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Emergency Department Query for Patient-Centered Approaches to Sexual Orientation and Gender Identity
The EQUALITY Study

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IMPORTANCE The Institute of Medicine and The Joint Commission recommend routine documentation of patients' sexual orientation in health care settings. Currently, very few health care systems collect these data since patient preferences and health care professionals' support regarding collection of data about patient sexual orientation are unknown.

OBJECTIVE To identify the optimal patient-centered approach to collect sexual orientation data in the emergency department (ED) in the Emergency Department Query for Patient-Centered Approaches to Sexual Orientation and Gender Identity study.

DESIGN, SETTING, AND PARTICIPANTS An exploratory, sequential, mixed-methods design was used first to evaluate qualitative interviews conducted in the Baltimore, Maryland, and Washington, DC, areas. Fifty-three patients and 26 health care professionals participated in the qualitative interviews. Interviews were followed by a national online survey, in which 1516 (potential) patients (244 lesbian, 289 gay, 179 bisexual, and 804 straight) and 429 ED health care professionals (209 physicians and 220 nurses) participated. Survey participants were recruited using random digit dialing and address-based sampling techniques.

MAIN OUTCOMES AND MEASURES Qualitative interviews were used to obtain the perspectives of patients and health care professionals on sexual orientation data collection, and a quantitative survey was used to gauge patients' and health care professionals' willingness to provide or obtain sexual orientation information.

RESULTS Mean (SD) age of patient and clinician participants was 49 (16.4) and 51 (9.4) years, respectively. Qualitative interviews suggested that patients were less likely to refuse to provide sexual orientation than providers expected. Nationally, 154 patients (10.3%) reported that they would refuse to provide sexual orientation; however, 333 (77.8%) of all clinicians thought patients would refuse to provide sexual orientation. After adjustment for demographic characteristics, only bisexual patients had increased odds of refusing to provide sexual orientation compared with heterosexual patients (odds ratio, 2.40; 95% CI, 1.26-4.56).

CONCLUSIONS AND RELEVANCE Patients and health care professionals have discordant views on routine collection of data on sexual orientation. A minority of patients would refuse to provide sexual orientation. Implementation of a standardized, patient-centered approach for routine collection of sexual orientation data is required on a national scale to help to identify and address health disparities among lesbian, gay, and bisexual populations.

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Supplemental content

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Lesbian, gay, and bisexual (LGB) populations report poorer health[1,2] and less access to health insurance and health services[3,4] compared with heterosexual populations. Approximately 8 million Americans identify as LGB,[5] and, although some inequities have been identified, lack of data on sexual orientation is a major challenge to understanding and addressing LGB health disparities.[6] To address this issue, LGB individuals have been identified as a target group for health improvement by Healthy People 2020,[7] and the US Department of Health and Human Services and the Institutes of Medicine now recommend routine collection of sexual orientation data in federally funded population health surveys and in electronic health records.[7,8] In response, the National Health Interview Survey began collecting sexual orientation data in 2013.[9]

Obtaining data through population surveys is important for identifying and addressing health disparities; in addition, collecting data in a patient's electronic health record (EHR) can help clinicians to provide more complete care.[10,11] Recently, the Centers for Medicare & Medicaid Services released Meaningful Use Stage 3 guidelines that require all certified EHR systems to have the capacity to record sexual orientation data,[12] but very few health systems or hospitals report routinely collecting such data.[11] Emergency departments (EDs) are the source of nearly half of inpatient admissions in the United States and the primary point of entry for uninsured and underinsured patients.[13] However, few hospital EDs routinely collect sexual orientation information,[11] and there are currently no evidence-based methods standards to collect these data in a patient-centered manner. Despite the importance of sexual orientation collection for providing high-quality, patient-centered care and the opportunity to collect a large volume of sexual orientation information for LGB disparities research, routine collection of data on sexual orientation in the ED setting is rare, and optimal patient-centered approaches for collecting this information remain unclear.

There is little known about the effect of sexual orientation data collection on patient outcomes; yet, given the importance of sexual orientation to population health[7-9] and clinical care,[14-17] the objectives of this study were (1) to understand the willingness to disclose sexual orientation among patients and willingness to collect sexual orientation data among health care professionals and (2) to identify the optimal patient-centered approach to collecting sexual orientation demographic data in the ED. Every year in the United States, there are more than 130 million ED visits,[18] so the potential impact of routinely collecting sexual orientation information in that setting is great given the high volume of patients.

Key Points

Question How do views about collection of sexual orientation information in the emergency department compare among patients and health care professionals?

Findings In this exploratory, sequential, mixed-methods study of patients and health care professionals, 10.3% of patients reported they would refuse to provide sexual orientation information in the emergency department, whereas 77.8% of health care professionals thought patients would refuse to provide such information when asked in this setting.

Meaning Few patients will refuse to provide sexual orientation information in the emergency department setting in contrast to what most emergency department health care professionals think.

