multivariate model predicting Pap test recommendations. Odds of having received a recommendation for Pap testing were 2.33 times greater among YSMW who were out to their doctor ($OR=2.33$, 95% CI : 1.30, 4.17, $p=0.004$) compared to women who had not disclosed their sexual orientation (Model III.5).

STI testing. A logistical regression model examining correlates of STI testing recommendations found that non-Hispanic/Latina YSMW were 3.03 times more likely to have received STI testing recommendations from a doctor than Hispanic/Latina YSMW ($OR=3.03$, 95% CI : 1.10, 8.89, $p=0.03$). The odds of receiving a recommendation for STI testing from a provider were 2.33 higher for White women, compared to Black YSMW ($OR=2.33$, 95% CI : 1.02, 5.34, $p=0.03$). YSMW residing in urban areas were 2.12 and 3.45 times as likely to have

received STI testing recommendations as women residing in rural and suburban locations (($OR=0.47$, 95% CI : 0.23, 0.95, $p=0.04$); ($OR=0.29$, 95% CI : 0.15, 0.57, $p=0.001$), respectively). No additional differences based on demographic, health care use, or sexual history measures were observed (Model III.4).

Pap testing. The model examining differences in occurrence of Pap testing recommendations indicates a number of significant differences. Non-Hispanic/Latina ($OR=0.32$, 95% CI : 0.11, 0.96, $p=0.04$) and White YSMW ($OR=0.38$, 95% CI : 0.17, 0.87, $p=0.02$) were more likely to have received Pap test recommendations than Hispanic/Latina and Black YSMW. Odds of having received a recommendation for Pap testing were 6.16 times greater among women with a higher number of male sexual partners ($OR=5.55$, 95% CI : 2.22, 17.05, $p<0.001$). Beyond the aforementioned role of disclosure, no other differences in likelihood of receiving Pap testing recommendation were found (Model III.5).

HPV vaccination. A sixth logistic regression model found lesbian-identified YSMW were 3.7 times more likely to have received an HPV vaccine recommendation than bisexual YSMW ($OR=0.27$, 95% CI : 0.11, 0.66, $p=0.004$). YSMW with a larger number of male sexual partners were 7.7 times more likely to have had a doctor recommend the HPV vaccine ($OR=7.70$, 95% CI : 2.78, 21.34, $p<0.001$). No other significant differences in provider recommendation of HPV vaccination were observed (Model III.6).

Sexual health services receipt

Disclosure and receipt of sexual health services. In bivariate analyses, significant differences in receipt of all three sexual health services existed based on YSMW's disclosure status. Multivariate analyses showed disclosure to increase the odds of Pap test and HPV

vaccination (Models III.8 and III.9, respectively). Disclosure was not a significant predictor of receipt of STI testing (Model III.7). Women who had disclosed their sexual identity to their provider were 2.66 times more likely to have received a Pap test ($OR=2.66$, 95% CI : 1.46, 4.88, $p=0.001$) than women who were not out (Model 8). YSMW who were out to their provider were 4.3 times more likely to have received the HPV vaccine ($OR=4.30$, 95% CI : 1.18, 10.19, $p=0.001$) compared to women who had not previously disclosed their sexual orientation to their provider (Model III.9).

STI testing. I ran a seventh logistic regression model to examine differences in receipt of STI testing by demographic, health care use, and sexual history variables. YSMW who identified as neither lesbian or bisexual but “other” non-heterosexual were 3.35 times more likely to have received an STI test than lesbian and bisexual women in my sample ($OR=3.35$, 95% CI : 1.02, 10.96, $p=0.05$). Urban-dwelling women were 6.67 times more likely to have received a STI test than YSMW living in suburban communities ($OR=0.15$, 95% CI : 0.07, 0.32, $p<0.001$) and 2.56 times more likely to have been tested than YSMW residing in rural areas ($OR=0.39$, 95% CI : 0.17, 0.88, $p=0.02$). Greater number of female ($OR=4.94$, 95% CI : 1.30, 18.73, $p=0.02$) or male ($OR=5.32$, 95% CI : 2.02, 13.98, $p=0.001$) sexual partners also increased the likelihood that YSMW had received STI testing (Model III.7).

Pap testing. In a model examining differences in receipt of Pap testing, I found bisexual women were 2.38 times less likely than lesbians to have received a Pap test ($OR=0.42$, 95% CI : 0.18, 0.98, $p=0.05$). White women were 2.33 times and 2.56 times more likely than Black ($OR=0.43$, 95% CI : 0.19, 0.96, $p=0.04$) and other non-White YSMW ($OR=0.39$, 95% CI : 0.16, 0.99, $p=0.05$) to have received Pap testing, respectively. Greater number of male partners was

associated with 13.77 times the odds of Pap test receipt ($OR=13.77$, 95% CI : 4.49, 42.22, $p<0.001$) (Model III.8).

HPV vaccination. A final model examining differences in receipt of HPV vaccination showed significant differences based on number of male partners (and, as mentioned above, disclosure status). YSMW with a larger number of male sexual partners were 12.5 times more likely to have received the HPV vaccine ($OR=12.50$, 95% CI : 3.87, 40.35, $p<0.001$) with fewer male partners (Model III.9).

Discussion

I proposed to examine the relationships between sexual identity disclosure and discussions about, recommendations for, and receipt of sexual health care services among YSMW. The sexual health of YSMW has received limited scholarly attention; conversely, sexual identity disclosure is broadly touted by the medical and public health communities as a strategy for improving the health of sexual minorities. This chapter joins these two lines of inquiry, illuminating how disclosure may be associated with YSMW's sexual health care experiences.

Research question 1

I hypothesized that coming out to one's provider would be associated with reduced likelihood that YSMW would have discussed sexual health care with their provider. In fact, the opposite was true for two of the three health services examined: YSMW who had disclosed their sexual identity to their provider had a greater likelihood of discussing HIV/STI screenings and gynecological health than YSMW who had not disclosed. My analysis found no significant relationship between disclosure and patient-provider conversations regarding family planning. Given the barriers that often exist between sexual minority women and their providers when

discussing sexual health concerns (Hinchliff, Gott, & Galena, 2005; Kitts, 2010; Politi, Clark, Armstrong, McGarry, & Sciamanna, 2009; Shindel et al., 2010) results indicating that sexual identity disclosure is associated with increased likelihood (or, does not diminish the likelihood, in the case of family planning) that YSMW discussed sexual health with their provider are promising. Previous research indicates that fears of ill-treatment or lack of information may inhibit both sexual identity disclosure and patient-provider discussions regarding sexual health (Clark, Bonacore, Wright, Armstrong, & Rakowski, 2003), and anecdotal evidence has noted a tendency for providers to direct YSMW away from sexual health services following sexual orientation disclosure. My findings in this sample suggest that YSMW's who disclose their sexual identity disclosure to health care providers may be more likely to engage in clinical communication around sexual health services than YSMW who do not come out. In this regard, encouraging YSMW to come out to their health care provider may be a fruitful strategy for promoting patient-provider communication about sexual and reproductive health.

Similarly important are efforts that continue bringing sexual minority's sexual health needs to the forefront of medical education and training. Primary care providers are often reticent to discuss sexual health concerns with sexual minority patients (Stott, 2013), and medical students report that they are not sufficiently trained to address patient's sexual health concerns, which renders them less comfortable talking about sexual health issues (Shindel et al., 2010). Clinicians report that, in dealing with young sexual minority patients they do not regularly discuss sexual orientation or attraction, even among patients who disclose that they are currently sexually active (Kitts, 2010). Documented deficits in medical education related to sexual minority health (Obedin-Maliver et al., 2011), alongside the expressed concerns from practicing

physicians regarding their ability to discuss YSMW's sexual health concerns (Abdessamad, Yudin, Tarasoff, Radford, & Ross, 2013; Stott, 2013), underscore the importance of increasing educational opportunities focused on YSMW's sexual health for practicing and physicians in-training. Expanding sexual minority related content in medical schools is a priority, as is expanding access to services offered by the National LGBT Health Education Center ("The National LGBT Health Education Center," 2015) and similar centers that consult with health care organizations and providers to optimize care for sexual minority patients. Given that my findings suggest sexual orientation disclosure is associated with increased clinical discussions regarding sexual health, trainings may emphasize communications techniques and organizational practices that invite patients to come out to their provider.

Research question 2

I similarly hypothesized that YSMW's sexual orientation disclosure would be associated with less frequent recommendations for sexual health care services. My data indicate that disclosure was only significantly associated with recommendations for a single sexual health services, Pap testing, and that women who were out to their providers were significantly more likely to have received a Pap test recommendation than YSMW who had not disclosed their sexual orientation. Disclosure was not a significant predictor of either STI testing or HPV vaccination recommendations. While my study represents the first known data on the relationship between sexual orientation disclosure and sexual health recommendations for YSMW, these findings complement a report examining sexual orientation disclosure and preventive health recommendations measures for sexual minority men, where men who were out

to their providers were more likely to receive recommendations for some sexual health services (Petroll & Mosack, 2011).

It is noteworthy that fewer than half of all YSMW reported receiving recommendations for each of these sexual health services, despite the fact that all women should have received recommendations for these services, based on (then) current clinical guidelines (Committee on Practice Bulletins—Gynecology, 2012). Physician recommendation is a strong predictor of female patient's likelihood to receive preventive screening tests (Burnett, Steakley, & Tefft, 1995; Juon, Seung-Lee, & Klassen, 2003). One study reported that among women who have access to routine medical care but did not receive a recent Pap test, 87% of these women reported that their doctor had not recommended the test, leading study authors to conclude that lack of physician recommendation contributes to underuse of the test among eligible women (Coughlin, Breslau, Thompson, & Benard, 2005). Provider recommendations also play a significant role in HPV vaccination rates, particularly among young adult women who are less likely to be influenced by parental attitudes toward the vaccine. Among a cohort of women ages 19 to 26, discussing and receiving a recommendation for the HPV vaccine was the single greatest predictor of having initiated the HPV vaccination schedule (Rosenthal et al., 2011). Receiving a clinical recommendation for HPV vaccination was also a strong predictor of initiating the vaccination sequence among a similarly aged national sample of sexual minority women (McRee, Katz, Paskett, & Reiter, 2014). Given reports of reduced rates of HPV vaccination (Bernat, Gerend, Chevallier, Zimmerman, & Bauermeister, 2013) and Pap testing (Agénor et al., 2014b; Diamant et al., 2000; Matthews et al., 2004) among sexual minority women, and concerns lack of sexual health knowledge among YSMW more generally (Eaton et al., 2008;

Marrazzo, Coffey, & Bingham, 2005; Power, McNair, & Carr, 2009) provider recommendations for sexual health services may play an important role in increasing utilization of STI, Pap testing and HPV vaccination.

Research question 3

I predicted that coming out to one's provider would reduce the likelihood that YSMW received sexual health care services. On the contrary, my analysis found that sexual orientation disclosure was associated with higher rates of Pap testing and HPV vaccination, with YSMW who were out to their providers being more likely to have received these services. Two previous studies on Pap testing reported that disclosure was positively associated with routine Pap testing behavior (Diamant et al., 2000; Tracy, Lydecker, & Ireland, 2010), though relationships between disclosure and HPV testing have yet to be studied. I found no differences in rates of STI testing by disclosure status. In sum, for some sexual health services, coming out to one's provider may be associated with higher rates of health care utilization.

Previous research found YSMW underutilize sexual health services (Charlton et al., 2011), though factors leading to poor utilization remain elusive. Recent analyses have employed Health Belief Model constructs (Becker, 1974) to explore lower rates of Pap testing among YSMW. Specifically, an analysis of data from the Growing Up Today Study (GUTS, a nationally representative cohort of 18 to 25 year old women) examined the role differences in hormonal contraceptive use and Health Belief Model constructs (regarding cervical cancer severity and susceptibility, and barriers and benefits to Pap testing) play in sexuality-related differences in Pap test utilization (Charlton et al., 2014). Less hormonal contraceptive use and less positive beliefs about Pap testing accounted for over 40% of the disparity in Pap test

utilization between sexual minority and heterosexual survey participants (Charlton et al., 2014). In this analysis, less positive beliefs related to Pap testing and reduced perceptions of cervical cancer susceptibility contributed to lower rates of Pap testing among young lesbians (Charlton et al., 2014). Also examining the role of Health Belief Model constructs, Tracy and colleagues (2010) found that lesbians who did not routinely receive a Pap test perceived fewer benefits and greater barriers than did participants who met current screening guidelines, though this analysis did not find differences in perceived susceptibility or severity of cervical cancer, nor knowledge of risk factors between routine versus non routine screeners. Participants in this study also cited fears of discrimination as a specific concern to receive a regular Pap test (Tracy et al., 2010). These studies suggest the ongoing utility of examining Health Belief Model constructs in the study of YSMW's sexual health, and the public health potential in better communicating the benefits and reducing barriers to Pap testing for YSMW.

Only 13% of YSMW in this sample received one or more doses of the HPV vaccine, compared to approximately 30% of women aged 19-26 in a general population study who reported receiving the vaccine in 2011 (Centers for Disease Control, 2013). Factors influencing this disparity remain unclear, yet researchers investigating sexuality-based differences in HPV vaccination rates documented elsewhere have shown that these differences are not caused by lack of awareness of the vaccine: heterosexual, lesbian, and bisexual young women were similarly aware of the HPV vaccine (Agénor, Peitzmeier, et al., 2015).

These recent avenues of research provide a starting point for public health interventions seeking to improve rates of Pap testing and HPV vaccination among YSMW. Educational campaigns may be less effective if the focus is merely on awareness around testing or disease

prevention, but may be more successful if messages combat perceived barriers to care and emphasize benefits of receiving these sexual health services. Efforts such as “The Check It Out: Queer Women Need Paps Too!” (and a complementary campaign for transgender men) by a Canadian-based health group provided strategies to combat barriers or negative attitudes toward Pap testing. To counter sexual minority women’s fears of discrimination Seattle/King County’s “Lesbian Health Matters” campaign highlighted the availability of welcoming, lesbian-friendly health care providers (in addition to promoting awareness of cervical cancer risk factors). From a clinical perspective, providers should ensure that all patients who meet clinical guidelines are recommended routine sexual health screenings and services. These guidelines provide criteria for who is eligible for services based on factors such as age, onset of sexual activity, and previous health history, and importantly, state that screening recommendations do not vary based on sexual partner’s sex nor the patients’ sexual orientation. Though not born out in this analysis, anecdotal and qualitative evidence shows that upon disclosing same-sex sexual activity to providers, some YSMW are told they do not need to receive sexual health services at the same frequency as women who engage in heterosexual sexual activity (Youatt, personal communication, September 25, 2015), or are met with a lack of guidance for pursuing sexual health services (Barbara, Quandt, & Anderson, 2001). To improve utilization of services among YSMW, it is vital that health care providers are knowledgeable of, and adhere to, professional guidelines when discussing and recommending sexual health services to patients, regardless of patient’s sexual orientation. Disclosing one’s sexual identity need not, and indeed *should not*, influence provider behavior regarding recommendation of sexual health care services.

Additional factors influencing sexual health discussions, recommendations, and receipt of services

Though disclosure was the main variable of interest in my analysis, numerous other factors proved to be either associated with the likelihood that YSMW did or do not discuss, receive a recommendation for, or actually receive specific sexual health services. Significant predictors fall into four chief categories: race/ethnicity, neighborhood type, sexual identity, and partner number. I will discuss each of these categories as it relates to YSMW's clinical discussions, recommendations, and receipt of sexual health care services.

Race and ethnicity

After controlling for all other covariates, participants' race or ethnicity was associated with significantly fewer recommendations for STI and Pap testing and YSMW's receipt of Pap test. Black and/or Latina participants were less likely than White YSMW to receive recommendations for STI and Pap testing, and Black and other non-White YSMW were less likely to have ever received a Pap test than White peers. In contrast, analyses of National Survey for Family Growth data (NSFG; 2006-2010) among YSMW ages 20-29 found for YSMW with both male and female sexual partners, Pap testing rates were highest among Black (62%), with minimal differences between Hispanic/Latina (56%), and White women (53%). (Agénor et al., 2014b). Among women with only female sex partners, Hispanic/Latina women were least likely to have received a Pap test (26%), followed by White (42%) then Black women (50%). (Agénor et al., 2014b). Though this analysis did not measure whether these differential testing rates were statistically significant, the trends are noteworthy.

This analysis also reported the percentage of 20-44 years old women who received STI services (counseling, testing, or treatment) in the past 12 months. Among bisexually behaving women, Black women were most often tested (60%), with essentially no differences in testing

rates between Hispanic/Latina and White women (26% and 27%, respectively). Among women with only female same-sex partners, STI service utilization was similar for Black and Hispanic/Latina women (17% and 19%, respectively), and lower for White women (9%). In contrast, my analysis showed White YSMW received more recommendations for STI testing than Black or Hispanic/Latina women, though no racial or ethnic differences with regard to receipt of STI testing.

Factors underlying differences in my findings versus NSFG data may be due to different sampling frames (convenience versus national sample) or interview techniques (web-based versus in-person). The small number of racial and ethnic minority women in my sample also suggests that racial and ethnic differences in recommendations and testing may not be representative of broader population trends.

The explanations notwithstanding, differences and disparities reflected in my findings and Agénor's analysis of NSFG data suggest the ongoing importance of investigating racial/ethnic differences in sexual health care recommendations and utilization of services among sexual minorities, and examining health disparities using an intersectional lens. Health science researchers increasingly highlight the need for intersectional approaches to combat health disparities (Bauer, 2014; Williams et al., 2012). To better explore findings from her NSFG analysis, Agénor and colleagues (2015) investigated Pap testing disparities for women who are both racial and sexual minorities using a focus group methodology. Her study highlighted Black women's fears and experiences of discrimination seeking sexual health care (Agénor, Bailey, et al., 2015). Importantly – these negative experiences related to both their (minority) racial and sexual identities. More studies, both qualitative and using population level data, examining

multiple social identities and their relationships to health outcomes and service utilization are necessary to reduce disparities between heterosexual and SMW, and among the diverse SMW's community.

Neighborhood type

The type of neighborhood or geographic area where YSMW resided was significantly associated with discussions about, recommendations for, and receipt of STI testing. In each instance, living outside of an urban center (residence in a suburban or rural community) decreased the likelihood that sexual transmitted disease testing was discussed, recommended or received. Certainly, those living outside urban areas face unique barriers to accessing medical services, and to accessing sexual health services in particular. Limited access to sexual health services outside of urban centers may include an absence of health centers offering HIV/STI testing (or, significant travel distances to such centers), decreased exposure to sexual health promotion campaigns or community prevention resources, increased stigma surrounding sexual health, and fewer state-based policies that promote access to available sexual health services (Kelly, 2011). Additionally, health care providers working outside of urban areas may face challenges to adhering to clinical guidelines not experienced by providers practicing in urban settings. A qualitative study of physicians practicing in urban, suburban, and rural environments reported concerns about societal norms and priorities, general agreement with specific guidelines, and patient-physician relationships as factors that more commonly influence non-urban providers' adherence to preventive service guidelines (Khoong, Gibbert, Garbutt, Sumner, & Brownson, 2014). Though this study did not expressly interrogate physicians' adherence with sexual health screening recommendations, the concerns expressed by these physicians may

suggest some reasons why YSMW in our study were less likely to discuss and receive clinical recommendations for sexual health screenings.

Sexual identity

The ways YSMW participants' identified their sexual orientation had disparate effects on sexual health service recommendations and receipt of care. Compared to lesbians, bisexual women were less likely to receive a provider's recommendation for HPV vaccination, and ultimately were less likely to receive a Pap test. Though a number of studies have examined HPV and/or Pap test rates between sexual minority and heterosexual women, this analysis may be the first to report differences exclusively among sexual minority women. In a study with both heterosexual and YSMW participants, Charlton and colleagues (2011), found no differences between heterosexual and bisexual women regarding lifetime Pap rates, though lesbian women were less likely than heterosexual women to have received the test. Matthews and colleagues (2004) found no differences in lifetime Pap rates between lesbian and heterosexual study participants (bisexual women were not included in their analytic sample). Though reductions in lifetime Pap testing for bisexual women found in my analysis meet standards of statistical significance, in the context of other research studies my findings here warrant further investigation and may not be representative of a broader trend in Pap test utilization among young bisexual women.

Despite reduced likelihood of having received a recommendation for HPV vaccination, our data show no sexual identity-based differences in receipt of the vaccine. Exploring sexual identity-based differences in HPV vaccination rates deserves further inquiry, especially because as with Pap testing rates, other studies examining HPV vaccination rates by sexual identity

categories have not directly compared rates between sexual minority identity categories (heterosexual participants are the referent group). Currently available data suggest no differences in HPV vaccination rates between heterosexual and bisexual young adult women, but lower odds of vaccination for lesbian-identified women (compared to heterosexuals) (Agénor, Peitzmeier, et al., 2015). Lastly, my analysis found women who identified as an “other” sexual minority identity (i.e. queer or pansexual), were more likely than lesbian counterparts to receive STI testing, even after adjusting for covariates including lifetime number of sexual partners. Given low rates of STI testing behavior for all women in our sample, this finding further suggests a need for greater emphasis on STI testing for all sexual minority women.

Overall, this analysis offers some provocative findings on differences in sexual health services between women with minority sexual identities. It also points to the need to look at differences in service utilization between lesbian, bisexual, and other non-heterosexual identities categories, and not solely in comparison to heterosexual women.

Lifetime number of sexual partners (female and male)

The factor associated with the greatest number of sexual health discussions, recommendations, and receipt of services was the lifetime number of sexual partners YSMW reported. In each significant instance, a greater number of partners were associated with a greater likelihood that sexual health care services had been discussed, recommended, or received. YSMW who reported a greater number of male partners were more likely than those with fewer partners to have discussed gynecological health and family planning, to have received recommendations for Pap testing and HPV vaccination, and to have actually received STI and Pap testing and the HPV vaccination. This finding is especially interesting, given that in the two

instances where bisexual identity was associated with sexual health care (HPV vaccination recommendation and receipt of Pap test), holding a bisexual identity *reduced* the likelihood of receiving these services. Examined together, these findings underscore the limitations of solely relying on sexual identity. These data show that measuring lifetime sexual behavior (same-sex and opposite-sex sexual experiences), in addition to measuring sexual identity, is important to understanding YSMW's sexual health care experiences. Collecting both identity and behavioral data is necessary to constructing a nuanced, accurate picture of the factors predicting YSMW's uptake of sexual health services.

Though it was significant in fewer models, lifetime number of female partners also predicted greater service utilization. YSMW who reported more lifetime female sexual partners were more likely to have received STI testing in the past 12 months, compared to YSMW with fewer lifetime female sexual partners. No other differences were found in sexual health service discussions, recommendations, or receipt of services based on YSMW's reported lifetime number of female sexual partners. This is an encouraging finding, as elevated rates of some STIs have been documented among women who report higher numbers of female sexual partners (Evans, Scally, Wellard, & Wilson, 2007; Marrazzo, Stine, & Wald, 2003), and infrequent use of barrier methods during same-sex sexual activity is a risk factor for YSMW (Rowen et al., 2013). In general, as the number of sexual partners one has (regardless of partner sex) is associated with increased risk of HIV/STI infection, HPV infection, and cervical cancer ("HPV and Cancer," 2015, "STDs and HIV – CDC Fact Sheet," 2015), the strong association between number of sexual partners and sexual health service discussions, recommendations, and receipt of services is reasonable. That increased instances of sexual health discussions and recommendations were

only found among YSMW with a higher number of male partners is troubling. As emphasized above, all YSMW should discuss family planning, gynecological health, and HIV/STI prevention with their provider and should receive clinical guidance regarding HIV/STI and Pap testing, in addition to HPV vaccination referrals. The need for such counseling and care would benefit SMW, who may benefit from a clearer understanding of health risks associated with engaging in sexual relationships with other women (Muzny, Harbison, Pembleton, & Austin, 2013).

Limitations

Several study limitations warrant readers attention. Issues of sample size and homogeneity (particularly by race and ethnicity), may limit the ability to which these findings can be extended to the broader YSMW community. Concerns also exists with regard to some of the measures used to evaluate sexual health screenings: rather than specifying a 12 month Pap or a lifetime Pap, our measures asked participants, “Which of the following procedures have you actually had done?” and asked them to check from a list of various procedures including “a cervical pap smear” (other measures, including sexually transmitted infection testing specified a 12 month time frame). Our lack of specificity on a one year versus lifetime time frame may have led some participants to answer this question differently. Our measure on HPV vaccination also lacked specificity, using the same questions stem as previously mentioned and listing “a” vaccination for HPV). We cannot infer from the responses we gathered whether YSMW in our study had a single vaccination, or completed the three-vaccination sequence required for optimal vaccination efficacy (“HPV Vaccine Information for Clinicians,” 2015). Differences in our measures and other published measures of services utilization limit my ability to compare our findings to those published reports.

Given the cross-sectional nature of our data, we are also unable to infer the timeline between disclosure and clinical conversations, recommendations, and receipt of sexual health services. Some YSMW may have come out prior to discussing their sexual health needs with their provider, while for other women a provider's recommendation for services may have prompted disclosure. For example, it is quite plausible that a provider's recommendation for Pap testing instigated a patient's sexual orientation disclosure (rather than disclosure leading to a recommendation for Pap testing). It may well be the case that discussions of or recommendations for a specific sexual health service increase the likelihood of *disclosure*, rather than disclosure influencing the likelihood of sexual health conversations or service recommendations. The ambiguity of the sequence of events means I cannot confidently state the relationship between disclosure and discussions about, recommendations for, and receipt of sexual health services, but rather can only talk about the associations between these behaviors. Further qualitative research in this area may interrogate the act(s) of disclosure between a patient and her provider more explicitly, seeking to better understand how coming out did or did not influence communication with the provider, his/her recommendations, and the patient's subsequent pursuit of sexual health services. Investigating the type of provider (professional and, for physicians, clinical specialty) and exploring the relationship between provider type, disclosure, and sexual health service recommendations may be similarly valuable. Our questionnaire asked YSMW if "their doctor" knew their sexual orientation, but it does not tell us whether or not the provider YSMW were out to (or not) is the same person responsible for offering or providing sexual health care services. Finally, while optimally our data would allow us to examine differences in YSMW's sexual health care experiences by how disclosure occurred (for example, *I disclosed without being asked* versus *I disclosed because my doctor asked me*), we were unable to do so in this analyses

due to sample size limitations. It is possible that *how* (not just *if*) disclosure occurred influences the likelihood with which YSMW discuss, receive recommendations for, and receive sexual and reproductive health care services. Future studies examining the relationship between disclosure and health services recommendations and utilization should endeavor to strive to recruit samples large enough to explore possible differences by *how* disclosure occurs.

Conclusion

Clinicians play an important role educating patients about, facilitating access to, and encouraging utilization of sexual and reproductive health services. Yet, providers often do not ask patients about their sexual activity or advise them on their sexual health care needs (Gott, Galena, Hinchliff, & Elford, 2004; Politi et al., 2009). Reduced patient-provider communication around sexual health is exacerbated for SMW patients (Boehmer & Case, 2004; United States Department of Health and Human Services, Office of Women's Health, 2009), and may limit SMW's access and utilization of these services. Given the importance of provider recommendations in seeking sexual health services (Coughlin et al., 2005; Juon et al., 2003), this analyses examined relationships between sexual orientation disclosure and discussions about, recommendations for, and receipt of sexual health care services among YSMW. My analysis revealed, contrary to hypotheses, several positive associations between coming out to providers and clinical discussion, recommendations, and eventual receipt of sexual health care services. Across the sample, women who were out to their provider were as likely or more likely than YSMW who had not disclosed their sexual orientation to have discussed, received recommendations for, and received family planning, STI and Pap testing, and HPV vaccination. Fears that coming out to one's provider will negatively influence the likelihood that YSMW

receive sexual health care recommendations and services are not borne out in my findings, though future research should continue investigating relationships between disclosure and sexual health care using more sophisticated study designs where causal relationships between these factors can be examined. Importantly, several factors measured in this analysis did negatively influence the rate at which some services were discussed or received: a non-White racial or ethnic identity, living outside an urban center, and a bisexual identity and behavior. Given these findings, while on average disclosure was positively associated with sexual health discussions and health care utilization, it is important for future studies to examine how disclosure influences sexual health care within groups of marginalized women. Whether or not disclosure is equally beneficial to all YSMW, particularly YSMW who sit at the intersection of multiple marginalized identities, warrants further investigation. Though this analyses suggests sexual orientation disclosure in clinical settings is, in some cases, associated with more care, whether this finding holds true for less socially privileged YSMW should be examined in future studies. While overall rates of sexual health discussions and service utilization for women in this study were troublingly low, my data suggests that YSMW who are multiply marginalized may be at greatest risk for not receiving needed sexual health counseling and care. Increased efforts to meet the needs of all sexual minority women, and particularly those with multiple minority identities, are needed to decrease disparities in sexual health care service utilization and reproductive health outcomes for YSMW.

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| Table III.1: Descriptive sample characteristics | |
|---|-------------------------|
| | Total Sample (N=285) |
| | # (%) |
| Disclosure | |
| Disclosed orientation | |
| Yes | 100 (35.1) |
| No | 185 (64.9) |
| Demographic Characteristics | |
| Sexual identity | |
| Lesbian/gay | 169 (59.3) |
| Bisexual | 88 (30.9) |
| Other non-heterosexual | 28 (9.8) |
| Race | |
| White/European American | 187 (65.7) |
| Black/African American | 42 (14.7) |
| Other | 56 (19.6) |
| Ethnicity | |
| Not Hispanic or Latina | 252 (88.4) |
| Hispanic or Latina | 33 (11.6) |
| Education | |
| Less than HS diploma | 3 (1.5) |
| More than HS diploma | 282 (98.5) |
| Neighborhood | |
| Urban | 172 (60.4) |
| Suburban | 64 (22.5) |
| Rural | 49 (17.2) |
| Health care access and utilization | |
| Recent care | |
| Yes | 196 (68.8) |
| No | 89 (31.2) |
| Medical home | |
| Yes | 186 (65.3) |
| No | 99 (34.7) |

| | |
|---------------------------------------|--------------|
| Insured | |
| Yes | 250 (87.7) |
| No | 35 (12.3) |
| Clinical history | |
| Discussed HIV/STI prevention | 149 (52.3) |
| Discussed gynecological health | 145 (50.9) |
| Discussed family planning | 54 (18.9) |
| Recommended STI testing | 123 (43.2) |
| Recommended PAP test | 134 (47.0) |
| Recommended HPV vaccination | 78 (27.4) |
| Received STI testing (12 mos.) | 131 (46.0) |
| Received PAP test | 122 (42.8) |
| Received HPV vaccine | 38 (13.3) |
| Sexual history | x(sd) |
| Age of sexual onset | 17.23 (2.25) |
| Lifetime male partners ^a | 3.47 (8.64) |
| Lifetime female partners ^a | 3.93 (4.06) |

^a In subsequent analyses transformed (log) values are reported

Table III.2: Bivariate differences in discussion of HIV/STI prevention by demographic characteristics, health care use, and sexual history

| | HIV/STI testing discussed? | | | Test Statistic | p-value |
|-------------------------------|----------------------------|---------------|----------------|----------------|---------|
| | Total Sample (N=285) | No (N=136) | Yes (N=149) | | |
| | # (%) | # (%) | # (%) | | |
| Disclosed orientation | | | | 11.62 | 0.001 |
| <i>Yes</i> | 100 (35.1) | 34 (25.0) | 66 (44.3) | | |
| <i>No</i> | 185 (64.9) | 102 (75.0) | 83 (55.7) | | |
| Sexual identity | | | | 1.72 | 0.42 |
| <i>Lesbian/gay</i> | 169 (59.3) | 77 (56.6) | 92 (61.7) | | |
| <i>Bisexual</i> | 88 (30.9) | 47 (34.6) | 41 (27.5) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 12 (8.8) | 16 (10.7) | | |
| Race | | | | 13.40 | 0.001 |
| <i>White/European</i> | | | | | |
| <i>American</i> | 187 (65.7) | 75 (55.1) | 112 (75.2) | | |
| <i>Black/African American</i> | 42 (14.7) | 24 (17.6) | 18 (12.1) | | |
| <i>Other</i> | 56 (19.6) | 37 (27.2) | 19 (12.8) | | |
| Ethnicity | | | | 9.36 | 0.002 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 112 (82.4) | 140 (94.0) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 24 (17.6) | 9 (6.0) | | |
| Neighborhood | | | | 15.46 | <0.001 |
| <i>Urban</i> | 172 (60.4) | 66 (48.5) | 106 (70.1) | | |
| <i>Suburban</i> | 64 (22.5) | 41 (30.1) | 23 (15.4) | | |
| <i>Rural</i> | 49 (17.2) | 29 (21.3) | 20 (13.4) | | |

| | | | | | |
|-----------------------------------|---------------|---------------|---------------|-------|--------|
| Medical home | | | | 1.40 | 0.26 |
| <i>Yes</i> | 186 (65.3) | 84 (61.8) | 102 (68.5) | | |
| <i>No</i> | 99 (34.7) | 52 (38.2) | 47 (31.5) | | |
| Recent care | | | | 0.15 | 0.70 |
| <i>Yes</i> | 196 (68.8) | 92 (67.6) | 104 (69.8) | | |
| <i>No</i> | 89 (31.2) | 44 (32.4) | 45 (30.2) | | |
| Insured | | | | 12.29 | <0.001 |
| <i>Yes</i> | 250 (87.7) | 129 (94.9) | 121 (81.2) | | |
| <i>No</i> | 35 (12.3) | 7 (5.1) | 28 (18.8) | | |
| | <i>x</i> (sd) | <i>x</i> (sd) | <i>x</i> (sd) | | |
| Age of sexual onset | 17.23 (2.25) | 17.42 (1.69) | 17.05 (2.66) | -1.37 | 0.17 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.33 (0.37) | 0.40 (0.47) | 1.29 | 0.20 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.59 (0.17) | 0.66 (0.26) | 2.41 | 0.02 |

Table III.3: Bivariate differences in discussion of gynecological health by demographic characteristics, health care use, and sexual history

| | Gynecological health discussed? | | | Test Statistic | p-value |
|-------------------------|---------------------------------|---------------|----------------|----------------|---------|
| | Total Sample (N=285) | No (N=140) | Yes (N=145) | | |
| | # (%) | # (%) | # (%) | | |
| Disclosed orientation | | | | 12.29 | 0.001 |
| Yes | 100 (35.1) | 35 (25.0) | 65 (44.8) | | |
| No | 185 (64.9) | 105 (75.0) | 80 (55.2) | | |
| Sexual identity | | | | 3.90 | 0.14 |
| Lesbian/gay | 169 (59.3) | 84 (60.0) | 85 (58.6) | | |
| Bisexual | 88 (30.9) | 47 (33.6) | 41 (28.3) | | |
| Other non-heterosexual | 28 (9.8) | 9 (6.4) | 19 (13.1) | | |
| Race | | | | 0.03 | 0.98 |
| White/European American | 187 (65.7) | 92 (65.7) | 95 (65.5) | | |
| Black/African American | 42 (14.7) | 21 (15.0) | 21 (14.5) | | |
| Other | 56 (19.6) | 27 (19.3) | 29 (20.0) | | |
| Ethnicity | | | | 1.41 | 0.27 |
| Not Hispanic or Latina | 252 (88.4) | 127 (90.7) | 125 (86.2) | | |
| Hispanic or Latina | 33 (11.6) | 13 (9.3) | 20 (13.8) | | |
| Neighborhood | | | | 1.80 | 0.41 |
| Urban | 172 (60.4) | 90 (64.3) | 82 (56.6) | | |
| Suburban | 64 (22.5) | 28 (20.0) | 36 (24.8) | | |
| Rural | 49 (17.2) | 22 (15.7) | 27 (18.6) | | |

| | | | | | |
|-----------------------------------|--------------|--------------|--------------|-------|------|
| Medical home | | | | 1.18 | 0.32 |
| Yes | 186 (65.3) | 87 (62.1) | 99 (68.3) | | |
| No | 99 (34.7) | 53 (37.9) | 46 (31.7) | | |
| Recent care | | | | 1.82 | 0.20 |
| Yes | 196 (68.8) | 91 (65.0) | 105 (72.4) | | |
| No | 89 (31.2) | 49 (35.0) | 40 (27.6) | | |
| Insured | | | | 0.63 | 0.28 |
| Yes | 250 (87.7) | 125 (89.3) | 125 (86.2) | | |
| No | 35 (12.3) | 15 (10.7) | 20 (13.8) | | |
| | x(sd) | x(sd) | x(sd) | | |
| Age of sexual onset | 17.23 (2.25) | 17.54 (1.94) | 16.93 (2.49) | -2.29 | 0.02 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.31 (0.39) | 0.43 (0.49) | 2.40 | 0.02 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.61 (0.19) | 0.65 (0.25) | 1.50 | 0.14 |