Methods

Overall Study Design

The Emergency Department Query for Patient-Centered Approaches to Sexual Orientation and Gender Identity (EQUALITY) study used an exploratory, sequential, mixed-methods design. In the qualitative first phase, in-depth interviews were conducted with a large sample of patients and ED professionals in the Baltimore, Maryland, and Washington, DC, areas. The results from the qualitative phase informed the development of the quantitative second phase of the study, in which a comprehensive national survey of patients and ED professionals was conducted. A stakeholder advisory board (SAB) consisting of nurses, physicians, researchers, and patients, as well as directors of some of the most influential national and local LGBT (lesbian, gay, bisexual, transgender) advocacy organizations provided feedback and guidance in each phase of the study. Given the highly nuanced considerations surrounding interviews and surveying transgender individuals, the SAB agreed that a separate specialized national survey be devoted to this group, with the results reported in a separate article. The SAB members are listed at the end of this article, and selected minutes from SAB meetings can be found in the eAppendix in the Supplement. A visual representation of the study design is found in eFigure 1 in the Supplement, and further details are available.[19] This study was approved by the Johns Hopkins and Partners Healthcare Institutional Review Boards. Written informed consent was obtained prior to beginning the interviews, and interview participants received a $35 gift card. The survey participants received $10 for completing the survey.

Interview Participants

A purposive sample of participants was recruited for semi-structured, in-depth, 1-on-1 interviews. Patient participants were defined as community members with experience seeking emergency medical care; they were recruited through community outreach, flyers, and social media. Organizations at which active patient recruitment occurred included Equality Maryland, Johns Hopkins Lighthouse, BeSure, B'more Outloud, Sistas of the "T," and Gay, Lesbian, Bisexual, and Transgender Community Center of Baltimore. Patients could express interest in participation through the study website[19] or via a telephone hotline established for recruitment purposes. Some patients also heard about the study through friends or SAB members. Individuals 18 years or older were eligible for study inclusion. Recruitment was designed to ensure approximately equal participation of people who identified as lesbian, gay, bisexual, or heterosexual, with variation in age and race/ethnicity within each stratum and an a priori goal of 10 patients per group. Qualitative data analysis occurred simultaneously with interviews, allowing researchers to continue

recruiting patients until no new themes emerged. Final enrollment was determined by achievement of thematic saturation. Further details regarding patient and clinician recruitment can be found in eTable 1 in the Supplement.

In this qualitative phase, ED professional participants, including physicians, nurses, and advanced practice clinicians, were recruited from 3 community and 2 academic medical centers in the northeastern United States. Interview recruitment was designed to ensure that a variety of staff roles within the ED setting were included, as well as diversity across age and race/ethnicity. Interviews for patients and clinicians were conducted until the point of thematic saturation was reached.

Qualitative Data Collection

Semistructured interview guides were developed a priori and were pilot tested with LGB and straight individuals as well as health care professionals. Interview guides were revised after piloting and throughout the interview process to ensure effective exploration of emergent themes. Interview guides focused on experiences with sexual orientation collection in the ED, barriers and facilitators to sexual orientation collection in the ED, and preferred means of sexual orientation collection in the ED. All gender identity data collected from interview participants were collected via the 2-step method.[20]

Qualitative interviews took place between August 6, 2014, and January 28, 2015. All interviews were conducted in person by 1 of 2 researchers (L.M.K. and R.Y.S.) in a private location, and all interviews were audiorecorded. Interviews lasted between 30 minutes and 2 hours, with most interviews lasting approximately 1 hour. Audio data were deidentified and transcribed verbatim prior to analysis.

Qualitative Data Analysis

Interview data were independently coded by 2 researchers (L.M.K. and R.Y.S.) using the constant comparative method.[21] An iterative coding process was utilized to identify themes. Transcribed interviews were entered into Atlas.TI for analysis.[22] The research team met regularly to discuss any differences in data analysis and ensure consistency. Themes identified in the interviews were used to develop questions for the national survey.

Survey Participants

To obtain a nationally representative sample, an international market research firm was contracted to conduct national surveys of patients and health care professionals. Patient survey participants were recruited through GfK's KnowledgePanel, and provider survey participants were recruited through GfK's Physician Consulting Network. The GfK Knowledge Panel is the largest probability-based survey panel in the United States and has been used for research ranging from climate change[23] to vaccinations.[24,25] GfK recruits members for its KnowledgePanel using random digit dialing and address-based sampling techniques to ensure inclusion of households with landlines, cell phone–only households, and households with and without internet access.[26] After recruitment, GfK provides households without internet access a computer and internet access to be able to participate in surveys. Participants were eligible if they were 18 years or older, lived in the United States, and consented to participate in the online survey. For the health care professional survey, only physicians and nurses who worked in the ED were eligible to participate. Surveys took place between March and April 2015.

Survey Content

Survey content solicited information on the importance of sexual orientation collection, barriers, facilitators, risks and benefits to sexual orientation collection, willingness to disclose/collect sexual orientation information, and preferred methods to disclose/collect sexual orientation information. Survey items were multiple choice, Likert scale, or open-ended. SAB provided guidance on survey item inclusion and wording. All survey items were pilot tested prior to quantitative data collection. The final surveys had 53 questions (patients) and 45 questions (professionals).

Survey content also included questions on the importance of gender identity collection, barriers, facilitators, risks, and benefits as both sexual orientation and gender identity would be routinely collected in the clinical setting. However, due to the nuances of collecting gender identity and feedback from our SAB, these data will be reported separately.

Quantitative Data Analysis

Likert scale survey questions were grouped into 3 categories: agree/strongly agree, neutral, and disagree/strongly disagree. Descriptive statistics of survey items were calculated.

To understand the differences among patients who would refuse to report SO, participants were grouped into 2 categories according to responses to the question, "I would refuse to provide SO." Patient participants who agreed or strongly agreed were categorized as refuse, and patient participants who were neutral, disagreed, or strongly disagreed were categorized as would not refuse. Demographic characteristics of patients who would refuse vs not refuse to provide sexual orientation information in the ED were weighted to be proportionally representative at the level of the US national population using weights specifically provided for this purpose by the survey provider[26] and differences calculated using χ^2 tests. The market research firm that conducted the survey provided the sample weights, which consisted of an equal-probability base sample with poststratification weighting for demographics and final probability proportional to size weighting for the study sample.[26] Using this technique, we were able to approximate associations at the level of the population.

The odds of refusing to provide sexual orientation were calculated using stepwise logistic regression. The primary independent variable was SO, and covariates included in the model were sex, SO, age, educational level, race, marital status, rental status, head of household, work status, and income. All data analyses were completed using Stata, version 13,[27] including the survey suite of commands. All tests were 2-sided, and a P value <.05 was considered significant.

Results

Seventy-nine people participated in the qualitative interviews: 53 patient participants and 26 health care professional

Table 1. Demographics of 79 Interview Participants

Characteristic	No. (%) Patient Participants (n = 53)	Provider Participants (n = 26)
Gender identity		
Cisgender men	16 (30)	9 (35)
Cisgender women	21 (40)	17 (65)
Trans men	3 (6)	0
Trans women	9 (17)	0
Genderqueer/bigender	4 (8)	0
Sexual orientation		
Lesbian	9 (17)	0
Gay	12 (23)	0
Bisexual	12 (23)	0
Queer	2 (4)	0
Straight	14 (26)	26 (100)
Other[a]	4 (8)	0
Race		
White/Caucasian	23 (43)	18 (69)
Black/African American	24 (45)	3 (12)
Asian	5 (9)	4 (15)
Pacific Islander	0	1 (4)
Not listed	1 (2)	0
Ethnicity		
Hispanic/Latino(a)	4 (8)	1 (4)
Not Hispanic/Latino(a)	49 (92)	25 (96)
Highest level of education completed		
High school	7 (13)	NA
Associate degrees/trade school	4 (8)	NA
Some college	6 (11)	NA
Undergraduate degree	17 (32)	NA
Advanced degree	11 (21)	NA
Not listed	8 (15)	NA
Age, y		
<30	15 (28)	6 (23)
30-39	8 (15)	10 (38)
40-49	10 (19)	5 (19)
50-59	14 (26)	2 (8)
≥60	6 (11)	3 (12)

Abbreviation: NA, not applicable. Cisgender refers to a person whose sense of personal identity and gender corresponds with their sex assigned at birth. Transgender refers to a person whose sense of personal identity and gender does not correspond with their sex assigned at birth.

[a] Other category includes participants who reported being pansexual, asexual, or not sure.

participants. Among patient participants, 9 lesbian, 12 gay, 12 bisexual, 2 queer, 14 heterosexual, and 4 patients who identified as "other" participated in the interviews, thus achieving recruitment goals for a diverse representation of SO. All participants who identified as lesbian identified as female, and all participants who identified as gay identified as male. All clinician participants identified as straight. Of patient participants, 45% identified as black/African American, 43% as white/Caucasian, 9% as Asian, and 8% as Hispanic. Most clinician participants identified as white/Caucasian. Full demographic data are found in **Table 1.**

Medical relevance, normalization, and recognition emerged as themes when discussing routine collection of sexual orientation in the ED (**Table 2**). Although clinicians recognized the importance of disclosure of sexual orientation when medically relevant, most patients believed that sexual orientation was always relevant to the ED health care encounter. Many patients stated that sexual orientation was something their health care professional needed to know, and they were willing to provide these data when asked. For example, a bisexual man commented, "[Sexual orientation], like what I eat and how I exercise and stuff…plays a huge part of you know, treating me." A heterosexual man explained, "You've got to ask the questions to everyone because you don't know them."

Lesbian, gay, and bisexual patients recognized the importance of collection of sexual orientation not only for their individual encounters in the ED but also for the societal benefits of recognition and normalization of LGB minorities. Many patients recognized that routine collection of sexual orientation as demographic information facilitates normalization and recognition. A queer female explained what routine collection of sexual orientation suggests: "If you are counted, if you are visible, it is sort of another form of recognition at an institutional level." A gay male echoed the need for institutional and societal recognition: "If the question becomes standard and I think everybody is pushing for those questions to become standard because there are all sorts of things we don't know about the community—the more those questions become standard, the less people will be surprised by them."

Conversely, clinicians valued treating all patients the same and thus often described not needing to know their patients' SO. One ED nurse explained, "If it affected their medical treatment or if it was related to their reason they came to the ED, then I think that was necessary to ask…but if they come here for a cold or if they come here for a laceration…it's none of my business." Similarly, an ED physician assistant stated, "If they come in with a broken toe, then I don't need to know that they're a lesbian." These interviews suggest that, although patients recognize the need for collection of SO, some physicians and nurses may not.

The quantitative patient survey response rate was 70.1%, and the clinician survey response rate was 86.2%. Mean (SD) age of patient and clinician participants was 49 (16.4) and 51 (9.4) years, respectively. Additional demographic data for patients and clinicians are found in **Table 3.** Results from the national survey confirmed the generalizability of the qualitative findings to the national level.