Table III.4: Bivariate differences in discussion of family planning by demographic characteristic, health care use, and sexual history

| | Family planning discussed? | | | Test Statistic | p-value |
|-------------------------------|----------------------------|---------------|---------------|----------------|---------|
| | Total Sample (N=285) | No (N=231) | Yes (N=54) | | |
| | # (%) | # (%) | # (%) | | |
| Disclosed orientation | | | | 2.56 | 0.12 |
| <i>Yes</i> | 100 (35.1) | 76 (32.9) | 24 (44.4) | | |
| <i>No</i> | 185 (64.9) | 155 (67.1) | 30 (55.6) | | |
| Sexual identity | | | | 7.43 | 0.02 |
| <i>Lesbian/gay</i> | 169 (59.3) | 144 (62.3) | 25 (46.3) | | |
| <i>Bisexual</i> | 88 (30.9) | 69 (29.9) | 19 (35.2) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 18 (7.8) | 10 (18.5) | | |
| Race | | | | 4.48 | 0.11 |
| <i>White/European</i> | | | | | |
| <i>American</i> | 187 (65.7) | 148 (64.1) | 39 (72.2) | | |
| <i>Black/African American</i> | 42 (14.7) | 39 (16.9) | 3 (5.6) | | |
| <i>Other</i> | 56 (19.6) | 44 (19.0) | 12 (22.2) | | |
| Ethnicity | | | | 0.35 | 0.64 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 203 (87.9) | 49 (90.7) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 28 (12.1) | 5 (9.3) | | |
| Neighborhood | | | | 2.39 | 0.30 |
| <i>Urban</i> | 172 (60.4) | 144 (62.3) | 28 (51.9) | | |
| <i>Suburban</i> | 64 (22.5) | 48 (20.8) | 16 (29.6) | | |
| <i>Rural</i> | 49 (17.2) | 39 (16.9) | 10 (18.5) | | |

| | | | | | |
|-----------------------------------|---------------|---------------|---------------|-------|--------|
| Medical home | | | | 0.31 | 0.64 |
| <i>Yes</i> | 186 (65.3) | 149 (64.5) | 37 (68.5) | | |
| <i>No</i> | 99 (34.7) | 82 (35.5) | 17 (31.5) | | |
| Recent care | | | | 0.37 | 0.63 |
| <i>Yes</i> | 196 (68.8) | 157 (68.0) | 39 (72.2) | | |
| <i>No</i> | 89 (31.2) | 74 (32.0) | 15 (27.8) | | |
| Insured | | | | 0.40 | 0.50 |
| <i>Yes</i> | 250 (87.7) | 204 (88.3) | 46 (85.2) | | |
| <i>No</i> | 35 (12.3) | 27 (11.7) | 8 (14.8) | | |
| | <i>x</i> (sd) | <i>x</i> (sd) | <i>x</i> (sd) | | |
| Age of sexual onset | 17.23 (2.25) | 17.43 (2.10) | 16.35 (2.66) | -3.23 | 0.001 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.32 (0.41) | 0.59 (0.45) | 3.92 | <0.001 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.62 (0.18) | 0.59 (0.45) | 0.64 | 0.52 |

Table III.5: Bivariate differences in recommendation for STI testing by demographic characteristics, health care use, and sexual history

| | STI testing recommended? | | | Test Statistic | p-value |
|------------------------------------|--------------------------|---------------|----------------|----------------|---------|
| | Total Sample (N=285) | No (N=162) | Yes (N=123) | | |
| | # (%) | # (%) | # (%) | | |
| Disclosed orientation | | | | 0.93 | 0.34 |
| <i>Yes</i> | 100 (35.1) | 53 (32.7) | 47 (38.2) | | |
| <i>No</i> | 185 (64.9) | 109 (67.3) | 76 (61.8) | | |
| Sexual identity | | | | 0.60 | 0.74 |
| <i>Lesbian/gay</i> | 169 (59.3) | 97 (59.9) | 72 (58.5) | | |
| <i>Bisexual</i> | 88 (30.9) | 51 (31.5) | 37 (30.1) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 14 (8.6) | 14 (11.4) | | |
| Race | | | | 11.23 | 0.004 |
| <i>White/European American</i> | 187 (65.7) | 93 (57.4) | 94 (76.4) | | |
| <i>Black/African American</i> | 42 (14.7) | 30 (18.5) | 12 (9.8) | | |
| <i>Other</i> | 56 (19.6) | 39 (24.1) | 17 (13.8) | | |
| Ethnicity | | | | 9.49 | 0.002 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 135 (83.3) | 117 (95.1) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 27 (16.7) | 6 (4.9) | | |
| Neighborhood | | | | 16.99 | <0.001 |
| <i>Urban</i> | 172 (60.4) | 81 (50.0) | 91 (74.0) | | |
| <i>Suburban</i> | 64 (22.5) | 47 (29.0) | 17 (13.8) | | |
| <i>Rural</i> | 49 (17.2) | 34 (21.0) | 15 (12.2) | | |
| Medical home | | | | 3.77 | 0.06 |

| | | | | | |
|-----------------------------------|--------------|--------------|--------------|-------|------|
| <i>Yes</i> | 186 (65.3) | 98 (60.5) | 88 (71.5) | | |
| <i>No</i> | 99 (34.7) | 64 (39.5) | 35 (28.5) | | |
| Recent care | | | | 0.39 | 0.53 |
| <i>Yes</i> | 196 (68.8) | 109 (67.3) | 87 (70.7) | | |
| <i>No</i> | 89 (31.2) | 53 (32.7) | 36 (29.3) | | |
| Insured | | | | 1.11 | 0.36 |
| <i>Yes</i> | 250 (87.7) | 145 (89.5) | 105 (85.4) | | |
| <i>No</i> | 35 (12.3) | 17 (10.5) | 18 (14.6) | | |
| | <i>x(sd)</i> | <i>x(sd)</i> | <i>x(sd)</i> | | |
| Age of sexual onset | 17.23 (2.25) | 17.35 (2.02) | 17.07 (2.52) | -1.07 | 0.29 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.33 (0.39) | 0.43 (0.47) | 1.87 | 0.06 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.61 (0.21) | 0.64 (0.24) | 1.02 | 0.31 |

Table III. 6: Bivariate differences in recommendation for PAP test by demographic characteristics, health care use, and sexual history

| | Total Sample (N=285) | PAP test recommended? | | Test Statistic | p-value |
|-------------------------------|-------------------------|-----------------------|----------------|----------------|---------|
| | | No (N=151) | Yes (N=134) | | |
| | | # (%) | # (%) | | |
| Disclosed orientation | | | | 10.42 | 0.002 |
| <i>Yes</i> | 100 (35.1) | 40 (26.5) | 60 (44.8) | | |
| <i>No</i> | 185 (64.9) | 111 (73.5) | 74 (55.2) | | |
| Sexual identity | | | | 11.05 | 0.004 |
| <i>Lesbian/gay</i> | 169 (59.3) | 99 (65.6) | 70 (52.2) | | |
| <i>Bisexual</i> | 88 (30.9) | 45 (29.8) | 43 (32.1) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 7 (4.6) | 21 (15.7) | | |
| Race | | | | 13.60 | 0.001 |
| <i>White/European</i> | | | | | |
| <i>American</i> | 187 (65.7) | 85 (56.3) | 102 (76.1) | | |
| <i>Black/African American</i> | 42 (14.7) | 31 (20.5) | 11 (8.2) | | |
| <i>Other</i> | 56 (19.6) | 35 (23.2) | 21 (15.7) | | |
| Ethnicity | | | | 7.77 | 0.01 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 126 (83.4) | 126 (94.0) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 25 (16.6) | 8 (6.0) | | |
| Neighborhood | | | | 1.90 | 0.39 |
| <i>Urban</i> | 172 (60.4) | 90 (59.6) | 82 (61.2) | | |
| <i>Suburban</i> | 64 (22.5) | 31 (20.5) | 33 (24.6) | | |
| <i>Rural</i> | 49 (17.2) | 30(19.9) | 19 (14.2) | | |
| Medical home | | | | 0.74 | 0.39 |

| | | | | | |
|---------------------------------|--------------|--------------|--------------|-------|--------|
| <i>Yes</i> | 186 (65.3) | 102 (67.5) | 84 (62.7) | | |
| <i>No</i> | 99 (34.7) | 49 (32.5) | 50 (37.3) | | |
| Recent care | | | | 1.13 | 0.29 |
| <i>Yes</i> | 196 (68.8) | 108 (71.5) | 88 (65.7) | | |
| <i>No</i> | 89 (31.2) | 43 (28.5) | 46 (34.3) | | |
| Insured | | | | 4.02 | 0.05 |
| <i>Yes</i> | 250 (87.7) | 138 (91.4) | 112 (83.6) | | |
| <i>No</i> | 35 (12.3) | 13 (8.6) | 22 (16.4) | | |
| | <i>x(sd)</i> | <i>x(sd)</i> | <i>x(sd)</i> | | |
| Age of sexual onset | 17.23 (2.25) | 17.74 (1.74) | 16.65 (2.60) | -4.21 | <0.001 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.25 (0.32) | 0.51 (0.49) | 5.34 | <0.001 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.62 (0.19) | 0.64 (0.26) | 0.90 | 0.37 |

Table III. 7: Bivariate differences in recommendation for HPV vaccination by demographic characteristics, health care use, and sexual history

| | HPV vaccination recommended? | | | Test Statistic | p-value |
|-------------------------------|------------------------------|------------------|-----------------|----------------|---------|
| | Total Sample | No | Yes | | |
| | (N=285) # (%) | (N=207) # (%) | (N=78) # (%) | | |
| Disclosed orientation | | | | 1.66 | 0.20 |
| <i>Yes</i> | 100 (35.1) | 68 (32.9) | 32 (41.0) | | |
| <i>No</i> | 185 (64.9) | 139 (67.1) | 46 (59.0) | | |
| Sexual identity | | | | 17.48 | <0.001 |
| <i>Lesbian/gay</i> | 169 (59.3) | 130 (62.8) | 39 (50.0) | | |
| <i>Bisexual</i> | 88 (30.9) | 66 (31.9) | 22 (28.2) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 11 (5.3) | 17 (21.8) | | |
| Race | | | | 6.70 | 0.04 |
| <i>White/European</i> | | | | | |
| <i>American</i> | 187 (65.7) | 127 (61.4) | 60 (76.9) | | |
| <i>Black/African American</i> | 42 (14.7) | 36 (17.4) | 6 (7.7) | | |
| <i>Other</i> | 56 (19.6) | 44 (21.3) | 12 (15.4) | | |
| Ethnicity | | | | 2.80 | 0.10 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 179 (86.5) | 73 (93.6) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 28 (13.5) | 5 (6.4) | | |
| Neighborhood | | | | 0.80 | 0.67 |
| <i>Urban</i> | 172 (60.4) | 128 (61.8) | 44 (56.4) | | |
| <i>Suburban</i> | 64 (22.5) | 44 (21.3) | 20 (25.6) | | |
| <i>Rural</i> | 49 (17.2) | 35 (16.9) | 14 (17.9) | | |
| Has primary care phys. | | | | 1.87 | 0.17 |

| | | | | | |
|-----------------------------------|--------------|--------------|--------------|-------|--------|
| <i>Yes</i> | 186 (65.3) | 140 (67.6) | 46 (59.0) | | |
| <i>No</i> | 99 (34.7) | 67 (32.4) | 32 (41.0) | | |
| Recent care | | | | 0.03 | 0.85 |
| <i>Yes</i> | 196 (68.8) | 143 (69.1) | 53 (67.9) | | |
| <i>No</i> | 89 (31.2) | 64 (30.9) | 25 (32.1) | | |
| Insured | | | | 6.76 | 0.01 |
| <i>Yes</i> | 250 (87.7) | 188 (90.8) | 62 (79.5) | | |
| <i>No</i> | 35 (12.3) | 19 (9.2) | 16 (20.5) | | |
| | <i>x(sd)</i> | <i>x(sd)</i> | <i>x(sd)</i> | | |
| Age of sexual onset | 17.23 (2.25) | 17.48 (2.19) | 16.56 (2.30) | -3.03 | 0.003 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.29 (0.36) | 0.58 (0.51) | 5.36 | <0.001 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.61 (0.19) | 0.66 (0.30) | 1.41 | 0.16 |

Table III.8: Bivariate differences in receipt of STI testing by demographic characteristics, health care use, and sexual history

| | STI test received? | | | Test Statistic | p-value |
|-------------------------------|--------------------|------------|------------|----------------|---------|
| | Total Sample | No | Yes | | |
| | (N=285) | (N=154) | (N=131) | | |
| | # (%) | # (%) | # (%) | | |
| Disclosed orientation | | | | 5.06 | 0.03 |
| <i>Yes</i> | 100 (35.1) | 45 (29.2) | 55 (42.0) | | |
| <i>No</i> | 185 (64.9) | 109 (70.8) | 76 (58.0) | | |
| Sexual identity | | | | 8.21 | 0.02 |
| <i>Lesbian/gay</i> | 169 (59.3) | 101 (65.6) | 68 (51.9) | | |
| <i>Bisexual</i> | 88 (30.9) | 44 (28.6) | 44 (33.6) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 9 (5.8) | 19 (14.5) | | |
| Race | | | | 8.05 | 0.02 |
| <i>White/European</i> | | | | | |
| <i>American</i> | 187 (65.7) | 90 (58.4) | 97 (74.0) | | |
| <i>Black/African American</i> | 42 (14.7) | 29 (18.8) | 13 (9.9) | | |
| <i>Other</i> | 56 (19.6) | 35 (22.7) | 21 (16.0) | | |
| Ethnicity | | | | 5.25 | 0.03 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 130 (84.4) | 122 (93.1) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 24 (15.6) | 9 (6.9) | | |
| Neighborhood | | | | 16.67 | <0.001 |
| <i>Urban</i> | 172 (60.4) | 77 (50.0) | 95 (72.5) | | |
| <i>Suburban</i> | 64 (22.5) | 47 (30.5) | 17 (13.0) | | |
| <i>Rural</i> | 49 (17.2) | 30 (19.5) | 19 (14.5) | | |
| Has primary care phys. | | | | 0.14 | 0.71 |

| | | | | | |
|-----------------------------------|--------------|--------------|--------------|-------|--------|
| <i>Yes</i> | 186 (65.3) | 99 (64.3) | 87 (66.4) | | |
| <i>No</i> | 99 (34.7) | 55 (35.7) | 44 (33.6) | | |
| Recent care | | | | 2.44 | 0.13 |
| <i>Yes</i> | 196 (68.8) | 112 (72.7) | 84 (64.1) | | |
| <i>No</i> | 89 (31.2) | 42 (27.3) | 47 (35.9) | | |
| | | | | 8.21 | 0.01 |
| Insured | | | | | |
| <i>Yes</i> | 250 (87.7) | 143 (92.9) | 107 (81.7) | | |
| <i>No</i> | 35 (12.3) | 11 (7.1) | 24 (18.3) | | |
| | <i>x(sd)</i> | <i>x(sd)</i> | <i>x(sd)</i> | | |
| Age of sexual onset | 17.23 (2.25) | 17.57 (1.80) | 16.82 (2.64) | -2.83 | 0.01 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.28 (0.34) | 0.48 (0.49) | 4.22 | <0.001 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.59 (0.21) | 0.67 (0.23) | 3.18 | 0.002 |

Table III.9: Bivariate differences in receipt of PAP test by demographic characteristics, health care use, and sexual history

| | PAP test received? | | | Test Statistic | p-value |
|-------------------------------|--------------------|------------|------------|----------------|---------|
| | Total Sample | No | Yes | | |
| | (N=285) | (N=163) | (N=122) | | |
| | # (%) | # (%) | # (%) | | |
| Disclosed orientation | | | | 11.0 | 0.001 |
| <i>Yes</i> | 100 (35.1) | 44 (27.0) | 56 (45.9) | | |
| <i>No</i> | 185 (64.9) | 119 (73.0) | 66 (54.1) | | |
| Sexual identity | | | | 9.54 | 0.01 |
| <i>Lesbian/gay</i> | 169 (59.3) | 106 (65.0) | 63 (51.6) | | |
| <i>Bisexual</i> | 88 (30.9) | 48 (29.4) | 40 (32.8) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 9 (5.5) | 19 (15.6) | | |
| Race | | | | 18.53 | <0.001 |
| <i>White/European</i> | | | | | |
| <i>American</i> | 187 (65.7) | 90 (55.2) | 97 (79.5) | | |
| <i>Black/African American</i> | 42 (14.7) | 30 (18.4) | 12 (9.8) | | |
| <i>Other</i> | 56 (19.6) | 43 (26.4) | 13 (10.7) | | |
| Ethnicity | | | | 9.24 | 0.002 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 136 (83.4) | 116 (95.1) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 27 (16.6) | 6 (4.9) | | |
| Neighborhood | | | | 1.95 | 0.38 |
| <i>Urban</i> | 172 (60.4) | 104 (63.8) | 68 (55.7) | | |
| <i>Suburban</i> | 64 (22.5) | 34 (20.9) | 30 (24.6) | | |
| <i>Rural</i> | 49 (17.2) | 25 (15.3) | 24 (19.7) | | |

| | | | | | |
|-----------------------------------|---------------|---------------|---------------|-------|--------|
| Has primary care phys. | | | | 0.12 | 0.80 |
| <i>Yes</i> | 186 (65.3) | 105 (64.4) | 81 (66.4) | | |
| <i>No</i> | 99 (34.7) | 58 (35.6) | 41 (33.6) | | |
| Recent care | | | | 1.02 | 0.37 |
| <i>Yes</i> | 196 (68.8) | 116 (71.2) | 80 (65.6) | | |
| <i>No</i> | 89 (31.2) | 47 (28.8) | 42 (34.4) | | |
| Insured | | | | 6.55 | 0.02 |
| <i>Yes</i> | 250 (87.7) | 150 (92.0) | 100 (82.0) | | |
| <i>No</i> | 35 (12.3) | 13 (8.0) | 22 (18.0) | | |
| | <i>x</i> (sd) | <i>x</i> (sd) | <i>x</i> (sd) | | |
| Age of sexual onset | 17.23 (2.25) | 17.6 (1.82) | 16.8 (2.66) | -2.95 | 0.003 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.24 (0.31) | 0.54 (0.50) | 6.31 | <0.001 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.61 (0.19) | 0.65 (0.26) | 1.41 | 0.16 |