Data on willingness to provide sexual orientation when routinely collected in the ED are presented in **Table 4**. Patients and clinicians would be willing to provide or collect sexual orientation if assured of confidentiality (52.1% and 87.0%, respectively) or a private space (84.2% and 88.2%, respectively). Similarly, if sexual orientation is documented the same as other demographic questions (eg, race and education), 749 patients (49.4%) and 275 clinicians (64.1%) would be willing to provide or collect the data. When asked whether they would be offended if sexual orientation data were routinely collected in the ED, 159 (10.7%) of all patients agreed. In contrast, 342 clinicians (79.8%) thought that patients would be offended if asked their sexual orientation in the ED. Similarly, 333 clinicians (77.8%) thought that patients would refuse

Table 2. Representative Quotations From Qualitative Interviews

Qualitative Theme	Patient Quotations	Clinician Quotations
Medical relevance	Bisexual man, age 59 y: "It's best to know all about it…for us to be on good terms…it's good for [the doctor] to ask that though. I like that." Bisexual man, age 30 y: "It was in the same category as if they asked me does your family have a history of heart disease…or do you have diabetes? It was kind of like just a routine question, and I think that's what helped was the fact that they integrated it into the routine." Heterosexual woman, age 22 y: "I think that [sexual orientation] would be important for the doctor to know just because you're more susceptible to some diseases and the doctor has to know all that."	Nurse, age 46 y: "I don't think sexual orientation should have any or does have any play in it." Physician assistant, age 37 y: "When you're talking about their race and all that, that's something that typically is collected, but I think getting more personal, into their sexual orientation…that's maybe a little too invasive just to collect on everybody." Physician, age 36 y: "I ask because I feel it's clinically relevant for care. I don't say ask all my patients. Because I don't, and I don't think it's always important to know."
Recognition	Gay man, age 26 y: "[Clinicians] understood more or less where I'm coming from or have an ability to relate and discuss [sexual orientation] in a professional manner." Bisexual woman, age 50 y: "You cannot put everybody in…this one category." Queer woman, age 47 y: "When you struggle with invisibility, you look for a sign of yourself anywhere, absolutely anywhere." Bisexual woman, age 23 y: "I think it is just something that is so important to know because it is so integral [to] who a person is, and part of being an effective provider is being able to form that rapport with your patients…form a therapeutic relationship with them."	Nurse, age 56 y: "[Patients are] very eager to educate. It's not confirmation or approval, but acceptance I think is a better word. This is what I am, to understand who I am."
Normalization	Queer transgender male, age 28 y: "We're not asking you this so that we can single you out, and we are asking everyone this because it's important to track data, because it's relevant to your health care." Queer woman, age 27 y: "It really was institutionalized that you can have access to people's bodies and that is fine, and if they didn't matter then it didn't matter what you did to [LGBT people]." Bisexual man, age 30 y: "[Routine collection] basically takes the taboo away from it because I feel like a lot of people don't feel comfortable sharing it because they're worried about how to broach the topic." Bisexual man, age 30 y: "As long as it's routine and it's just kind of like worked in there and it's treated like every other question, then I don't really foresee any reason why it wouldn't be received well."	Physician assistant, age 37 y: "I think [including sexual orientation questions within routine documentation questions] would also be a great idea, only because then the patient doesn't feel like they're getting singled out." Nurse, age 63 y: "I think it's just trying to be compassionate and not judgmental…so I just try to explain that it's just something that we have to ask every patient, you know, it's just part of the documentation." Nurse, age 43 y: "I think if it was standard it would be good because then people would be used to it."

Abbreviation: LGBT, lesbian, gay, bisexual, transgender.

to provide their sexual orientation in the ED; however, only 154 (10.3%) of all patients reported they would refuse to provide such information during an ED health care encounter.

In population-weighted results, 143 (10.1%) straight, 1 (4.8%), lesbian, 3 (12.0%) gay, and 5 (16.4%) bisexual patients would refuse to provide sexual orientation in the ED (**Table 5**); in examining between-group variation in refusal, significant differences were found between straight and bisexual individuals (χ^2 = 5.82; P = .04), gay and lesbian individuals (χ^2 = 8.72; P = .02), and lesbian and bisexual individuals (χ^2 = 16.5; P < .001). No significant differences were found for refusal to provide sexual orientation by age, race, educational level, or marital status. In unadjusted logistic regression, bisexual patients had 1.73 times the odds of refusing to provide sexual orientation compared with straight patients (95% CI, 1.01-2.98; P = .048). Patients aged 60 years or older had 2.19 greater odds of refusing to provide sexual orientation information (95% CI, 1.04-4.62; P = .04). After adjustment for other demographic characteristics, only bisexual patients continued to have significantly increased odds of refusing to provide sexual orientation compared with straight patients (odds ratio, 2.40; 95% CI, 1.26-4.56; P = .008).

Both patients and clinicians indicated nonverbal self-report as their preferred method of sexual orientation information collection (eTable 2 in the Supplement). This preference was supported by the qualitative interviews, in which patients identified normalization and recognition as major facilitators of sexual orientation data collection.

Discussion

The results of this study demonstrate that most Americans are willing to disclose sexual orientation in the ED setting. The nationally representative survey data are supported by in-depth qualitative interviews, which suggest discordance between patient and health care professional views on routine collection of SO; although most clinicians believe that patients will refuse to provide sexual orientation information, few patients reported that they would refuse to provide such information. Routine collection of sexual orientation data from all patients signals normalization of LGB minorities within society, and both patients and clinicians identify nonverbal self-report as the preferred method of collection.

Routine collection of sexual orientation information in the health care setting contributes to normalization of LGB individuals within society[28]; Healthy People 2010 laid out comprehensive recommendations to support health care, education and training, policy and advocacy, and research targeting LGB populations in multiple sectors, including health care and

Table 3. Demographics of Patient and Clinician Survey Participants

Demographics	No. (%)[a]							
	Patients (n = 1516)					Clinicians (n = 429)[b]		
	Lesbian (n = 244)	Gay (n = 289)	Bisexual (n = 179)	Straight (n = 804)	Total (n = 1516)	MD (n = 209)	RN (n = 220)	Total (n = 429)
Women	244 (100)	0	118 (65.7)	418 (52.0)	780 (51.4)	52 (24.7)	199 (90.4)	251 (58.4)
Age, mean (SD), y	50 (15.0)	49 (14.0)	42 (15.1)	50 (17.5)	49 (16.4)	50 (8.9)	51 (9.9)	51 (9.4)
Age, y								
18-29	56.2 (23.0)	55.1 (19.1)	82.2 (45.9)	163.6 (20.4)	357.1 (23.6)	0	20 (8.9)	20 (4.6)
30-44	69.5 (28.5)	85.0 (29.4)	49.4 (27.6)	204.2 (25.4)	408.2 (26.9)	67 (32.3)	59 (26.7)	126 (29.4)
45-59	77.6 (31.8)	107.7 (37.3)	30.9 (17.3)	217.2 (27.0)	433.4 (28.6)	93 (44.5)	114 (51.6)	207 (48.1)
≥60	40.7 (16.7)	41.1 (14.2)	16.4 (9.2)	219.0 (27.2)	317.2 (20.9)	49 (23.3)	28 (12.8)	77 (17.9)
Education								
<High school	23.2 (9.5)	11.4 (3.9)	29.0 (16.2)	93.8 (11.7)	157.4 (10.4)	0	10 (4.7)	10 (2.3)
High school	46.1 (18.9)	71.7 (24.8)	50.1 (28.0)	239.9 (29.8)	407.8 (26.9)	0	56 (25.3)	56 (13.1)
Some college	78.8 (32.3)	95.4 (33.0)	59.2 (33.1)	231.4 (28.8)	464.8 (30.7)	0	117 (53.3)	117 (27.3)
Undergraduate or above	95.9 (39.3)	110.5 (38.2)	40.7 (22.7)	238.8 (29.7)	485.9 (32.0)	209 (100)	37 (16.8)	246 (57.3)
Race/ethnicity								
White, non-Hispanic	145.9 (59.8)	174.7 (60.5)	108.6 (60.7)	536.2 (66.7)	965.4 (63.7)	136 (65.2)	169 (76.7)	305 (71.1)
Black, non-Hispanic	29.7 (12.2)	19.3 (6.7)	20.6 (11.5)	92.5 (11.5)	162.1 (10.7)	3 (1.5)	19 (8.6)	22 (5.1)
Other, non-Hispanic	7.3 (3.0)	15.3 (5.3)	9.5 (5.3)	50.1 (6.2)	82.1 (5.4)	58 (27.6)	19 (8.7)	77 (17.9)
Hispanic	53.5 (21.9)	66.3 (23.0)	35.4 (19.8)	115.5 (14.4)	270.8 (17.9)	10 (4.7)	11 (5.1)	21 (4.9)
≥2 Races, non-Hispanic	7.6 (3.1)	13.3 (4.6)	4.9 (2.7)	9.8 (1.2)	35.6 (2.3)	2 (1.0)	2 (0.9)	4 (0.9)
US region								
Northeast	45.0 (18.4)	52.3 (18.1)	27.1 (15.1)	146.8 (18.3)	271.3 (17.9)	45 (20.4)	50 (24.0)	95 (22.2)
Midwest	39.2 (16.1)	40.0 (13.8)	37.6 (21.0)	174.4 (21.7)	291.2 (19.2)	54 (24.5)	38 (18.3)	92 (21.5)
South	96.6 (39.6)	99.6 (34.5)	62.7 (35.0)	298.2 (37.1)	557.2 (36.8)	77 (35.2)	77 (36.9)	155 (36.0)
West	63.1 (25.9)	97.0 (33.6)	51.5 (28.8)	184.6 (23.0)	396.3 (26.1)	44 (19.9)	43 (20.8)	87 (20.3)
Marital status								
Married	58.9 (24.2)	24.8 (8.6)	52.1 (29.1)	427.9 (53.2)	563.9 (37.2)			
Widowed	2.5 (1.0)	4.3 (1.5)	1.4 (0.8)	35.8 (4.4)	44.0 (2.9)			
Divorced	11.3 (4.6)	8.8 (3.0)	10.4 (5.8)	72.5 (9.0)	103.0 (6.8)			
Separated	5.7 (2.3)	0.3 (0.1)	4.2 (2.3)	18.9 (2.4)	29.1 (1.9)			
Never married	75.8 (31.0)	160.1 (55.4)	74.5 (41.6)	193.4 (24.1)	503.8 (33.2)			
Living with partner	89.8 (36.8)	90.8 (31.4)	36.3 (20.3)	55.4 (6.9)	272.4 (18.0)			

[a] Percentages are weighted.

[b] Empty cells indicate data not obtained.

education.[29] Normalizing collection of sexual orientation information for every patient creates a dialogue between patients and health care professionals[30] and promotes a welcoming, inclusive environment.[31] Whereas there are data to suggest that Asian Americans and Hispanics are more likely to refuse to provide sexual orientation on a public health survey than are non-Hispanic whites,[32] our data suggest no racial or ethnic differences in reporting sexual orientation in the clinical setting. Previous research in community health settings shows that patients think it is important for health care professionals to know their sexual orientation and that they are willing to provide such information when asked.[33] The present study extends these findings to the ED setting, indicating that few patients will be offended or refuse to participate in routine collection of sexual orientation information.