Table III.10: Bivariate differences in receipt of HPV vaccine by demographic characteristics, health care use, and sexual history

| | HPV vaccine received? | | | Test Statistic | p-value |
|--------------------------------|-----------------------|------------------|-----------------|----------------|---------|
| | Total Sample | No | Yes | | |
| | (N=285) # (%) | (N=247) # (%) | (N=38) # (%) | | |
| Disclosed orientation | | | | 12.46 | <0.001 |
| <i>Yes</i> | 100 (35.1) | 77 (31.2) | 23 (60.5) | | |
| <i>No</i> | 185 (64.9) | 170 (68.8) | 15 (39.5) | | |
| Sexual identity | | | | 3.94 | 0.14 |
| <i>Lesbian/gay</i> | 169 (59.3) | 150 (60.7) | 19 (50.0) | | |
| <i>Bisexual</i> | 88 (30.9) | 76 (30.8) | 12 (31.6) | | |
| <i>Other non-heterosexual</i> | 28 (9.8) | 21 (8.5) | 7 (18.4) | | |
| Race | | | | 0.60 | 0.74 |
| <i>White/European American</i> | 187 (65.7) | 160 (64.8) | 27 (71.1) | | |
| <i>Black/African American</i> | 42 (14.7) | 37 (15.0) | 5 (13.2) | | |
| <i>Other</i> | 56 (19.6) | 50 (20.2) | 6 (15.8) | | |
| Ethnicity | | | | 1.71 | 0.28 |
| <i>Not Hispanic or Latina</i> | 252 (88.4) | 216 (87.4) | 36 (94.7) | | |
| <i>Hispanic or Latina</i> | 33 (11.6) | 31 (12.6) | 2 (5.3) | | |
| Neighborhood | | | | 0.60 | 0.74 |
| <i>Urban</i> | 172 (60.4) | 151 (61.1) | 21 (55.3) | | |
| <i>Suburban</i> | 64 (22.5) | 55 (22.3) | 9 (23.74) | | |
| <i>Rural</i> | 49 (17.2) | 41 (16.6) | 8 (21.1) | | |
| Has primary care phys. | | | | 0.65 | 0.47 |

| | | | | | |
|--------------------------------|--------------|--------------|--------------|-------|--------|
| <i>Yes</i> | 186 (65.3) | 159 (64.4) | 27 (71.1) | | |
| <i>No</i> | 99 (34.7) | 88(35.6) | 11 (28.9) | | |
| Recent care | | | | 0.49 | 0.48 |
| <i>Yes</i> | 196 (68.8) | 168 (68.0) | 28 (73.7) | | |
| <i>No</i> | 89 (31.2) | 79 (32.0) | 10 (26.3) | | |
| Insured | | | | 3.13 | 0.11 |
| <i>Yes</i> | 250 (87.7) | 220 (89.1) | 30 (78.9) | | |
| <i>No</i> | 35 (12.3) | 27 (10.9) | 8 (21.1) | | |
| | <i>x(sd)</i> | <i>x(sd)</i> | <i>x(sd)</i> | | |
| Age of sexual onset | 17.23 (2.25) | 17.38 (2.11) | 16.24 (2.87) | -2.95 | 0.003 |
| Lifetime male partners (log) | 0.37 (0.43) | 0.32 (0.40) | 0.69 (0.45) | 4.76 | <0.001 |
| Lifetime female partners (log) | 0.63 (0.22) | 0.622 (0.21) | 0.66 (0.28) | 0.87 | 0.38 |

| Model III.1: HIV/STI discussion | | | | | |
|---------------------------------|------------|---------------|---------------|---------|--|
| Variable | Odds Ratio | 95% CI | Wald χ^2 | p-value | |
| Disclosure | 2.10 | (1.16, 3.69) | 8.68 | 0.01 | |
| Sexual Identity ^a | | | | | |
| <i>Bisexual</i> | 0.73 | (0.40, 1.34) | 1.04 | 0.31 | |
| <i>Other non-Heterosexual</i> | 1.20 | (0.46, 3.11) | 0.14 | 0.71 | |
| Ethnicity | 0.41 | (0.15, 1.14) | 2.90 | 0.09 | |
| Race ^b | | | | | |
| <i>Black</i> | 0.57 | (0.26, 1.21) | 2.15 | 0.14 | |
| <i>Other non-White</i> | 0.57 | (0.26, 1.27) | 1.89 | 0.17 | |
| Neighborhood ^c | | | | | |
| <i>Rural</i> | 0.48 | (0.23, 0.99) | 4.00 | 0.05 | |
| <i>Suburban</i> | 0.35 | (0.18, 0.68) | 9.54 | 0.002 | |
| Insured | 4.13 | (1.61, 10.64) | 8.65 | 0.003 | |
| Lifetime female partners (log) | 1.63 | (0.48, 5.58) | 0.61 | 0.43 | |
| LR χ^2 | | 52.92*** | | | |
| Pseudo R2 | | 0.23 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model III.2: Gynecological health discussion | | | | | |
|--|------------|---------------------|-------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| Disclosure | 2.36 | (1.37 | 4.05) | 9.60 | 0.002 |
| Sexual Identity ^a | | | | | |
| <i>Bisexual</i> | 0.50 | (0.23, | 1.07) | 3.19 | 0.07 |
| <i>Other non-Heterosexual</i> | 1.1 | (0.39 | 2.99) | 0.02 | 0.88 |
| Ethnicity | 2.04 | (0.78, | 5.36) | 2.10 | 0.15 |
| Race ^b | | | | | |
| <i>Black</i> | 1.20 | (0.59 | 2.47) | 0.25 | 0.62 |
| <i>Other non-White</i> | 0.91 | (0.41 | 2.02) | 0.05 | 0.82 |
| Neighborhood ^c | | | | | |
| <i>Rural</i> | 1.15 | (0.58, | 2.33) | 0.15 | 0.70 |
| <i>Suburban</i> | 1.09 | (0.57 | 2.06) | 0.07 | 0.79 |
| Age of sexual onset | 0.96 | (0.87, | 1.09) | 0.46 | 0.50 |
| Lifetime male partners (log) | 3.24 | (1.28, | 8.23) | 6.13 | 0.01 |
| LR χ^2 | | 28.46 ^{**} | | | |
| Pseudo R2 | | 0.13 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model III.3: Family planning discussion | | | | | |
|---|------------|---------|-------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| Sexual Identity^a | | | | | |
| <i>Bisexual</i> | 0.64 | (0.26, | 1.60) | 0.92 | 0.34 |
| <i>Other non-Heterosexual</i> | 1.19 | (0.40, | 3.51) | 0.10 | 0.76 |
| Ethnicity | 0.58 | (0.16, | 2.03) | 0.74 | 0.39 |
| Race^b | | | | | |
| <i>Black</i> | 0.36 | (0.10, | 1.25) | 2.59 | 0.11 |
| <i>Other non-White</i> | 1.68 | (0.67, | 4.22) | 1.21 | 0.27 |
| Neighborhood^c | | | | | |
| <i>Rural</i> | 1.03 | (0.42, | 2.55) | 0.004 | 0.95 |
| <i>Suburban</i> | 1.20 | (0.56, | 2.58) | 0.22 | 0.64 |
| Age of sexual onset | 0.90 | (0.78, | 1.04) | 1.92 | 0.17 |
| Lifetime male partners (log) | 3.33 | (1.22, | 9.04) | 5.55 | 0.02 |
| LR χ^2 | | 25.05** | | | |
| Pseudo R2 | | 0.14 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model III.4: STI testing recommendation | | | | | |
|---|------------|--------------|---------------|---------|--|
| Variable | Odds Ratio | 95% CI | Wald χ^2 | p-value | |
| Sexual Identity ^a | | | | | |
| <i>Bisexual</i> | 1.02 | (0.58, 1.79) | 0.01 | 0.94 | |
| <i>Other non-Heterosexual</i> | 1.81 | (0.75, 4.39) | 1.74 | 0.19 | |
| Ethnicity | 0.30 | (0.10, 0.89) | 4.70 | 0.03 | |
| Race ^b | | | | | |
| <i>Black</i> | 0.43 | (0.20, 0.93) | 4.65 | 0.03 | |
| <i>Other non-White</i> | 0.78 | (0.36, 1.72) | 0.37 | 0.55 | |
| Neighborhood ^c | | | | | |
| <i>Rural</i> | 0.47 | (0.23, 0.95) | 4.44 | 0.04 | |
| <i>Suburban</i> | 0.29 | (0.15, 0.57) | 12.69 | 0.001 | |
| LR χ^2 | | 33.33*** | | | |
| Pseudo R2 | | 0.15 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model III.5: PAP test recommendation | | | | |
|--------------------------------------|------------|---------------|---------------|---------|
| Variable | Odds Ratio | 95% CI | Wald χ^2 | p-value |
| Disclosure | 2.33 | (1.30, 4.17) | 8.12 | 0.004 |
| Sexual Identity ^a | | | | |
| <i>Bisexual</i> | 0.50 | (0.22, 1.11) | 2.92 | 0.09 |
| <i>Other non-Heterosexual</i> | 1.48 | (0.49, 4.43) | 0.48 | 0.49 |
| Ethnicity | 0.32 | (0.11, 0.96) | 4.14 | 0.04 |
| Race ^b | | | | |
| <i>Black</i> | 0.38 | (0.17, 0.87) | 5.23 | 0.02 |
| <i>Other non-White</i> | 1.17 | (0.51, 2.66) | 0.14 | 0.71 |
| Neighborhood ^c | | | | |
| <i>Rural</i> | 0.60 | (0.27, 1.36) | 1.49 | 0.22 |
| <i>Suburban</i> | 0.76 | (0.38, 1.51) | 0.62 | 0.43 |
| Insured | 1.02 | (0.43, 2.42) | 0.002 | 0.96 |
| Age of sexual onset | 0.90 | (0.78, 1.04) | 1.98 | 0.16 |
| Lifetime male partners (log) | 6.16 | (2.22, 17.05) | 12.22 | <0.001 |
| LR χ^2 | | 64.49*** | | |
| Pseudo R2 | | 0.27 | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model III.6: HPV vaccine recommendation | | | | | |
|---|------------|----------|--------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| Sexual Identity^a | | | | | |
| <i>Bisexual</i> | 0.27 | (0.11, | 0.66) | 8.20 | 0.004 |
| <i>Other non-Heterosexual</i> | 1.56 | (0.56, | 4.36) | 0.71 | 0.40 |
| Ethnicity | 0.58 | (0.16, | 2.05) | 0.73 | 0.39 |
| Race^b | | | | | |
| <i>Black</i> | 0.45 | (0.17, | 1.22) | 2.44 | 0.12 |
| <i>Other non-White</i> | 0.92 | (0.37, | 2.28) | 0.03 | 0.86 |
| Neighborhood^c | | | | | |
| <i>Rural</i> | 0.88 | (0.38, | 2.05) | 0.09 | 0.77 |
| <i>Suburban</i> | 0.88 | (0.42, | 1.85) | 0.11 | 0.74 |
| Insured | 1.58 | (0.67, | 3.75) | 1.08 | 0.30 |
| Age of sexual onset | 0.98 | (0.84, | 1.12) | 0.12 | 0.73 |
| Lifetime male partners (log) | 7.70 | (2.78, | 21.34) | 15.39 | <0.001 |
| LR χ^2 | | 48.27*** | | | |
| Pseudo R2 | | 0.23 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* p ≤ .05, ** p ≤ .01, *** p ≤ .001

| Model III.7:STI test received | | | | | |
|--------------------------------|------------|-----------|--------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| Disclosure | 1.67 | (0.92, | 3.03) | 2.85 | 0.09 |
| Sexual Identity ^a | | | | | |
| <i>Bisexual</i> | 0.84 | (0.37, | 1.90) | 0.17 | 0.68 |
| <i>Other non-Heterosexual</i> | 3.35 | (1.02, | 10.96) | 4.00 | 0.05 |
| Ethnicity | 0.46 | (0.16, | 1.35) | 1.99 | 0.16 |
| Race ^b | | | | | |
| <i>Black</i> | 0.59 | (0.26, | 1.34) | 1.61 | 0.21 |
| <i>Other non-White</i> | 1.20 | (0.52, | 2.79) | 0.18 | 0.67 |
| Neighborhood ^c | | | | | |
| <i>Rural</i> | 0.39 | (0.17, | 0.88) | 5.22 | 0.02 |
| <i>Suburban</i> | 0.15 | (0.07, | 0.32) | 22.76 | <0.001 |
| Insured | 1.41 | (0.57, | 3.51) | 0.54 | 0.46 |
| Lifetime female partners (log) | 4.94 | (1.30, | 18.73) | 5.51 | 0.02 |
| Lifetime male partners (log) | 5.32 | (2.02, | 13.98) | 11.47 | 0.001 |
| LR χ^2 | | 71.91 *** | | | |
| Pseudo R2 | | 0.30 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

| Model III.8: PAP test received | | | | | |
|--------------------------------|------------|----------------------|--------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| Disclosure | 2.66 | (1.46, | 4.88) | 10.10 | 0.001 |
| Sexual Identity ^a | | | | | |
| <i>Bisexual</i> | 0.42 | (0.18, | 0.98) | 4.03 | 0.05 |
| <i>Other non-Heterosexual</i> | 1.04 | (0.34, | 3.15) | 0.004 | 0.95 |
| Ethnicity | 0.49 | (0.15, | 1.67) | 1.29 | 0.26 |
| Race ^b | | | | | |
| <i>Black</i> | 0.43 | (0.19, | 0.96) | 4.29 | 0.04 |
| <i>Other non-White</i> | 0.39 | (0.16, | 0.99) | 3.94 | 0.05 |
| Neighborhood ^c | | | | | |
| <i>Rural</i> | 1.95 | (0.86, | 4.43) | 2.55 | 0.11 |
| <i>Suburban</i> | 1.00 | (0.49, | 2.02) | 0.00 | 1.00 |
| Insured | 1.47 | (0.60, | 3.61) | 0.69 | 0.41 |
| Age of sexual onset | 1.07 | (0.93, | 1.23) | 0.85 | 0.36 |
| Lifetime male partners (log) | 13.77 | (4.49, | 42.22) | 21.03 | <0.001 |
| LR χ^2 | | 76.76 ^{***} | | | |
| Pseudo R2 | | 0.32 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* p ≤ .05, ** p ≤ .01, *** p ≤ .001

| Model III.9: HPV vaccine received | | | | | |
|-----------------------------------|------------|----------------------|--------|---------------|---------|
| Variable | Odds Ratio | 95% CI | | Wald χ^2 | p-value |
| Disclosure | 4.30 | (1.81, | 10.19) | 10.94 | 0.001 |
| Sexual Identity ^a | | | | | |
| <i>Bisexual</i> | 0.45 | (0.14, | 1.46) | 1.76 | 0.19 |
| <i>Other non-Heterosexual</i> | 0.86 | (0.23, | 3.16) | 0.05 | 0.82 |
| Ethnicity | 0.35 | (0.05, | 2.39) | 1.14 | 0.29 |
| Race ^b | | | | | |
| <i>Black</i> | 1.40 | (0.44, | 4.45) | 0.33 | 0.57 |
| <i>Other non-White</i> | 1.68 | (0.47, | 5.94) | 0.64 | 0.42 |
| Neighborhood ^c | | | | | |
| <i>Rural</i> | 0.82 | (0.27, | 2.48) | 0.12 | 0.73 |
| <i>Suburban</i> | 0.69 | (0.26, | 1.83) | 0.56 | 0.46 |
| Age of sexual onset | 0.99 | (0.84, | 1.16) | 0.03 | 0.87 |
| Lifetime male partners (log) | 12.50 | (3.87, | 40.35) | 17.84 | <0.001 |
| LR χ^2 | | 43.82 ^{***} | | | |
| Pseudo R2 | | 0.26 | | | |

^a Lesbians serve as referent group

^b White serves as referent group

^c Women living in urban environments serve as referent group

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

CHAPTER IV

Assessing Disclosure Measurement and Evidence of its Relationship to Health and Health Care Utilization Outcomes

Introduction

In the last fifteen years, health sciences researchers have assiduously uncovered and documented health disparities that exist between heterosexual and sexual minority women (SMW; women who report same-sex attraction or sexual activity, or a non-heterosexual identity) (Boehmer, Miao, Linkletter, & Clark, 2012; Lindley, Walsemann, & Carter, 2011; Parsons, Kelly, & Wells, 2006; Rosario et al., 2013; Ryan, Wortley, Easton, Pederson, & Greenwood, 2001). Differences between heterosexual and SMW exist with regard to health behaviors (Burgard, Cochran, & Mays, 2005; Gruskin, Byrne, Altschuler, & Dibble, 2008; Johns, Pingel, et al., 2013), health outcomes (Austin, Herrick, & Proescholdbell, 2015; Blondeel et al., 2016; Conron, Mimiaga, & Landers, 2010), health care access (Corbett, Frecker, Shapiro, & Yudin, 2013; Paul, Pitagora, Brown, Tworecke, & Rubin, 2014; Ponce, Cochran, Pizer, & Mays, 2010), and utilization of health care services (Austin & Irwin, 2010; Charlton et al., 2011; Kerker, Mostashari, & Thorpe, 2006; Matthews, Brandenburg, Johnson, & Hughes, 2004). Though still a relatively new field of study, the breadth and strength of the evidence showing poorer health for SMW has persuaded those in the highest strata of medical and public health practice to call for broad scale efforts to reduce sexuality-based health disparities (American Public Health Association, 2014; Rubin, 2015). Strategies to improve the health of SMW have been articulated

as part of U.S. Department of Health and Human Services Healthy People 2020 (United States Department of Health and Human Services, 2010), promoted by major hospital and health network organizations (Hedges Greising, 2015), and are discussed as part of the Affordable Care Act (Kates, Ranji, & Dawson, 2015). One strategy to improve SMW's health that has received repeated, resounding endorsement is sexual orientation disclosure, or "coming out" to one's health care provider (Bradford, Cahill, Grasso, & Makadon, 2012; Cahill & Makadon, 2014; Quinn, Schabath, Sanchez, Sutton, & Green, 2015). Sexual orientation disclosure has long been explored as a factor that may influence SMW's health care services utilization (S. Johnson, Guenther, Laube, & Keettel, 1981), and SMW's motivations and preferences for clinical-based disclosure have been the focus of scholarly inquiry for more than twenty-five years (Agénor, Bailey, Krieger, Austin, & Gottlieb, 2015; Cochran & Mays, 1988).

Historical perspectives on coming out to providers

Drawing on their experiences in the field of nursing and their own qualitative investigation, Hitchcock and Wilson (1992) published a theoretical approach exploring lesbian's decisions to come out to their health care providers. The authors describe how lesbians engage in a two-phase Personal Risking process, where, prior to entering a clinical space, women imagine the risks of disclosure and strategies to cope with or minimize these risks (the anticipatory phase), and, upon entering the clinical space, scan and monitor their provider and the clinical environment for verbal or nonverbal cues of support or ill-treatment (interactional phase) (Hitchcock & Wilson, 1992). According to their theory, the initiation and outcome of this process is determined by three interacting conditions: personal attributes (including one's comfort with her sexual orientation, her relationship status, and her attitudes and beliefs about

health care), health care context (including provider characteristics, the health care environment, and the SMW's previous health care experiences), and the perceived relevancy of coming out to one's provider (reasons supporting the decision to disclose or not disclose one's sexual orientation to a given health professional) (Hitchcock & Wilson, 1992). Though the topic of sexual orientation disclosure in clinical settings has and continues to be of scholarly interest, efforts to test or validate Personal Risking theory and its constructs have been limited in the two decades following its publishing.

In 2012, however, psychologist Melissa St. Pierre utilized Hitchcock and Wilson's theory as a framework for conducting a literature review on SMW's sexual orientation disclosure in health care settings (St. Pierre, 2012). The purpose of her review was to evaluate the extent to which researchers sought and found support for the three conditions Hitchcock and Wilson theorized influence SMW's decision to come out to providers: personal attributes, health care context, and perceived relevancy. St. Pierre examined each of these conditions, separately documenting provider characteristics (instead of as a component of health care context) and noted that many studies also queried patient-provider relationships as a factor potentially influencing SMW's disclosure behavior (St. Pierre, 2012). Her review spanned thirty studies, published in almost as many years, and showcased research conducted on three separate continents. She found the greatest number of articles examined the effects of provider characteristics (twenty-seven studies), followed by personal attributes (twenty-three studies), health care context (eighteen studies), patient-provider relationships (sixteen studies), and least examined, perceived relevancy (seven studies). Her meticulous review provided a helpful catalog of those factors health science researchers have *investigated* as potentially related to SMW's

disclosure decisions, and factors that studies show are *actually associated with* coming out to providers.

Outside the scope of St. Pierre's review, however, was an analysis of how researchers have historically measured coming out to health care providers. Indeed, St. Pierre mentioned variations in disclosure measurement as a challenge of conducting her review, noting "the predominance of newly constructed measurement tools in each study" (St. Pierre, 2012, pp. 215). Her review highlights a gap in the study of SMW's health care experiences: how is coming out to providers measured by health science researchers?