Our data suggest that bisexual individuals are more likely to refuse to provide sexual orientation than are straight individuals, which is in line with previous research.[34] Prior research indicates that bisexual individuals experience higher levels of identity confusion[35] and disclosure events later[36] than lesbian and gay individuals, thus potentially contributing to refusal to disclose sexual orientation in the ED setting. In addition, bisexual individuals have been documented to experience double discrimination, in which both heterosexual and lesbian/gay individuals report higher levels of binegative attitudes than bisexual individuals[37]; thus, bisexual individuals may be less willing to report sexual orientation to fit into those communities without stigma.

Our findings also indicate that lesbian women are less likely to refuse to provide sexual orientation information than are gay men. Evidence on disclosure of sexual orientation to health care professionals among lesbian vs gay individuals is mixed,[38,39] and some researchers theorize that disclosure is more related to sexual identity development than to fear of discrimination.[40] Although not statistically significant, our data also suggest that lesbian women are less likely to refuse to pro-

Table 4. Views on Willingness to Provide Sexual Orientation (SO) Data by Patients and Clinicians

	No. (%)							
	Patients (n = 1516)					Clinicians (n = 429)		
	Lesbian (n = 244)	Gay (n = 289)	Bisexual (n = 179)	Straight (n = 804)	Total (n = 1516)	Nurse (n = 220)	Physician (n = 209)	Total (n = 429)
Willing to provide/collect sexual orientation when								
There are posters or signs welcoming LGB patients								
Somewhat/strongly agree	113.6 (47.3)	154.7 (53.5)	58.2 (32.5)	156.2 (19.8)	482.7 (32.2)	83 (37.7)	69 (33.0)	128 (29.8)
Neutral	90.8 (37.8)	103.8 (35.9)	75.7 (42.3)	462.5 (58.6)	732.8 (48.9)	78 (35.4)	80 (38.3)	158 (36.8)
Somewhat/strongly disagree	35.8 (14.9)	30.5 (10.5)	45.1 (25.2)	170.1 (21.6)	281.5 (18.8)	59 (26.8)	60 (28.7)	143 (33.3)
The hospital is associated with a religious group								
Somewhat/strongly agree	29.3 (12.0)	47.4 (16.4)	18.0 (10.0)	149.8 (18.6)	244.5 (16.1)	26 (11.8)	46 (22.0)	72 (16.8)
Neutral	102.6 (42.0)	113.2 (39.2)	61.6 (34.4)	435.1 (54.1)	712.5 (47.0)	80 (35.4)	88 (42.1)	168 (39.2)
Somewhat/strongly disagree	108.0 (44.3)	128.3 (44.4)	99.5 (55.6)	206.3 (25.7)	542.1 (35.8)	114 (51.8)	75 (35.9)	189 (44.1)
I am assured of confidentiality (that my information will be kept private)								
Somewhat/strongly agree	128.5 (52.6)	188.8 (65.3)	99.4 (55.5)	373.7 (46.5)	790.4 (52.1)	199 (90.4)	178 (85.2)	377 (87.9)
Neutral	90.9 (37.2)	73.2 (25.3)	46.6 (26.0)	334.5 (41.6)	545.1 (36.0)	15 (6.8)	27 (12.9)	42 (9.8)
Somewhat/strongly disagree	20.9 (8.6)	27.0 (9.4)	32.2 (18.0)	84.7 (10.5)	164.9 (10.9)	5 (2.3)	4 (1.9)	9 (2.1)
Other patients can hear or see the response								
Somewhat/strongly agree	47.8 (19.6)	60.8 (21.0)	21.4 (11.9)	162.3 (20.2)	292.2 (19.3)	18 (8.2)	20 (9.6)	38 (8.9)
Neutral	98.5 (40.4)	87.4 (30.2)	62.5 (34.9)	372.8 (46.4)	621.3 (41.0)	16 (7.3)	37 (17.7)	53 (12.3)
Somewhat/strongly Disagree	93.6 (38.4)	140.8 (48.7)	94.0 (52.5)	254.9 (31.7)	583.5 (38.5)	185 (84.1)	151 (72.2)	336 (78.3)
I am in a private space								
Somewhat/strongly agree	141.2 (57.9)	209.8 (72.6)	96.9 (54.1)	354.1 (44.0)	96.9 (54.1)	197 (89.5)	177 (84.7)	374 (87.2)
Neutral	74.5 (30.5)	54.1 (18.7)	49.8 (27.8)	342.3 (42.6)	49.8 (27.8)	17 (7.7)	29 (13.9)	46 (10.7)
Somewhat/strongly disagree	18.9 (7.7)	22.9 (7.9)	32.3 (18.0)	94.3 (11.7)	32.3 (18.0)	6 (2.7)	2 (1.0)	8 (1.9)
Sexual orientation is documented the same as other questions (eg, age, race)								
Somewhat/strongly agree	134.6 (55.1)	181.0 (62.6)	76.4 (42.7)	356.8 (44.4)	748.7 (49.4)	133 (60.4)	142 (67.9)	275 (64.1)
Neutral	86.9 (35.6)	70.4 (24.4)	66.9 (37.4)	342.1 (42.5)	566.4 (37.4)	44 (20.0)	37 (17.7)	81 (18.9)
Somewhat/strongly disagree	18.7 (7.7)	36.4 (12.6)	35.7 (20.0)	89.6 (11.1)	180.4 (11.9)	43 (19.5)	30 (14.3)	73 (17.0)
I/the patient would be offended								
Somewhat/strongly agree	17 (6.9)	36 (12.6)	25 (14)	81 (10.3)	159 (10.7)	185 (84.3)	157 (75.1)	342 (79.8)
Neutral	63 (26.4)	87 (30.3)	71 (40)	316 (40.2)	537 (36.1)	25 (11.4)	43 (20.4)	67 (15.7)
Somewhat/strongly disagree	160 (66.7)	164 (57.1)	82 (46)	389 (49.5)	794 (53.3)	10 (4.4)	10 (4.6)	19 (4.5)
I/the patient would refuse to provide SO								
Somewhat/strongly agree	11.1 (4.6)	34 (11.8)	29 (16)	80 (10.1)	154 (10.3)	180 (82.2)	157 (73.2)	333 (77.8)
Neutral	67.2 (28.0)	88 (30.6)	68 (38)	288 (36.5)	511 (34.2)	31 (14.3)	41 (19.6)	72 (16.9)
Somewhat/strongly disagree	162.0 (67.4)	166 (57.6)	82 (45)	421 (53.4)	830 (55.5)	8 (3.5)	15 (7.2)	23 (5.3)