Why disclosure measurement matters

The ways in which sexual orientation (i.e., identity, attraction, or behavior) disclosure is measured are important to understand. Certainly, as one can imagine (and St. Pierre's review suggests), there are many facets of disclosure researchers may choose to investigate, and the depth and scope of inquiry may differ across studies. For example, one facet of disclosure highlighted by St. Pierre (2012) is health care context. Among the factors researchers investigated as having possible influence on disclosure were whether or not clinicians inquired about sexual orientation, the type of health care setting study participants' preferred receiving their health care, and the importance of feeling safe and receiving care in a confidential healthcare space (St. Pierre, 2012). Measuring *how* disclosure occurred (whether a clinician asked about sexual orientation, whether the patient volunteered this information with or without prompting, or whether someone else revealed the patient's sexual orientation) is a logical aspect to measure when exploring SMW's disclosure experiences. So too is understanding *where* disclosure occurred, as SMW may be more likely to do so in specific health care environments.

Measuring SMW's perceptions of safety and confidentiality are also facets of disclosure researchers may reasonably choose to measure. As these examples illustrate, there are numerous aspects researchers may measure with regard to disclosure. Examining disclosure measurement broadly, including how, where, and to whom disclosure occurs, what components of sexual orientation are disclosed, how often SMW come out, and how patients and providers feel and act following disclosure are just some of the topics that researchers may investigate when exploring SMW's disclosure experiences.

How disclosure is measured has varied implications for different stakeholders invested in promoting SMWs' health. Beyond the basic duty for health science researchers to be precise in designing and describing our measures, it is further incumbent upon us to make sure the claims, interventions, and policy recommendations we assert are closely tied to what our results indicate – what our measures have revealed. This is especially true in research areas where the science is new or limited, and for researchers conducting research among historically vulnerable or marginalized populations (like sexual minority women). On health topics where the research is nascent, stakeholders (e.g., clinicians) may be particularly guided by the research and recommendations of health scientists. For clinicians with limited training in promoting and providing quality health care for sexual minority patients (Dearing & Hequembourg, 2014; East & El Rayess, 1998; Kitts, 2010; Obedin-Maliver et al., 2011), how disclosure is measured may affect the content of patient intake forms, raise awareness for further training needs, and provide guidance for how to interact with SMW patients during clinical encounters. In some cases, disclosure measures and how researchers discuss them may form the very basis for health care providers' understanding of the complexity of patients' sexuality and its expressions. For sexual

minority women, the measurement of disclosure may influence if they *report* (or don't) clinical disclosure experiences, and it may also shape how SMW *understand* disclosure or "being out" to health care providers. Measurement of disclosure in research studies and recommendations associated with these studies may influence SMWs' future *strategies* for disclosing to their health care provider, or even affect their understanding of the *value* of disclosure and its *meaning* for their health or health care utilization. Without a clear understanding of how sexual orientation disclosure in clinical setting is being measured, researchers may erroneously report when, why, and to whom disclosure matters, and how disclosure of various components of one's sexuality influences (or, doesn't) SMWs' health. Similarly, without an accurate accounting of the relationship between disclosure and health or health care outcomes, there is a risk of misstating the benefits (or, underreporting the risks) of this health behavior.

Methods

Analytic approach

To investigate how disclosure is currently being measured and its relationship to health and health care, I reviewed scientific literature published between January 2011 and February 2016. The chief purpose of my search was to examine how health sciences researchers empirically measured sexual minority women's sexual orientation disclosure to health care providers during the past five years. The publication of two watershed reports on sexual minority health mark the start of my search: the Institute of Medicine's *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding* (2011) and *Advancing Effective Communication, Cultural Competence, and Patient – and Family -Centered Care for the Lesbian, Gay, Bisexual, and Transgender (LGBT) Community: A field guide*, published by The Joint Commission (2011), a national health care quality accreditation

organization. Each of these reports emphasize the importance of sexual orientation disclosure to health care providers as a lynchpin for improving sexual minority health and reducing sexuality-related health disparities at a population level. I was interested in how, following the release of these recommendations, health scientists (1) conceptualized and measured sexual minority patient's disclosure behavior in clinical contexts, and (2) the types of evidence they gathered linking sexual orientation disclosure to (improved) health outcomes and/or health care utilization. Thus, my review covers the period of time immediately following the release of these reports, and captures studies that have been published since St. Pierre (2012) concluded her review of sexual orientation disclosure to health care providers among sexual minority women.

I conducted my search using PubMed, the electronic archive of the U.S. National Institutes of Health's National Library of Medicine. This search engine contains articles published in over 5,000 health and life science journals, including the most highly read and respected journals in the fields of medicine, nursing, and public health. PubMed also includes articles from *LGBT Health*, a recently established publication focused on sexual minority health and healthcare services.

To identify relevant articles, I searched for studies sitting at the crux of three concept areas: sexual orientation disclosure, patient-provider communication, and sexual minority women. Concept areas, as defined by Higgins and Green (2011), set the parameters of a literature review to a relevant population, intervention, comparison, or (health) outcome of interest. The resultant search therefore required that articles sit at the nexus of these three concept areas (Figure IV.1). Informed by article keywords and with the guidance of a health sciences librarian, I developed a list of key terms that might be included under each concept area. These key terms

were entered into the PubMed database, and the search resulted in 462 articles published electronically or in print between January 1, 2011 and February 1, 2016.

This large sample was narrowed via a careful reading of each article's abstract. As I read each abstract, additional inclusion and exclusion criteria were applied during this phase in the literature review. Articles were excluded if they were not published in English or were not conducted with human research participants. Studies that were not empirical research articles (for example, commentaries) were also excluded from the review, so as to maintain the focus on how disclosure is being *measured* by health researchers and *evidence* of the relationship between disclosure and health outcomes and/or health care utilization. Additionally, given the unique intricacies of the United States health care system and our nation's specific historical and cultural context of stigma, discrimination, and policies affecting sexual minorities both at large at within the medical system (Herek, Chopp, & Strohl, 2007), articles focusing on patient populations outside the U.S. were excluded from this review. Articles reporting the results of experimental studies pilot testing new strategies for capturing sexual orientation as part of clinical visits (for example, on medical intake forms or in electronic health records) were also excluded. Lastly, given this dissertation's focus on sexual minority women, potential gender-based differences in clinical communication around sexuality (Emmers-Sommer et al., 2009) and recent findings on differences in clinician attitudes and biases toward sexual minorities by patient gender (Sabin, Riskind, & Nosek, 2015), articles that did not include sexual minority women in their sample were also excluded from this review. In sum, each abstract read carefully and selected for full-text review if it was written in English, focused on human (not animal) subjects, reported results from an empirical research study (neither a commentary piece nor experimental study), and included in its sample sexual minority women living in the United States. After applying these

criteria to all 462 abstracts, the vast majority of articles were deemed outside the scope of this literature review. 18 articles remained in the sample for full text review.

In reviewing these 18 articles, I strove to assess how disclosure was being measured in empirical research articles. To this end, each article in this sample was examined regarding: sample population and size, how sexual orientation disclosure was measured, health or health care utilization outcomes measured (if any), and author recommendations regarding disclosure in clinical contexts. These article elements are summarized in Table IV.1.

Five of the articles read during this phase of the literature search primarily utilized qualitative methodologies to investigate sexual orientation disclosure (Agénor et al., 2015; Goins & Pye, 2013; M. J. Johnson & Nemeth, 2014; Stover, Hare, & Johnson, 2014; VandenLangenberg, Veach, LeRoy, & Glessner, 2012). These studies provide rich data on the health care and disclosure experiences of sexual minority women (and men), several giving important feedback on the limitations of medical intake forms, and all offering participant perspectives on how to improve clinical care experiences for sexual minorities. Absent from these studies is a discussion of how disclosure was measured by study authors and any attempt to empirically link disclosure to health or health care utilization outcomes. Though these articles document valuable insights from sexual minority patients, their focus is not explicitly in line with the purpose of this review. These five qualitative studies were thus excluded from this review. Thirteen remaining articles are included in the final analytic sample.

Results

Disclosure measurement

To assess how disclosure is measured in the current scientific literature, I recorded how disclosure is operationalized, item response categories, and how (if at all) responses were manipulated (Table IV.2). Considerable variability across measures was observed.

Aspect(s) of sexuality disclosed

Ten of the thirteen studies reviewed asked participants about disclosure of *sexual orientation* to health care providers. One study framed their disclosure question in terms of *LGBT identity* (Kamen, Smith-Stoner, Heckler, Flannery, & Margolies, 2015), and similarly another study asked participants about “being out as a lesbian, gay, bisexual person” (Jenkins Morales, King, Hiler, Coopwood, & Wayland, 2014). Kelly and Robinson (2011) combined disclosure of sexual identity and sexual orientation into their measures of disclosure (“Did you report your sexual orientation or identity . . .”). No studies included in this review reported asking participants’ about disclosure of same-sex sexual behavior or same-sex attraction.

Measurement implication: Conceptual clarity regarding what is measured re: sexuality. These results may suggest disagreement or a lack of conceptual clarity among researchers with regard to which component(s) of sexual orientation SMW are asked about and/or disclose during medical encounters. The extent to which SMW are disclosing different aspects of their sexuality is unknown, and how, if at all these differential disclosure may influence health or health utilization outcomes cannot be assessed.

Number of items

Among the thirteen articles reviewed, six studies examined disclosure using a single item, while the remaining studies utilized somewhere between two to eight items to survey sexual minorities’ disclosure experiences. Among studies using a single item, one study offered

dichotomous response options (yes/no), while all other studies captured disclosure using scaled response options. For example, participants in the study by Jenkins Morales and colleagues (2015) recorded the degree of agreement with the statement “*I am out to my health care provider*”(strongly disagree to strongly agree) while the item used in the study by Whitehead and colleagues (2016) asked participants to assess their “*openness about their sexual orientation*” using a seven point scale simultaneously measuring both *if* one’s primary care physician knew about their sexual orientation, and *how often or openly* it (sexual orientation) was discussed. Studies using multiple items to capture disclosure experiences also measured facets of disclosure such as frequency of disclosure, number of providers to whom patients had disclosed, how the disclosure occurred (patient v. provider v. someone else driven), and importance of disclosure in a given clinical setting.

Measurement implication: Single item v. multiple item construction of constructs.

Studies that inquire about numerous facets of SMW’s disclosure experiences using multiple items provide more information than studies utilizing a single item. Similarly, items that include response items beyond yes/no provide richer detail than is offered using dichotomous response options.

Frequency of disclosure

Three studies measured one or multiple components of disclosure frequency. Two studies asked patients to report how often sexual orientation was discussed or talked about during clinical appointments (Simpson, Balsam, Cochran, Lehavot, & Gold, 2013; Whitehead, Shaver, & Stephenson, 2016). A third study (Glessner, VandenLangenberg, Veach, & LeRoy, 2012) measured how frequently patients disclosed their sexual orientation to their provider, how often (unless contradicted by the patient) various provider types presumed the patient was

heterosexual, and how often providers directly inquire about sexual orientation. The remaining ten studies did not examine frequency of disclosure, discussions of sexual orientation, or clinician presumptions around heterosexuality.

Measurement implication: Single versus repeated event.

Studies that do not ask about repeated disclosure attempts implicitly construe coming out to one's provider as a singular, isolated event. In fact, for many SMW disclosure happens at numerous time points throughout the lifecourse. Including additional items querying how frequently sexual orientation was discussed subsequent to disclosure may more vividly illuminate the role of disclosure in the pursuit or receipt of future care.

Provider type

The type of provider (or provider specialty) to which patients had disclosed their sexual orientation was not queried in eight of the thirteen studies reviewed. In these instances, providers were vaguely described as clinicians, healthcare providers, or Veteran's Administration (VA) providers. Four studies specifically asked about outness to one's primary care provider, and among this subgroup, three articles additionally queried about outness to certain provider types (i.e. genetic counselor, gynecologist, radiologist). One study additionally asked about outness to clerical or nursing staff (Kamen et al., 2015). Outness to non-physician providers or health team members was not asked about in over 90% of the articles reviewed.

Measurement implication: Health care context.

These studies contribute little to our understanding of where and to which provider types SMW are more or less likely to disclose their sexual orientation. Failure to inquire about disclosure to non-physician providers is a missed opportunity to understand SMW's willingness or experiences coming out to other members of a clinical environment.

How disclosure occurred

Five of the articles reviewed queried participants regarding the manner in which disclosure occurred. One articles asked participants to describe how disclosure occurred in an open ended format (Kelly & Robinson, 2011). Two articles asked how many times providers asked about sexual orientation, followed by asking patients to disclose how many providers patients' had come out to (Mattocks et al., 2015; Sherman, Kauth, Shipherd, & Street, 2014). The remaining two studies offered participants a check list of possible ways disclosure may have occurred (i.e. the provider asked, someone else to told, via medical forms). Eights studies did not ask participants to report or describe how sexual orientation disclosure to their health care provider occurred.

Measurement implication: Operationalization of disclosure to providers.

Fewer than half of the studies reviewed ask SMW how disclosure occurred. Studies that did ask about this facet of disclosure illustrate the range of ways disclosure in clinical settings may occur. More consistently asking about how disclosure occurred would allow for researchers to better estimate how often providers are asking about sexual orientation during medical appointments (versus some other form of disclosure) and allow researchers to make inferences as to whether or not how disclosure occurs (enacted v. passive disclosure) influence SMW's subsequent care experience.

Comfort, appropriateness, and importance of assessing sexual orientation in given clinical setting

Two of the three Veteran's Administration-based studies in this sample (Mattocks et al., 2015; Sherman et al., 2014) asked participants to reflect on both the appropriateness of health providers asking about sexual orientation during clinical encounters, and how comfortable the

participant felt talking with their provider about sexual orientation. Kelly & Robinson (2011) asked participants to report how important it was to disclose their sexual orientation or identity in a given clinical setting. The remaining ten studies in this review did not report asking participants about the appropriateness or importance sexual orientation disclosure to provider, nor how comfortable the patient felt coming out in clinical settings.

Measurement implication: Perceived relevancy and comfort coming out.

A relatively unexplored disclosure domain is how important or personally relevant SMW think disclosure is to their care experience. By limiting their inquiries regarding perceived relevancy, researchers may be taking for granted that SMW believe coming out to their provider is important to their health or health care experience. Failure to inquire about SMW's comfort coming out means that researchers cannot speak to whether comfort is something that needs to be fostered by clinicians or clinical environments, or if providers should priorities enhanced knowledge, communication skills, etc.

Patient assessment of disclosure's influence on care experience or provider reaction to disclosure

Neither how participants' felt disclosure influenced their care experience nor how their provider reacted to their sexual orientation disclosure were factors assessed by articles in this review. A single study (Kelly & Robinson, 2011) asked participants' to reflect on whether or not their provider displayed any heterosexual bias during the clinical encounter, but this question was not asked in relationship to the one's sexual orientation disclosure. This study also asked participants whether or not their sexual orientation or identity (though, not the disclosure of these factors) influences their pursuit or receipt of health care services.

Measurement implication: Link between disclosure & subsequent care.

Current empirical investigations of disclosure reviewed here missed the opportunity to ask SMW how their provider's reacted to SMW's sexual orientation disclosure, and to assess SMW's perceptions of how disclosure influenced their care. Though several studies used statistical tests or predictive modeling to assess relationships between disclosure and care utilization, researchers independently but unanimously declined to survey SMW as to whether provider responses to disclosure or SMW's own feelings about disclosure affected future pursuit or receipt of health care services.

Health outcomes and health care utilization

To assess the extent to which health science researchers are building the evidence base regarding the relationship between coming out to providers and health or health care utilization outcomes, I next reviewed the study design and data collection methods, main outcomes related to disclosure, and disclosure-related findings of the thirteen articles included in this review.

Study design and data collection method

Twelve of the thirteen studies reviewed were cross-sectional in nature. One study (Durso & Meyer, 2013) included a baseline survey and re-contacted participants for a one-year follow-up assessment (though disclosure was only measured at baseline). Nine of the thirteen studies report web-based survey methodologies, three studies collected their data via in-person interviews (Durso & Meyer, 2013; Mattocks et al., 2015; Sherman et al., 2014), and one study used paper surveys as a data collection method (Mosack, Brouwer, & Petroll, 2013).

Main outcomes related to disclosure: Approximately half of the studies reviewed did not link disclosure to health care providers to any outcome, but rather reported disclosure as one of many descriptive statistics of the research sample. In two studies (Austin, 2013; Durso & Meyer, 2013)

disclosure itself was the outcome of interest, and study authors reported factors that were associated with coming out to health care providers among their participants. Two articles investigated relationships between disclosure and health outcomes: self-rated health (Kamen et al., 2015) and physical health, mental health, history of illness, and psychological wellbeing (Durso & Meyer, 2013). Mosack and colleagues (2013) sought to understand how disclosure to health care providers was related to SMWs' satisfaction with care and their comfort discussing their sexual health with their provider. Three articles explored possible relationships between disclosure and utilization of various health care services: primary care utilization (Whitehead et al., 2016), Pap testing (Reiter & McRee, 2015; Tracy, Schluterman, & Greenberg, 2013), and willingness to conduct at-home HPV testing (Reiter & McRee, 2015).

Disclosure-related findings

Among those studies that sought to establish relationships between disclosure and health outcomes, Kamen and colleagues reported that disclosure to one provider type (social workers) was linked to poorer self-rated health. No other significant associations between disclosure and self-rated health were reported. Durso and Meyer (2013) reported that at one-year follow-up, nondisclosure of sexual orientation was predictive of poorer psychological wellbeing, independent of SMW's baseline psychological wellbeing score. Their study additionally found that no history of medical illness was associated with nondisclosure of sexual orientation (Durso & Meyer, 2013). Mosack and colleagues (2013) found that disclosure was positively associated with both care satisfaction and comfort discussing sexual health with one's provider (SMW who were out to their provider reported greater satisfaction and comfort). Whitehead and colleagues (2016) reported positive associations between sexual orientation disclosure and utilization of

primary health care services. Both Tracy (2013) and Reiter (2015) found that participants who had disclosed their sexual orientation to their health care provider were more likely to have received Pap testing. With regard to willingness to conduct HPV home-based testing, Reiter (2015) reported no association between disclosure and testing willingness. Study outcomes not related to health outcomes or healthcare utilization, such as descriptive statistics on proportion of SMW out to their providers, appropriateness of clinical inquiries regarding sexual orientation, bivariate differences in disclosure among SMW are further documented in Table IV.1

Discussion

This review focuses on how coming out to providers has been measured, and the extent to which researchers are documenting a link between disclosure and health and/or health care utilization outcomes. I assessed how disclosure of sexual orientation during medical encounters has been measured in the health science literature, specifically during the five year period since two national health policy organizations called for increased documentation of patient-level data on sexual orientation (Institute of Medicine, 2011; The Joint Commission, 2011). These organizations, and a host of health science researchers, submit that documenting disparities in sexual minority health at the individual-level (in addition to collection population-level data in national surveys) is necessary to improve health outcomes and health care access for lesbian, gay, and bisexual individuals. Importantly, both the Institute of Medicine (2011) and the Joint Commission (2011) reports similarly emphasized challenges to sexual orientation disclosure in health care settings, and called for further research into barriers to disclosure and best practices for collecting sexual orientation information. Building this evidence base, and verifying the

proposed relationship between disclosure and reductions in sexuality-related health disparities, represents an important frontier in sexual minority health research.

Disclosure measure assessment

My assessment of disclosure measures revealed a great degree of variability in the wording, scope, and specificity of these quantitative measures. Differences in what is disclosed (sexual orientation, sexual identity, or something else) were noted, as were the degree to which disclosure measurement included information about frequency and provider type, assessments of how disclosure occurred, and whether participants felt that sexuality-related disclosure was important, appropriate, comfortable, or influenced their care experience. It is noteworthy that nearly half of studies reviewed only report surveying participants' disclosure to health care providers using a single measure, and that being out to one's health care provider was repeatedly constructed as a *yes* or *no* state. While these particular findings may reflect the realities of trying to cover a breadth of topics as part of any survey research project, they may also be indicative of a narrow conceptualization of the complex, dynamic interaction that is coming out to one's health care provider. By simply asking whether a provider knows one's sexual orientation (or identity), or whether or not someone has told their doctor about their identity – what can reasonably be concluded from knowing these admissions occurred? Indeed, there is much left unknown about the consequences of these disclosures: What motivated the patient to come out to her provider? How did the provider respond? Did the patient perceive changes in interpersonal interactions and/or provision of care (at that moment or during future clinical visits)? Did coming out alter the patients' attitude toward the provider or the likelihood that she would follow the provider's clinical recommendations? Where, if anywhere, was sexual orientation information

documented? If documented, who had access to this information? Did concerns about access documentation or confidentiality influence disclosure deliberations? In sum, what is missing from the current literature is the sense that coming out to one's provider is embedded within the broader, dyadic process of patient-provider communication. Though the studies reviewed here, to varying degrees, illuminate some components of this complex interaction, there remain significant gaps into what we know about sexual minority patients experiences of coming out to their health care providers.

Health and health care utilization outcomes assessment

The second aim of this review was to assess recent evidence linking disclosure to health care providers to health or health care utilization outcomes. Again, a paucity of studies sought to link disclosure to any physical or mental health outcomes, nor to participants' care experience or service utilization. In the limited number of articles where study authors linked disclosure to health outcomes their results were mixed: disclosure was linked to poorer self-rated health (Kamen et al., 2015), but was predictive of better psychological wellbeing (Durso & Meyer, 2013). Durso & Meyer (2013) also linked the absence of poor health history to non-disclosure, but no other physical or psychiatric outcomes. Among those studies that examined either care experience or health care utilization, the effects of disclosure were similarly varied: disclosure was positively associated with improved patient perceptions of care (Mosack et al., 2013), utilization of primary health care (Whitehead et al., 2016) and regular Pap testing (Reiter & McRee, 2015; Tracy et al., 2013), but was not predictive of SMW's willingness to self-test for HPV (Reiter & McRee, 2015). The small number of studies investigating the relationship between disclosure and health and health care outcomes is in itself striking, and so too is the

limited evidence these studies provide to support claims regarding the benefits of coming out to one's health care provider.

For public health practitioners looking to the scientific literature to advise sexual minorities on whether or not to come out to one's health care providers, my literature review shows there is a broadly a lack of evidence to support uniformly recommending disclosure during medical encounters. Certainly, there may be benefits to coming out to providers that are not directly related to improvements in patient health or increased care utilization. Qualitative reports from sexual minority patients (outside the scope of this review) convey that some SMW find disclosing their sexual orientation to their provider is vital, and that in doing so they feel more known, that they can answer questions about their lives and health behaviors more directly and honestly, and their partners are more likely to be included in clinical encounters (Bjorkman & Malterud, 2007; Hack, Degner, & Parker, 2005; Thorne et al., 2005). Balancing these intangible benefits are continued reports from SMW of awkward exchanges with providers, experiences of discrimination or ill treatment, and a sense that providers do not how to respond or modify care recommendations following patient disclosures (Agénor et al., 2015; Geddes, 1994; Stevens, 1994). Qualitative descriptions of patient experiences of disclosure provide valuable insights into the dyadic nature of the coming out during clinical encounters largely absent from quantitative reports. Public health practitioners and those broadly involved in the health care of sexual minorities should consider carefully the diversity of experiences SMW may have when coming out to their provider. It is disingenuous to sideline these experiences by calling them "barriers to disclosure" when negative experiences are in fact part and parcel of some SMW's clinical disclosure experiences. Whether or not future studies of disclosure can

more clearly link disclosure to improvements in sexual minority health than have those reviewed here remains unknown. Regardless of such potential findings, sexual minority health advocates failure to acknowledge and reckon with the potential negative consequences of coming out to one's provider does sexual minority patients a disservice. Efforts to more fully understand these negative disclosure experiences and what might mitigate their occurrence must be among the highest priorities of those seeking to improve the health and wellbeing of sexual minority individuals.

Sexual orientation in electronic health records (EHRs)

Of course, for many individuals and organizations, the call to carefully appraise the evidence regarding disclosure's benefits and to more heavily weigh patient reports of negative consequences of coming out to their providers will be met with resistance. Beyond the endorsement of the Institute of Medicine (2011) and The Joint Commission (2011), soliciting sexual orientation information as part of routine clinical encounters has advocates in the field of nursing (Eliason, Chinn, Dibble, & DeJoseph, 2013; Lim, Brown, & Justin Kim, 2014; Pettinato, 2012), and from providers in pediatric and adolescent medicine (Chaplic & Allen, 2013; Levine & Committee On Adolescence, 2013; Society for Adolescent Health and Medicine, 2013), and cancer care (Pillet, 2011; Quinn et al., 2015), among other specialties. Leading the charge for disclosure is the preeminent sexual minority health research institute, the Fenway Institute, (Bradford et al., 2012; Potter, Goldhammer, & Makadon, 2008) and, according to their accounting, "145 leading LGBT and HIV/AIDS organizations" (Cahill & Makadon, 2014, pp. 34) who worked with Fenway to advocate for inclusion of sexual orientation (and gender identity) in the Center for Medicare and Medicaid Services and the Office of the National

Coordinator of Health Information Technology meaningful use guidelines for electronic health records (EHRs). A workshop, convened in 2012 by the Institute of Medicine, offered disclosure advocates (and critics) an opportunity to discuss the clinical rationale for collecting sexual orientation and gender identity (SOGI), federal perspectives on including this data in EHRs, existing practices for collecting disclosure information in clinical settings, and new efforts to develop measures related to SOGI (Institute of Medicine, 2013). Efforts to persuade the Center for Medicare and Medicaid Services and the Office of the National Coordinator for Health Information Technology were ultimately successful. Announced in 2015 and beginning in 2018, all certified EHRs systems will “allow users to record, change, and access structured data on sexual orientation and gender identity” (though, notably, providers are not required to ask or record this information) (The Fenway Institute, 2015).

Given support for disclosure from the plurality of those invested in promoting sexual minority health and the upcoming inclusion of sexual orientation in EHRs, it is evident that efforts to persuade SMW patients to come out to their providers and research into clinical disclosure will be ongoing. With this future in mind, I offer six key recommendations for expanding the empirical study of sexual orientation disclosure in clinical settings and the effects of disclosure on health and health care utilization outcomes.

Recommendations

1. Researchers should be transparent as to how disclosure is measured and responses are manipulated when reporting survey results

Ascertaining the specific measures health science researchers used to measure disclosure was a challenge of conducting this review. More than a third of the articles did not publish the

items used to measure disclosure among their survey samples. Failure to publish disclosure-related survey items may be a barrier to other health scientists' efforts to replicate their use in future survey projects, and hinders both standardization of measurements and comparability across studies. Including survey items related to disclosure in published research should become routine, and study authors and journal editors are encouraged to advocate for and insist on explicit item inclusion in future publications. In addition to greater transparency around survey items, moving forward the science on disclosure requires that researchers are clear about how participant responses are grouped or manipulated prior to reporting or being entered into predictive models. Articles included in this review varied as to if and how responses were manipulated, and the extent to which these manipulations were reported. As illuminated in this review, even when more sophisticated measures are used, researchers often re-categorize participants' disclosure status into a dichotomous, yes disclosed/out versus no disclosure/not out. This practice, while reducing the complexity of participants' disclosure experiences, may be justifiable or even necessary to preserve statistical power. Thus, in instances where participant responses to disclosure items are manipulated researchers should report how and why responses were re-categorized.

2. Researchers should ask about clinical disclosure across multiple domains of sexuality

As noted in this review, the majority of studies asking sexual minorities about their clinical disclosure experiences frame coming out as disclosing one's sexual *orientation*. To some participants, this may connote disclosure of any component of their sexuality, or indeed multiple domains of their sexuality. Yet, for other participants this language may be viewed as vague, non-specific, or confusing. What, exactly, does sexual *orientation* refer to? "Sexual orientation",

according to the Fenway Institute, “is complex to define and can be measured in a variety of ways” (Evans, Lawler, & Sass, 2014, pp. 2). Other public health researchers have expressed concerns about the varied conceptual or practical definitions researchers have when studying sexual orientation (Sell, 1997), to say nothing of how sexual minority research participants understand or interpret the term *orientation* when they come across it in a survey. Using the umbrella term *sexual orientation* does not allow researchers to understand precisely what patients have disclosed (or, not disclosed) to their health care provider. Separately, measuring sexual orientation and its components among SMW patients may be particularly challenging given possible shifts in women’s attractions, behaviors, and identities over time (Diamond, 2008; Katz-Wise, 2015). Further, given research that suggests differential health risk depending on which component of sexual orientation is measured (Johns, Zimmerman, & Bauermeister, 2013), future studies should inquire specifically about disclosure of same-sex sexual behavior, same-sex attraction, and sexual identity, and optimally, measure these components across multiple time points. Asking explicitly about each of these aspects of sexual orientation will allow for a more precise recording of what components of sexuality are disclosed during clinical encounters, and potentially, the varied effects of these disclosures on SMW’s care experiences.

3. Researchers should continue to assess variations in disclosure across relevant demographic categories

One of this review’s most promising findings relates to the increasingly diverse sample populations investigated in these articles. Articles included in this study explicitly focused on sexual minorities living in the American South (Austin, 2013), rural America (Whitehead et al., 2016), veterans (Mattocks et al., 2015; Sherman et al., 2014; Simpson et al., 2013), older LGBT

individuals (Jenkins Morales et al., 2014), and sexual minorities with communication impairments (Kelly & Robinson, 2011). Some studies included a significant number of non-Hispanic white participants (Durso & Meyer, 2013; Reiter & McRee, 2015) (Durso & Meyer, Reiter), and samples were also variably diverse in terms of participants' ages, education, income, and self-reported sexual identities. St. Pierre's review of the disclosure literature prior to 2011 (St. Pierre, 2012) reported modest, varied effects of demographic differences in SMW's disclosure to providers, though many studies including in St. Pierre's review have much smaller sample sizes, and samples were "predominantly White, middle class, well-educated, middle-aged, and urban dwellers" (pp. 206). Studies included in this review reported differences in disclosure based on urbanity (Austin, 2013), sexual identity, race, education, country of origin, status as a parent (Durso & Meyer, 2013) and internalized homophobia (Austin, 2013; Durso & Meyer, 2013). Increasingly diverse samples may be attributed to recent advances in recruitment techniques. Many of the samples included under St. Pierre's review were recruited from LGBT community organizations, festivals, or informal networks (St. Pierre, 2012), while studies included in this review were largely web-based, allowing for a broader range of demographic differences among participants. The experiences of SMW documented in recent studies may be more reflective of the diversity of experiences across the SMW's community – particularly if SMW reached via venue-based sampling methods were more likely to be out (networked to sexual minority community groups) and or to self-select into care environments that are known to be LGBT-friendly. In sum, documenting differences in disclosure rates and experiences across demographic categories remains an important empirical question in the study of SMW's decisions to come out to their health care providers.

4. Researchers should be precise when describing the implications of their disclosure-related findings for SMW's health

Given the groundswell of support for disclosure by vocal leaders of the public health and medical communities, it is crucial that health scientists conducting research on sexual minorities' clinical disclosure experiences provide an accurate, precise accounting of the implications and limitations of their findings for SMW's health or health care utilization. It may be difficult for researchers to separate themselves and their findings from the narrative promoting the benefits of disclosure, but scientific objectivity and a duty to sexual minority patients requires that we do so. For example, with one exception (Durso & Meyer, 2013), all of the studies included in this review utilized a cross-sectional study design. Accordingly, study authors cannot make causal arguments about their disclosure-related findings (disclosure *may* lead to greater care utilization or patient satisfaction, or greater utilization of health care services and higher patient satisfaction may increase opportunities or likelihood of sexual orientation disclosure). Certainly, it would be logistically impossible (and questionably ethical) to study SMW's disclosure to health care providers using a randomized study design (though longitudinal or cohort study designs would advance our understanding of how disclosure influence health and health care utilization). The issue of study design represents just one example of why researchers must stay close to the implications and limitations of their findings. Researchers should be similarly clear about how their findings might be generalized to populations outside (or, minimally included) in the study sample, how recruitment strategies or venues may bias samples, or to which types of patient care settings their results may be extended. Explicit efforts to *state who discloses* (and who does not), *when they disclose* (in the course of a clinical relationship, in a given medical encounter), and *where and how the disclosure occurs* (in medical records, to a nurse or physician, prompted or

unprompted, etc.) are encouraged. Such clarity and precision in reporting disclosure conditions, and the implications and limitations of one's study will give sexual minority health advocates a realistic picture of the state of the science on coming out to health care providers, and illuminate areas of future study for those engaged in research on SMW's disclosure experiences.

5. Researchers should routinely collect data on health and health care utilization outcomes

This review documents the rarity with which health science researchers have thus far linked sexual orientation disclosure to SMW's health outcomes. Only two studies in this review attempted to do so (Durso & Meyer, 2013; Kamen et al., 2015), and interestingly, both of these studies chose to use self-reported measures of health or wellbeing (versus a biomarker or other clinical health indicator). Neither of these studies found support for the claim that sexual orientation disclosure to providers is linked to better health outcomes. Regardless, failure to collect data that might link disclosure to health outcomes – be they improved, worse, or not significantly associated with coming out to one's provider – means that we cannot accurately report the benefits or limitations of disclosure. This lack of data diminishes public health practitioners ability to “sell” SMW patients on coming out to their providers, and may undermine efforts to convince clinicians that soliciting sexual orientation information for their patients is important. Though seen in a greater number of studies (both in this review and in disclosure-related studies published prior to 2011), the evidence base tying disclosure to increased care utilization remains underdeveloped. Most studies examining the relationship between care utilization and disclosure have narrowly focused on sexual health services (Dehart, 2008; Diamant, Schuster, & Lever, 2000; Reiter & McRee, 2015; Tracy et al., 2013). While examining the relationships between disclosure and sexual health services are certainly relevant

to the SMW's health, they do not represent the totality of health care services that are important to the health and wellbeing of SMW. Indeed, one population-based study of SMW's health found no differences in rates of lifetime mammography or three-year Pap testing (the health care services researchers most frequently seek to link to SMW's disclosure experiences) between heterosexual and sexual minority women, while differences did exist with regard to obesity, cardiovascular disease risk factors, drinking behavior, and intimate partner violence (Conron et al., 2010). Accordingly, documenting the relationships between coming out to one's provider and utilization of a broad array of health care services (including but beyond sexual health care services) is imperative. In the future, agencies that fund or advocate for expanded provider training regarding sexual minority health may insist on seeing evidence of disclosure's health or health care utilization benefits prior to lending their support to the expansion or continued support of such training or educational programs.

6. Researchers should quantitatively assess a wider range of factors relating to SMW's disclosure experiences

As I've argued, disclosure to one's health care providers is a complex phenomenon and part of a dyadic interaction. Articles reviewed in this study broadly do not capture the intricacies of this form of patient-provider communication. Though important observations are available in qualitative explorations of disclosure, the breadth of experiences SMW have coming out to providers is not reflected in the current scientific literature on disclosure. To move forward this field of study, researchers are encouraged to increase the number of measures used to capture SMW's disclosure experiences in survey research. Expanded inquiries may touch on domains including but not limited to patient motivations for disclosure, provider responses to disclosure,

changes in care satisfaction, attitudes toward care or one's provider following disclosure, and the likelihood that SMW will come out to future providers. SMW deserve to know about what happens when their peers have come out to their providers so as to make more informed decisions about their own disclosure behavior. Separately, documenting factors that motivate or inhibit SMW's disclosure behavior may inform public health interventions promoting disclosure, and data regarding patient perceptions of provider reactions to disclosure may contribute to cultural humility or educational programs that better target the deficits or challenges of provider's knowledge or attitudes toward SMW patients.

Conclusion

For approximately three decades, health science researchers have investigated (Johnson et al., 1981) and theorized (Hitchcock & Wilson, 1992) about SMW's decision to come out to their health care providers. Support for sexual orientation disclosure in clinical settings solidified and grew stronger following the endorsement of two major health policy research bodies (Institute of Medicine, 2011; The Joint Commission, 2011), and most recently, disclosure advocates have succeeded in their efforts to include standardized sexual orientation information into EHRs (The Fenway Institute, 2015). Now more than ever it is important to clearly grasp the relationship between coming out to one's provider and SMW's health and utilization of health care services. This reviews documents the scientific literature that has quantitatively investigated SMW's disclosure experiences in the five years since the IOM and Joint Commission reports were published. My review found considerable variation in disclosure measures, and a small number of studies that attempted to link disclosure to health or health care utilization outcomes. In light of these findings, I've provided six recommendations that, if implemented, will expand

the evidence base regarding SMW's experiences of sexual orientation disclosure in clinical settings. Continuing to empirically document relationships between disclosure to health care providers and the health and health care experiences of SMW is an important step in the provision of equitable care (Makadon, 2011), and may meaningfully contribute to mitigating sexuality-based health disparities and improving the health of sexual minority patients.