Abbreviation: LGB, lesbian, gay, bisexual.

vide sexual orientation than are straight individuals. Previous research indicates that LGB individuals think that it is more important to collect sexual orientation information routinely compared with straight individuals[33]; thus, lesbians may be less likely to refuse to provide sexual orientation than straight individuals.

One of the most striking results of this study is the contradictory views of willingness to provide sexual orientation information between patients and clinicians. Given that federal regulations are moving toward requiring hospitals to collect sexual orientation data,[12,41,42] identifying the preferred way to obtain this information among both patients and clinicians is crucial. It is clear that sexual orientation information needs to be asked of every patient, and this study identifies patient preferences for methods of collection. We believe that the next step will be testing different potential approaches for data

Table 5. Nationally Weighted Correlates of Patients' Willingness to Disclose Sexual Orientation

Characteristic	Patients Who Would Refuse vs Not Refuse to Provide Sexual Orientation, No. (%)			Odds of Refusing to Disclose Sexual Orientation (n = 1501)			
				Unadjusted		Adjusted[a]	
	Refuse (n = 152)	Not Refuse (n = 1331)	*P* Value	OR (95% CI)	*P* Value	OR (95% CI)	*P* Value
Sexual orientation							
Straight	143.5 (10.1)	1271.0 (89.9)	.049	1 [Reference]		1 [Reference]	
Lesbian	0.5 (4.8)	9.7 (95.1)		0.44 (0.21-0.92)	.03	0.44 (0.18-1.04)	.06
Gay	3.1 (12.0)	22.8 (88.0)		1.19 (0.69-2.07)	.53	1.43 (0.71-2.88)	.31
Bisexual	5.4 (16.4)	27.6 (83.6)		1.73 (1.01-2.98)	.048	2.40 (1.26-4.56)	.008
Age, y							
18-29	20.0 (6.5)	288.3 (93.5)	.23	1 [Reference]		1 [Reference]	
30-44	39.0 (10.3)	341.3 (89.7)		1.65 (0.74-3.68)	.22	1.29 (0.57-2.92)	.54
45-59	41.2 (10.3)	359.2 (89.7)		1.66 (0.74-3.68)	.22	1.38 (0.62-3.08)	.43
≥60	52.1 (13.2)	342.7 (86.8)		2.19 (1.04-4.62)	.04	1.77 (0.71-4.43)	.22
Education							
<High school	23.2 (14.2)	139.7 (85.8)	.40	1 [Reference]		1 [Reference]	
High school	33.8 (7.8)	400.3 (92.2)		0.51 (0.22-1.19)	.12	0.54 (0.20-1.47)	.23
Some college	45.9 (10.5)	392.1 (89.5)		0.71 (0.31-1.59)	.40	0.82 (0.31-2.19)	.69
Undergraduate degree	49.5 (11.0)	399.2 (89.0)		0.75 (0.33-1.67)	.48	0.88 (0.32-2.42)	.80
Race/ethnicity							
White, non-Hispanic	108.5 (10.8)	897.4 (89.2)	.53	1 [Reference]		1 [Reference]	
Black, non-Hispanic	13.4 (7.8)	157.7 (92.2)		0.70 (0.31-1.61)	.40	0.72 (0.28-1.85)	.50
Other, non-Hispanic	4.0 (4.7)	82.2 (95.3)		0.40 (0.07-2.50)	.33	0.38 (0.05-2.84)	.34
Hispanic	25.6 (12.6)	177.5 (87.4)		1.19 (0.57-2.48)	.64	1.44 (0.64-3.24)	.37
≥2 Races	0.9 (5.2)	16.5 (94.7)		0.47 (0.13-1.67)	.24	0.37 (0.09-1.52)	.17
Marital status							
Married	88.3 (11.4)	685.2 (88.6)	.40	1 [Reference]		1 [Reference]	
Widowed	9.5 (16.0)	50.2 (84.0)		1.50 (0.55-3.98)	.44	1.32 (0.44-4.00)	.62
Divorced	13.8 (10.7)	114.4 (89.2)		0.93 (0.41-2.14)	.87	0.84 (0.32-2.17)	.71
Separated	3.9 (11.5)	30.1 (88.5)		1.01 (0.27-3.70)	.99	1.00 (0.23-4.24)	.99
Never married	23.7 (6.4)	346.0 (93.6)		0.53 (0.28-1.03)	.06	0.65 (0.34-1.26)	.21
Living with partner	13.1 (11.1)	105.4 (88.9)		0.97 (0.41-2.29)	.94	1.01 (0.41-2.46)	.99

Abbreviation: OR, odds ratio.