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Figure IV.1: Concept areas and keywords included in PubMed search



Table IV.1: Empirical articles investigating sexual orientation disclosure to health care providers among sexual minority women, 2011 – 2016

| Author, Year | Sample Size | Study Population | Research Methodology | Outcomes | Results related to Disclosure to HCP for SMW |
|-------------------------------|--------------------|--|--|---|--|
| Austin, 2013 | 934 | Lesbian women | Quantitative; cross-sectional web-based survey | Disclosure to health care provider | Availability of more LGBT community resources, being out to others, and (lower) internalized homophobia associated with greater odds of disclosure |
| Durso & Meyer, 2013 | 396 | Lesbian/gay/bisexual women and men | Quantitative; baseline + 1 year follow-up in-person survey | Disclosure to health care provider; impact of nondisclosure on physical, mental health, and psychological wellbeing | Lower education, immigration status, and no history of medical condition were predictors of nondisclosure; Nondisclosure significant predictor of poorer psychological wellbeing at 1 year follow-up |
| Glessner, et al., 2012 | 29 | Lesbian/gay/bisexual women and men | Quantitative; cross-sectional web-based survey | None; descriptive statistics only | Higher rates of disclosure to genetic counselors than typically documented in studies of disclosure to health care providers; majority of participants reported provider attitude toward sexual orientation/gender identity did not change provision of medical care; medical forms and brochures not universally LGBT-inclusive |
| Jenkins Morales, et al., 2015 | 151 | Lesbian/gay/bisexual/transgender women and men | Quantitative; cross-sectional web-based survey | None, descriptive and bivariate statistics only | High rates of disclosure to health care providers (73-81%, higher among older population) |
| Kamen, et al., 2015 | 291 | Lesbian/gay/bisexual/transgender women and men | Quantitative; cross-sectional web-based survey | Self-rated health | Majority of participants' disclosed to at least one care provider; most likely to disclose to primary care provider versus all others; fewer than half disclosed to all other |

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| | | | | | provider types; sexual identity disclosure to social worker associated with poorer self-rated health |
| Kelly, & Robinson, 2011 | 192 | Lesbian/gay/bisexual/transgender women and women | Quantitative; cross-sectional web-based survey | None, descriptive statistics only | Disclosure rates vary by provider specialty; participants' cited fears of bias or discrimination as factors related to nondisclosure; many participants' interested in disclosing to provider; some participants' reported disclosure may be a barrier to seeking and receiving services |
| Mattocks, et al., 2013 | 20 | Lesbian women | Mixed methods; in-person individual interview; cross-sectional survey | None, descriptive statistics only | Equal percentage of participants' out to none/all VA providers; half of all participants stated VA providers never ask about sexual orientation; universal questioning regarding sexual orientation by VA providers minimally endorsed |
| Mosack, et al., 2013 | 420 | Lesbian/gay/bisexual/queer/heterosexual women | Quantitative; cross-sectional written survey | Satisfaction with provider; comfort discussing sexual health | SMW who believed HCP knew sexual orientation more satisfied with care and more comfortable discussing sexual health; SMW who disclosed sexual orientation more satisfied with care and more comfortable discussing sexual health; no difference in satisfaction or comfort based on explicit versus passive disclosure |
| Reiter & McRee, 2015 | 418 | Lesbian/bisexual women | Quantitative; cross-sectional web-based survey | Adherence to Pap test screening guidelines; willingness to use HPV self-test at home | Sexual orientation disclosure to HCP positively associated with adherence to Pap test guidelines; no significant differences in willingness to conduct HPV self- |

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|-------------------------|--------------------------|--|---|-----------------------------------|---|
| | | | | | test at home based on disclosure status |
| Sherman, et al., 2014 | 58 | Lesbian/gay/bisexual/questioning/transgender women and men | Qualitative; in-person focus groups and individual interviews | None, descriptive statistics only | Disclosure to providers in VA settings is limited; VA providers rarely ask patients about sexual orientation, and queries are less common to SMW patients versus male counterparts; universal questioning regarding sexual orientation by VA providers minimally endorsed |
| Simpson, et al., 2013 | 356 | Lesbian/gay/bisexual women and men | Quantitative; cross-sectional web-based survey | None, descriptive statistics only | In approximately equal thirds, participants responded that their provider did not know about their sexual orientation, might/probably knows but never or rarely talks about it, or sometimes or openly talks about it |
| Tracy, et al., 2013 | 1006 | Lesbian/gay women | Quantitative; cross-sectional web-based survey | Routine Pap test screening | SMW who were had disclosed their sexual orientation to their primary care provider or gynecologist had greater odds of routine screening than those who had not disclosed. |
| Whitehead, et al., 2016 | 946 (368 cisgend. women) | Lesbian/gay/bisexual/queer/transgender women and men | Quantitative; cross-sectional web-based survey | Health care utilization | Outness was significantly associated with increased primary care utilization |

Table IV.2: Disclosure measurement in empirical articles investigating sexual orientation disclosure to health care providers among sexual minority women, 2011 – 2016

| Author, Year | Operationalization of Disclosure | Response Categories | How manipulated |
|-------------------------------|--|---|---|
| Austin, 2013 | Disclosure of sexual orientation to primary health care provider | Y/N | If no primary health care provider, considered “not disclosed” |
| Durso & Meyer, 2013 | Degree of disclosure of sexual orientation to healthcare providers | Scale from 1 “out to none” to 4 “out to all” | Dichotomized “out to none” (1) “out to any” (2-4) |
| Glessner, et al., 2012 | <ul style="list-style-type: none"> • Out about sexual orientation and/or gender identity (healthcare providers) • How often do you disclose your sexual orientation/gender identity to healthcare providers? • In your experience, unless you specifically tell them otherwise, how often do health providers presume you are heterosexual? • Did the genetic counselor presume that you were heterosexual? • Did the genetic counselor inquire about your sexual orientation/gender identity? • Regardless of whether the genetic counselor inquired about it, did you disclose your sexual orientation/gender identity during your genetic counseling session? | <ul style="list-style-type: none"> • Y/N (check if out) • Always, sometimes, rarely, never • Always, sometimes, rarely, never, unsure • Y/N, unsure • Y/N • Y/N | N/A |
| Jenkins Morales, et al., 2015 | <ul style="list-style-type: none"> • “How much do you agree or disagree with each of the following statements about being out as a lesbian, gay, bisexual and/or transgender person?” <p>” (<i>I am out to my health care provider?</i>)</p> | Scale from 0 “strongly disagree” to 4 “strongly agree” | <p>Dichotomized “agree or strongly agree” (3 or 4) versus all else (0-2)</p> <p>Score included in summary measure of LGBT identity disclosure (family, friends, work, and health care provider)</p> |
| Kamen, et al., | <ul style="list-style-type: none"> • To which care providers did you disclose | <ul style="list-style-type: none"> • Clerical staff, nurse, oncologist, | N/A |

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|-------------------------|---|---|--------------|
| 2015 | <p>your LGBT identity?</p> <ul style="list-style-type: none"> • How did LGBT identity disclosure occur? | <p>primary care provider, radiologist, social worker, surgeon (<i>check all that apply</i>)</p> <ul style="list-style-type: none"> • I brought up the subject myself (including as a way to correct a mistaken heterosexual assumption), forms gave me the opportunity to disclose, the provider asked me a direct question about my identity, someone else told the provider my identity, other (<i>check all that apply</i>) | |
| Kelly, & Robinson, 2011 | <ul style="list-style-type: none"> • Did you report your sexual orientation or identity to your clinician? <ul style="list-style-type: none"> ○ If you did not report this information, can you share why you did not? ○ If you did report this information, how did you do that? • Do you feel your clinician showed any kind of bias towards a heterosexual orientation or lifestyle? <ul style="list-style-type: none"> ○ If so, do you have any examples you can share? • Do you think that your sexual orientation or identity would pose a barrier to you seeking treatment or services? • Do you think that your sexual orientation or identity would pose a barrier to the services you receive? • Do you feel that being able to disclose your sexual orientation or identity is important for you in this setting? <ul style="list-style-type: none"> ○ Why or why not? | <ul style="list-style-type: none"> • Y/N, not sure • Open-ended • Open-ended • Y/N, not sure • Open-ended • Y/N, not sure • Y/N, not sure • Y/N, not sure • Open-ended | Not reported |

| | | | |
|---------------------------------|---|--|---|
| <p>Mattocks, et al., 2013</p> | <ul style="list-style-type: none"> • How many of your VA providers have specifically asked about your sexual orientation? • With how many of your VA providers have you chosen to disclose your sexual orientation? • How comfortable do you feel talking with your VA providers about your sexual orientation? • How appropriate is it for VA providers to ask about a patient’s sexual orientation during a VA appointment? | <ul style="list-style-type: none"> • All, most/many, some, a few, none, not applicable • All, most/many, some, a few, none • Very comfortable, comfortable, somewhat comfortable, uncomfortable, very uncomfortable • Should be asked for every patient, should be asked for some patients, should only be asked if the patient mentions it, should rarely be asked, should never be asked | <p>N/A</p> |
| <p>Mosack, et al., 2013</p> | <ul style="list-style-type: none"> • “Do you believe your doctor knows what your sexual orientation is?” <ul style="list-style-type: none"> ○ If affirmative, how does your health care provider know your sexual orientation | <ul style="list-style-type: none"> • Not provided • I disclosed without being asked, I disclosed because my doctor asked, s/he probably assumes it, someone else told him/her | <p>Dichotomized “believe aware/health care provider knows” versus “believe unaware/health care provider does not know”</p> <p>Dichotomized “disclosed their sexual orientation/disclosure has occurred” versus “those who did not/disclosure has not occurred”</p> <p>Dichotomized “explicit disclosure” versus “she just knew”</p> |
| <p>Reiter & McRee, 2015</p> | <ul style="list-style-type: none"> • Are you “out” to your doctor or healthcare provider as an LGBTQ person? By “out”, we mean you have disclosed your sexual orientation or gender identity. | <ul style="list-style-type: none"> • Y/N, somewhat, I don’t know, I don’t have a doctor or healthcare provider | <p>Not reported</p> |

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| <p>Sherman, et al., 2014</p> | <ul style="list-style-type: none"> • With how many VA providers have you chosen to disclose your sexual orientation? • How many of your VA providers have specifically asked about your sexual orientation? • How appropriate is it for VA providers to ask about a patient’s sexual orientation during a VA appointment? • Comfort talking with VA providers about your sexual orientation (<i>specific item not provided</i>) | <ul style="list-style-type: none"> • Scale with anchors 1 (none) 3 (some) 5 (all) • Scale with anchors 1 (none) 3 (some) 5 (all) • Should be asked with every patient, should usually be asked, only if the patient mentions it, should only be asked rarely should never be asked • Very comfortable, quite comfortable, somewhat comfortable, somewhat uncomfortable, very uncomfortable | <p>N/A</p> <p>N/A</p> <p>Grouped in three categories: “very or somewhat uncomfortable”, “somewhat comfortable”, and “quite or very comfortable”</p> |
| <p>Simpson, et al., 2013</p> | <ul style="list-style-type: none"> • Do your VA providers know about your sexual orientation and how often do they discuss it with you? | <ul style="list-style-type: none"> • Sometimes or openly talk about it, knows but rarely talk about it, might or probably knows but never talk about it, definitely does not know | <p>N/A</p> |
| <p>Tracy, et al., 2013</p> | <ul style="list-style-type: none"> • Use the following rating scale to indicate how open you are about your sexual orientation to the people listed below. Try to respond to all of the items, but leave items blank if they do not apply to you. If an item refers to a group of people (e.g., work peers), then indicate how out you generally are to that group. <p>Primary care physician Gynecologist</p> | <p>1 = person definitely does NOT know about your sexual orientation status 2 = person might know about your sexual orientation status, but it is NEVER talked about 3 = person probably knows about your sexual orientation status, but it is NEVER talked about 4 = person probably knows about your sexual orientation status, but it is RARELY talked about</p> | <p>Converted to Y/N for each provider type (no additional details provided)</p> |
| <p>Whitehead, et al., 2016</p> | <ul style="list-style-type: none"> • Use the following rating scale to indicate how open you are about your sexual orientation to the people listed below. Try to | <p>1 = person definitely does NOT know about your sexual orientation status 2 = person might know about your sexual orientation status, but it is</p> | <p>Average score</p> |

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|--|--|--|--|
| | <p>respond to all of the items, but leave items blank if they do not apply to you. If an item refers to a group of people (e.g., work peers), then indicate how out you generally are to that group.</p> <p>Primary care provider or provider most often seen in the past year</p> | <p>NEVER talked about 3 = person probably knows about your sexual orientation status, but it is NEVER talked about 4 = person probably knows about your sexual orientation status, but it is RARELY talked about 5 = person definitely knows about your sexual orientation status, but it is RARELY talked about 6 = person definitely knows about your sexual orientation status, and it is SOMETIMES talked about 7 = person definitely knows about your sexual orientation status, and it is OPENLY talked about</p> | |
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CHAPTER V

Conclusion

The overarching purpose of this dissertation was to explore the role of sexual orientation disclosure to health care providers as one behavior influencing the health and health care experiences of young adult sexual minority women (YSMW). The call for sexual minorities to come out to their providers hails from key members of the medical and public health communities (Institute of Medicine, 2011, 2013; The Joint Commission, 2011) and from the leading health policy institute focused on lesbian, gay, bisexual, and transgender (LGBT) health (Bradford, Cahill, Grasso, & Makadon, 2012; Cahill & Makadon, 2014). Starting from the premise that SMW's decision to disclose (or conceal) their sexual identity during clinical encounters is the result of rational cognitive processes, my work here is grounded in theories of disclosure (Personal Risking Theory, Hitchcock & Wilson, 1992), sexual minority health (Minority Stress, Meyer, 2003), and health behavior theories (Health Belief Model, Becker, 1974; Ecological Model, Bronfenbrenner, 1994). I chose to focus my analyses on young or emerging adults (Arnett, 2000), as younger members of the LGBT community are concurrently navigating their sexual identity alongside new roles, responsibilities, and social environments that characterize adulthood (D'Augelli, 2006), likely taking charge of their health care for the first time in their lives. This dissertation (1) documented factors associated with clinical sexual orientation disclosure among YSMW, (2) investigated the relationships between YSMW coming out to their provider and discussions about, recommendations for, and receipt of sexual health

services, and (3) assessed the state of the science on disclosure measurement and attempts to link disclosure to health or health utilization outcomes for SMW. Taken together, my work here contributes to the nascent literature on YSMW's disclosure experiences and highlights knowledge gaps that future research must bridge.

Summary of results

In *Chapter II*, I used data from the Michigan Smoking and Sexuality Study (M-SASS) to explore factors associated with coming out to providers for YSMW. Guided by the ecological framework (Bronfenbrenner, 1994) in addition to the aforementioned theories, my analysis focused on the roles of individual and interpersonal influences on YSMW's disclosure status. The results of this study showed that identifying as a lesbian and having a greater lifetime number of female sexual partners significantly increased the likelihood that YSMW were out to their health care providers. YSMW who were "out" in a greater number of other social relationships (to parents, siblings, friends, co-workers, etc.) were also more likely to have come out to their provider than YSMW who were less out in other social relationships. Finally, higher internalized homophobia scores were associated with reduced odds of being out to one's provider. These results point to the potential benefits of public health programming focused on reducing internalized homophobia and increasing YSMW's self-efficacy in coming out conversations, as well as the need for clinicians to inquire about multiple components of sexuality (identity, behavior, and possibly attraction) when soliciting YSMW's sexual orientation disclosure.

These results also illuminate some strengths and point to some needed modifications regarding the conceptual model (*Figure I.1*) offered in Chapter I. Two factors I hypothesized may influence disclosure – outness and sexual identity – indeed were associated with disclosure in the full multivariate model. My original model did not include lifetime number of female

sexual partners, so I would revise future versions of the model to include this factor. Internalized homophobia, included in the original model as a perceived barrier to disclosure, was indeed associated with reduced likelihood of being out to providers among YSMW in the M-SASS sample.

As noted in *Chapter I*, I was unable to measure many of the factors outlined in *Figure I.1*, as possibly associated with disclosure. Unmeasured predictors include but are not limited to patient concerns regarding confidentiality, patients' perceived benefits of disclosure, self-efficacy, and cues to action. Future research focused on disclosure should examine each of these factors. Additionally, though many of the demographic and contextual characteristics hypothesized as associated with disclosure were not statistically significant in my final multivariate model, my ongoing disclosure-related research would still measure and examine these predictors' role in SMW's disclosure experiences. Continued inclusion is important for several reasons: first, several features of my sample (modest heterogeneity by age, race, ethnicity, education, access to health care), may have impinged about my ability to detect differences in disclosure status based on these variables. While my results mirror those of previous studies suggesting no differences in disclosure status by these variables, it remains important to examine these predictors in more diverse samples of SMW. Second, given the known importance of the social determinants of health on other health behaviors, measuring race, ethnicity, and socioeconomic status in future studies is simply good public health practice. In short, I do not think the results from this analysis warrant the elimination of any hypothesized variable's relationship to sexual orientation disclosure. Ongoing testing and updating of this conceptual model will guide my future research related to SMW's disclosure experiences.

In *Chapter III*, I assessed relationships between sexual orientation disclosure and clinical discussions about, recommendations for, and receipt of sexual health care services. My results indicated that being out to one's provider did not diminish the likelihood that YSMW discussed sexual health care, received recommendations for, or actually received sexual health services. Specifically, YSMW who were out to their provider were as likely or more likely than YSMW who had not disclosed their sexual orientation to have discussed, gotten recommendations for, and received family planning counseling, STI and Pap testing, and HPV vaccination. My analysis revealed multiple demographic factors that were associated with reduced odds that some sexual health services were received or recommended: a non-White racial or ethnic identity, living outside an urban center, and a bisexual sexual identity. My findings in this study suggest that encouraging YSMW to come out to their provider may be beneficial for improving rates of sexual health service conversations and care utilization, but that disclosure alone, particularly for multiply marginalized YSMW, may be insufficient to reduce sexuality-based disparities in sexual health care service utilization.

In *Chapter IV*, I conducted a literature review to assess (1) how health science researchers have recently measured sexual orientation disclosure to health care providers, and (2) the extent to which these studies seek and have found evidence of relationships between disclosure and SMW's health and health care service utilization. My review revealed considerable variability in the depth and scope of items employed to measure disclosure, with a plurality of studies measuring sexual orientation disclosure with a single item. Few studies included in my review attempted to connect disclosure to any health or health service utilization outcome, and no study offered evidence that sexual orientation disclosure is linked to improved

physical or mental health outcomes for SMW. My findings in this Chapter point to several potential pathways for strengthening future research on coming out to providers.

Major Themes across Dissertation

Theme One: Measuring disclosure and health care experiences among and across sexual orientation categories highlights sexual minority women's differential experiences

A cross-cutting theme of my dissertation is the importance of measuring multiple components of YSMW's sexual orientation (sexual identity, same-sex sexual behavior, and potentially, same-sex attraction) and comparing women's experiences among and across these categories. In *Chapter I* of this dissertation, I argued that limitations of the current disclosure discourse include a failure to examine differences in disclosure rates and experiences across sexual identity categories and a lack of theoretical clarity as to which components of one's sexual orientation are necessary (or beneficial) to disclose to health care providers. My work in *Chapter II* of this dissertation sought to address those limitations, and found that both sexual identity and same-sex sexual behavior influenced disclosure rates for YSMW. Specifically, lesbian YSMW were significantly more likely to be out to their provider than women who identified their sexual orientation as bisexual, and lesbians were also more likely to be out than women categorized as "non-heterosexual other" women (women who identified as queer, pansexual, refused identity labels, or claimed some other non-heterosexual identity). The results of this study additionally showed that women who had a greater number of lifetime female sexual partners were more likely to be out to their provider than women with fewer same-sex sexual partners. Differences in disclosure rates across sexual identity categories and by YSMW's (sexual) behavioral experiences were independent of each other, and persistent in the fully integrated statistical model. These findings underscore the importance of examining disclosure

experiences across sexual identity categories, and taking into account YSMW's varied sexual experiences.

In *Chapter III*, I similarly explored, among other factors, whether YSMW's sexual health care experiences varied based on their sexual identity or their lifetime number of same-sex partners. Across the nine instances I examined, bivariate differences based on sexual identity were common, and in multivariate models, differences by sexual identity category were detected in three instances (recommendations for HPV vaccination, receipt of STI testing, and receipt of Pap testing). Compared to women self-identifying as lesbian, identifying as bisexual reduced the likelihood that HPV vaccination recommendations and Pap testing were received. Women categorized as non-heterosexual other were more likely to receive STI testing (again, compared to lesbian participants). Hypotheses related to these differences are offered in the discussion section of *Chapter III*, but the very existence of these sexual identity-based differences in sexual health care experiences is noteworthy. To a lesser degree, this analysis also found support for differences in YSMW's sexual health care experiences based on same-sex sexual experiences: women with a greater number of same-sex sexual partners were more likely to receive STI testing than YSMW with fewer lifetime same-sex partners. Again, this study shows that sexual identity and same-sex behavior uniquely influence YSMW's sexual health care experiences. (*Chapter III* findings also indicated the influence of the number of male sexual partners in the sexual health care experiences of YSMW, calling our attention to the need to document the breadth of YSMW's sexual experiences.)

Chapter IV finds support for two limitations of the disclosure discourse highlighted in *Chapter I*: (1) the empirical literature focused on disclosure largely fails to examine differences in disclosure rates and experiences across sexual identity categories, and; (2) there exists a lack

of evidence and theoretical clarity as to which components of one's sexual orientation are necessary for SMW to disclose to health care providers. Only three of the thirteen studies reviewed (Durso & Meyer, 2013; Kamen, Smith-Stoner, Heckler, Flannery, & Margolies, 2015; Mosack, Brouwer, & Petroll, 2013) reported differences in disclosure rates by sexual identity category. These studies each found lower rates of disclosure among participants who identified as something other than lesbian. None of the studies in the review examined differences in disclosure rates based on SMW's sexual behavior. Importantly, none of the studies included in this review offered any insights as to which components of one's sexual orientation should be disclosed to one's doctor. To the extent that 10 of the 13 studies simply asked participants about sexual orientation disclosure (v. some disclosing one or more aspects of one's sexuality), even the most recent disclosure literature fails to grapple with the question of what aspect of one's sexuality is necessary to disclose to health care providers (and more broadly, how, if at all, does disclosure of each component affect SMW's health or health care experiences).

When viewed as a collection, these Chapters show differences in YSMW's disclosure and sexual health care experiences based on sexual identity, and when measured, differences based on same-sex sexual behavior. Reasons underlying these differences are broadly beyond the scope of this dissertation, but may be linked to how YSMW feel about their own identity or behavior, variations in social attitudes toward women of non-heterosexual sexual identities, or the degree to which health care providers are trained or prepared to solicit disclosures from (or offer care to) YSMW with non-lesbian identities, or women who engage in same-sex sexual behavior. Further insight into *why* sexual identity and same-sex sexual experiences differentially influence YSMW's disclosure behavior and sexual health care experiences can only be explored

if researchers measure these factors in future studies of YSMW's health and health care experiences.

Theme Two: Minimal support for relationship between disclosure and physical or mental health

One unifying theme across dissertation chapters is the limited amount of evidence produced and published supporting associations between sexual orientation disclosure to health care providers and health or health care utilization outcomes. In *Chapter II* of this dissertation I explored relationships between disclosure and numerous physical and mental health outcomes. My analysis showed no bivariate differences in thirty-day physical health or general health status with respect to YSMW's disclosure status, and modest bivariate differences with regard to anxiety, depressions, and thirty-day mental health (disclosure was associated with lower scores on each of these measures). These associations, however, were washed out in multivariate models that took into account individual, interpersonal, and sexuality-related factors. This finding complemented the work of Durso and Meyer (2013) who similarly found minimal support for relationships between SMW's disclosure behavior and physical and mental health outcomes.

Chapter III of my dissertation explored, among other factors, the relationship between disclosure and receipt of sexual health care services. My analysis showed YSMW who were out to their provider had greater odds of receiving two of the three sexual health services I explored (Pap testing and HPV vaccination) than women who were not out to their providers. There was no significant relationship between disclosure and the third sexual health service (STI testing). Taken together, this Chapter found modest but not monolithic support for the association between disclosure and receipt of sexual health care services.

In *Chapter IV*, I documented that among disclosure-related empirical articles published in the last five years, two studies investigated relationships between sexual orientation disclosure and physical and/or mental health outcomes (Durso & Meyer, 2013; Kamen et al., 2015). Durso & Meyer (2013) found no significant relationships between disclosure and physical or mental health outcomes (save history of illnesses as a predictor of disclosure). Kamen and colleagues (2015), found that study participants' who had come out to their social worker were more likely to self-rate their health as fair or worse than those who had not disclosed their sexual orientation to a social worker (disclosure was associated with poorer self-rated health than nondisclosure). Though this finding *does* show a relationship between disclosure and health, in their discussion of study findings Kamen and colleagues (2015) highlight that less than 15% of the total sample had come out to a social worker (v. 73% who reporting being out to their primary care provider), and that in the context of this sample, referral to a social worker may due to factors not typical of the broader survey population (i.e. higher rates of disability, lower socioeconomic status, etc.). In my view, in discussing their finding linking clinical disclosure to poorer health outcomes Kamen and colleagues (2015) are cautioning readers regarding the generalizability of this finding to other samples of sexual minority patients. My *Chapter IV* review found three studies explored relationships between clinical disclosures and health care utilization (Reiter & McRee, 2015; Tracy, Schluterman, & Greenberg, 2013; Whitehead, Shaver, & Stephenson, 2016). Each of these studies found positive associations between disclosure and utilization of health care services.

Looking across these Chapters, I see minimal support for a relationship between coming out to providers and physical or mental health outcomes, and modest support for an association between clinical disclosure and utilization of health care services. These latter findings are in line

with previous research on SMW's disclosure experiences, showing positive relationship between disclosure and utilization of preventive health services (Bergeron & Senn, 2003; Dehart, 2008; Diamant, Schuster, & Lever, 2000; Steele, Timmouth, & Lu, 2006; White & Dull, 1997). Advocates of coming out to health care providers may reasonably point to these studies to promote SMW's sexual orientation disclosure as a factor positively associated with higher health care service utilization, though evidence supporting a connection between disclosure and better health status or outcomes has yet to be found.

Limitations and Strengths

There are several noteworthy limitations to this dissertation. M-SASS study data were collected at one point in time and using non-representative sampling techniques. The cross-sectional design limits my ability to make casual claims about relationships between disclosure and constructs of interest, and the use of a convenience sample means these findings may not be generalizable to YSMW, broadly. Further, the M-SASS sample and items used in the survey embody numerous critiques discussed throughout this dissertation. Like the majority of studies of disclosure-related studies preceding it (Austin & Irwin, 2010; Bjorkman & Malterud, 2009; Boehmer & Case, 2004; Polek & Hardie, 2010; Seaver, Freund, Wright, Tjia, & Frayne, 2008, among others), the M-SASS study sample is largely non-Hispanic White, highly educated young adult women, who report having both a medical home and largely enjoy access to regular medical care. Though my analyses in *Chapter II* (and a recent review of the literature, St. Pierre, 2012) suggested that these demographic differences are not associated with consistent differences in disclosure behavior, certainly the ability to detect these differences or make inferences about how one's demographic profile may influence YSMW's disclosure experiences are attenuated by the lack of diversity in the M-SASS sample. My findings in *Chapter III*

indicate that race, ethnicity, neighborhood type/geographic location, and sexual identity uniquely influence YSMW's sexual health care. Future studies of YSMW's health and health care utilization, including those exploring disclosure, must do so with an eye toward intersectionality, endeavoring to collect data that allows researchers to examine YSMW whose health may be affected by factors included but not limited to race, ethnicity, geography, socioeconomic status, and sexual identity. In addition to the shortcomings of the M-SASS sample, I am conscious that the disclosure measures used in this survey are deficient in ways that I've identified as problematic in *Chapter IV* of this dissertation. The M-SASS survey included three disclosure measures: asking *if* the provider knew the participants' sexual orientation, *how* the provider knows, and how *comfortable* the provider seemed to be with the YSMW's sexual orientation. Though these three questions provide more insight into YSMW's disclosure status than do many studies reviewed in *Chapter IV*, these questions construe disclosure as a single, discreet event, do not indicate provider type, and do not assess how relevant the participant believes disclosure is to her health, among other weaknesses. Importantly, although an item assessed how disclosure occurred, the survey sample size was not sufficient to examine differences across response categories for some research questions. As I move forward in my research on SMW's disclosure, I too will be mindful of the measurement recommendations outlined in *Chapter IV* of this dissertation.

Another notable limitation may be in the fundamental conceptualization of disclosure that underpins this dissertation. My work here is built on the supposition that coming out to one's provider (or equally, the decision NOT to come out) is a health behavior that is the culmination of rational(ized), cognitive processes. As outlined in *Chapter I*, I suggest the decision to disclose or not to disclose is influenced by contextual and demographic factors, social environment, and

YSMW's assessment of the benefits of and barriers to disclosure, among other factors. As I noted in *Chapter I*, there are numerous variables I predict influence disclosure that I was unable to investigate as part of this dissertation. Study data did not permit me to examine perceived benefits of disclosure, perceived threat of various conditions (i.e. cervical cancer), or YSMW's self-efficacy to disclose. It is worth noting that these theorized but unmeasured variables may influence YSMW's clinical disclosure behavior as much or more than the factors considered in this dissertation. It is possible that factors not evaluated here prompt YSMW's decisions to come out (or, conceal their sexual orientation) to their provider, or that such disclosures are *not* the end result of cognitive processes, but rather directly spurred by an epiphany, random event, or cue to action (for instance, a provider *asking* about sexual orientation regardless of whether a SMW patient considered volunteering this information; (Champion & Skinner, 2008). Alternately, there may be some underlying personality traits that renders some SMW more comfortable disclosing their sexual orientation and being "out" than others (and, perhaps, these individuals are more open to discussing other sensitive topics, like sexual health issues explored in *Chapter III*, too). In sum, a limitation of this dissertation is that there are a great number of factors that may influence YSMW's disclosure decisions that are not measured as part of the M-SASS study, or are outside the scope of the conceptual framework on which my work here rests. As I continue in my academic career, I intend to return to the conceptual model proposed in *Chapter I*, seeking to evaluate relationships and pathways between variables of interest and sexual orientation disclosure. Furthermore, as I grow as a scholar, connecting with theories and literatures outside of my health behavior training may broaden my thinking as to what motivates and influences sexual orientation disclosure in health care settings.

Notwithstanding these limitations, this dissertation has numerous strengths. Its purpose was to explore sexual orientation disclosure to providers among young adult sexual minority women, and has achieved this purpose largely using data solicited from this understudied group. Though the M-SASS sample is demographically homogenous in some respects, it is heterogeneous with regard to participants' sexual identities, their sexual experiences with women and/or men, the types of communities (neighborhoods) in which they reside, and their experiences of sexuality-related stressors, among other factors. Particularly with its focus on younger members of the SMW's community, this dissertation offers an important contribution to the literature documenting disclosure experiences of lesbian, bisexual, and otherwise non-heterosexual women.

Separately, (and equally important to this dissertation's framing of disclosure as a cognitive process), the point of origin for this work was that the decision to come out or conceal one's sexual orientation in clinical settings is a complex, highly personal decision, and either choice carries with it benefits and risks for YSMW. As I argued throughout this dissertation, sexual orientation disclosure to health care providers as a strategy for improving SMW's health is widely and enthusiastically endorsed by vocal members of the medical and public health communities (Bradford et al., 2012; Institute of Medicine, 2011; Makadon, 2011; The Joint Commission, 2011). Efforts to promote clinical disclosure have been pushed forward by these bodies and their members (Cahill & Makadon, 2014; Institute of Medicine, 2013), and in the coming years questions about sexual orientation and gender identity will be included in electronic health records (The Fenway Institute, 2015). Against this swell of support, my dissertation asks for and seeks *evidence* that coming out to one's provider influences sexual minorities' health or health care utilization. My work here *does not assume* that coming out to

one's provider is inherently a better choice than not coming out. It *speculates* as to how the decision to disclose may (or may not) differentially influence one's care experiences depending on numerous health-related and contextual factors. Finally, this research *questions the notion* that coming out to one's provider conveys equal benefits (or, harms) to the diverse membership of the YSMW community. With humility and conviction, this dissertation challenges the dominant discourse that encouraging YSMW to disclose their sexual orientation to their health care provider will meaningfully influence sexuality-related health disparities for a given YSMW patient, or mitigate population-level health disparities writ large.

Implications for Health Promotion

This dissertation points to numerous promising avenues for promoting SMW's health and health care utilization. Emphasized in *Chapter II* and underscored by similar studies on SMW's disclosure experiences (Austin, 2013; Bergeron & Senn, 2003; Durso & Meyer, 2013), an important pathway to increasing disclosure may be addressing SMW's internalized homophobia. Meyer (2003) theorized about widespread negative health consequences associated with internalized homophobia, and researchers have found support for this theory (McLaren, 2016; Pepper & Sand, 2015). Recent studies have called increased public health efforts to combat internalized homophobia, arguing that addressing this psychological stressor is as valuable health promotion strategy capable of benefiting numerous health and health behaviors simultaneously (Rosario, Schrimshaw, Hunter, & Braun, 2006; Youatt, Johns, Pingel, Soler, & Bauermeister, 2015). Public health officials or research scientists with an inclination toward intervention work might consider designing programs to reduce internalized homophobia and/or boost identity self-acceptance, particularly among youth or young adult sexual minorities. Such programs might be designed in partnerships and/or with the intent to deliver the intervention in school-based gay

straight alliances, of which there are over 850 organizations in over thirty states (National Association of GSA Networks, 2016). Social media campaigns may similarly be considered, as broader scale campaigns may reach sexual minorities who (due to internalized homophobia or lack of resources) are not able to access LGBTQ community centers or school-based groups.

My work here additionally points to the deficits in YSMW's experiences receiving sexual health counseling, recommendations, and services. Evidence points to increased sexual health risks experienced by SMW (Matthews, Brandenburg, Johnson, & Hughes, 2004; Tornello, Riskind, & Patterson, 2014), which is particularly troubling given SMW's reduced access to sexual health services compared to heterosexual women (Agénor, Krieger, Austin, Haneuse, & Gottlieb, 2014; Charlton et al., 2011; Kerr, Ding, & Thompson, 2013). Results from *Chapter III* indicate low rates of discussions about, recommendations for, and receipt of sexual and reproductive health services for YSMW in my sample. These gaps suggest a role for public health practitioners to increase health promotion strategies targeting YSMW's sexual health. Social marketing campaigns normalizing and promoting sexual health screenings for YSMW are a promising strategy that has the ability to reach a broad audience of women, including those who may not identify as a sexual minority. As recommended by Tracy and colleagues (2010), efforts to increase sexual health services utilization among YSMW should address barriers to screening behaviors, rather than focusing on increasing testing awareness.

Clinicians also have a role to play in helping promote increased sexual health screenings among YSMW. It is incumbent upon those providing care to young adult women (of all sexual orientations) to adhere to clinical guidelines regarding recommendations for routine sexual and reproductive health screenings. Certainly, not all women who are recommended sexual health screenings or vaccinations have the resources or desire to obtain these services. Notwithstanding

these barriers, and though the task be daunting, clinicians must make sure all women who meet clinical guidelines for receiving sexual health services are given a recommendation to obtain them. Interventions might also target professional societies (i.e. American College of Gynecologists) or providers directly in an effort to increase sexual health screening recommendations for all young adult women (regardless of sexual orientation). Receiving a clinical recommendation may importantly influence young adult's intention to seek sexual health care, so increasing rates of physician recommendation may be a valuable intervention strategy.

Many have argued for expanded education efforts to assist health care providers in offering culturally competent care to sexual minority patients (Bosse, Nesteby, & Randall, 2015; McNair, Hegarty, & Taft, 2012; Obedin-Maliver et al., 2011). Training efforts supporting these efforts are increasingly available to health care systems and practices invested in providing more equitable care to LGBT patients (Margolies, Joo, & McDavid, 2014; National LGBT Health Education Center, 2015). Such efforts are laudable, and should be evaluated (and scaled up) to the degree that evidence supports such training are successful in creating clinical environments that sexual minorities find more welcoming, and to the extent that these provider-focused interventions achieve their goals of improving care for LGBTQ patients. Public health researchers invested in improving the clinical care experiences might consider partnering with a clinical practice or health system and piloting such an educational intervention, with the intention to evaluate improvements in clinical staff's knowledge and attitudes toward LGBTQ patients, and importantly, changes in patient perceptions related to their care experience.

Directions for Future Research

Each Chapter of this dissertation highlights specific needs and possible pathways for future research related to YSMW disclosure decisions. In *Chapter II* I called for continued

examination of numerous factors that may importantly contribute to YSMW's disclosure behavior, including the roles of social networks, health care access, and health status. Though my analyses did not indicate that these factors were significantly associated with disclosure, these variables have not been widely examined in the literature and may prove influential in more diverse samples of YSMW. Similarly, there were numerous constructs theorized as potentially influencing disclosure in *Chapter I* of this dissertation that I was not able to test given available study data. Future research should empirically explore theoretically-relevant concepts, including but not limited to perceived benefits, risks and importance of disclosure, self-efficacy to disclose to providers, and past experiences coming out to medical providers.

Chapter III pointed to the need to better understand factors limiting YSMW's access to and receipt of sexual health care services. YSMW's sexual health and health care experiences are a burgeoning area of study, and there is much to be learned about this populations' knowledge, attitudes, beliefs, and sexual health promotion behaviors. My findings in this Chapter further highlighted to the need to approach the study of YSMW's sexual health with an intersectional lens. Results in this Chapter showed the effects of race, ethnicity, geography and sexual identity on the provision and receipt of sexual health care services among YSMW. Recruiting diverse samples of sexual minority women is imperative to the credibility and generalizability of future disclosure-related studies.

Chapter IV offered six key recommendations for future measurement and research on SMW's clinically-based sexual orientation disclosure decisions. These recommendations expressed the need for (1) transparency in disclosure measurement and manipulation of response categories; (2) measuring multiple components of sexual orientation; (3) ongoing assessment of demographic differences in disclosure behavior; (4) precision in reporting implications of

disclosure-related findings for SMW's health and health care utilization; (5) routine collection of health and health care utilization outcomes, and (6) quantitative assessment of a wider range of factors (potentially) influencing SMW's disclosure experiences.

In addition to these chapter-specific recommendations, the recent decision of the Department of Health and Human Services to roll out electronic health records (EHRs) capable of recording sexual orientation and gender identity information (SOGI, The Fenway Institute, 2015) represents a unique opportunity for studying sexual orientation disclosure in health care settings. Researchers may investigate the extent to which health care systems and/or providers are aware of the new EHR functionality, if these bodies are preparing to implement these questions in clinical practicing, and training efforts to prepare clinical staff to solicit and protect patient's sexual orientation data, among other topics. Patient awareness of changes to EHRs and related effects on SMW's willingness to disclose and patient preferences (regarding who can view this data, how often providers should ask about changes in SOGI, etc.) are also topics ripe for empirical investigation.

In writing this dissertation, I sought to contribute to the small body of work empirically exploring young adult women's sexual orientation disclosure to health care providers. Disclosure enjoys widespread support from medical and public health professionals invested in promoting SMW's health, but evidence of the health or health care utilization benefits to sexual minority patients (or populations) does not match advocates wholesale endorsement. My work here addresses some gaps in the literature on YSMW's disclosure behavior, but raises more questions than it answers regarding the utility of disclosure from improving the health or health care experiences for diverse populations of young adult sexual minority women. As this dissertation makes clear, there are abundant opportunities for researchers to offer new insights into

relationships between sexual orientation disclosure and YSMW's health and clinical care experiences, and to beneficially broaden the disclosure discourse.

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