[a] Adjusted for sexual orientation, age, educational level, race, marital status, rental status, head of household, work status, and income.

collection. A trial aimed at doing this is presently under way as part of the EQUALITY study.

Findings from this trial will be especially pertinent as health centers around the country prepare for routine collection of sexual orientation information. Effective implementation of sexual orientation collection will require careful examination of confidentiality, standardization of collection, method of data collection, and cultural competency and training.[43] The implementation of Meaningful Use Stage 3 guidelines will mean that any hospital system using a certified EHR will have the capacity to record sexual orientation data,[12] thus easing routine collection. Many EDs and hospitals are moving away from paper-based records, providing an opportunity to incorporate electronic tablets into patient care that integrate directly with the EHR. Thus, when a patient registers for care, they could provide sexual orientation as part of demographic information on an electronic tablet, which populates into the EHR that the clinical team uses.

By not routinely asking patients for their sexual orientation information, clinicians may be alienating approximately 3% to 10% of the US population.[9] In fact, the importance of normalization and equality for the LGB community[44] was a central tenet in the US Supreme Court decision legalizing gay marriage. It appears that society is ready for change in practice to promote such normalization and inclusion of LGB patients. A key component to support changing practice toward routine sexual orientation data collection will be education and training of nurses, physicians, and other staff; several health and LGBT organizations are already leading the way with resources and trainings for this purpose.[45]

Limitations and Strengths

This study has several limitations. First, the qualitative interview sample was from only 1 region of the United States; however, the interviews informed the development of the survey, which confirmed the interview themes in a large, national survey sample. In addition, SAB members provided valuable feedback on both interview and survey questions and results. Second, there is an inability to easily compare patient and clinician survey results with statistical tests owing to differing sampling weights. Finally, the study

was unable to discern how patients respond when actively asked sexual orientation information in the clinical setting.

This study also has a number of strengths. To our knowledge, this is the first study to compare patients' and clinicians' views of routine collection of sexual orientation information. In addition, both the interview and survey samples contain participants of varying age, race, and ethnicity, and the survey participants live in all regions of the United States, thus contributing to the generalizability of the results. Finally, the mixed methods design provides robust data that could not be captured by qualitative or quantitative methods alone.

Conclusions

Routine collection of data on sexual orientation is important not only for individual patients but also for normalization of LGB individuals within the broader society. This research shows that patients are willing to be asked for such information, are not likely to take offense, and prefer nonverbal collection methods. Routine collection of sexual orientation information in health care is on the horizon[46,47] and is necessary to improve health disparities and clinical care for LGB patients. Identifying patient-centered ways to collect this information is imperative to create a welcoming and inclusive environment for all patients.

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REFERENCES

1. Ranji U, Beamesderfer A, Kates J, Salganicoff A. *Health and Access to Care and Coverage for Lesbian, Gay, Bisexual, and Transgender Individuals in the US*. Menlo Park, CA: Kaiser Family Foundation; 2015.

2. Operario D, Gamarel KE, Grin BM, et al. Sexual minority health disparities in adult men and women in the United States: National Health and Nutrition Examination Survey, 2001-2010. *Am J Public Health*. 2015;105(10):e27-e34.

3. Buchmueller T, Carpenter CS. Disparities in health insurance coverage, access, and outcomes for individuals in same-sex versus different-sex relationships, 2000-2007. *Am J Public Health*. 2010;100(3):489-495.

4. Robertson MM. Lesbians as an invisible minority in the health services arena. *Health Care Women Int*. 1992;13(2):155-163.

5. Gates GJ. How many people are lesbian, gay, bisexual, and transgender? http://williamsinstitute.law.ucla.edu/wp-content/uploads/Gates-How-Many-People-LGBT-Apr-2011.pdf. Published April 2011. Accessed August 3, 2016.

6. The Joint Commission. Advancing effective communication, cultural competence, and patient-and family-centered care for the lesbian, gay, bisexual, and transgender (LGBT): a field guide. https://www.jointcommission.org/lgbt/. Published April 3, 2014. Accessed February 19, 2016.

7. HealthyPeople.gov. Healthy People 2020. Lesbian, gay, bisexual, and transgender health. http://www.healthypeople.gov/2020/topics-objectives/topic/lesbian-gay-bisexual-and-transgender-health/objectives. Updated March 10, 2017. Accessed February 19, 2016.

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

9. Ward BW, Dahlhamer JM, Galinsky AM, Joestl SS. Sexual orientation and health among U.S. adults: National Health Interview Survey, 2013. *Natl Health Stat Report*. 2014;(77):1-10.

10. Daniel H, Butkus R; Health and Public Policy Committee of American College of Physicians. Lesbian, gay, bisexual, and transgender health disparities: executive summary of a policy position paper from the American College of Physicians. *Ann Intern Med*. 2015;163(2):135-137.

11. Alper J, Feit M, Sanders J. *Collecting Sexual Orientation and Gender Identity Data in Electronic Health Records: Workshop Summary*. Washington, DC: National Academies Press; 2013.

12. Office of the National Coordinator for Health Information Technology (ONC), Department of Health and Human Services (HHS). 2015 Edition health information technology (health IT) certification criteria, 2015 edition base electronic health record (EHR) definition, and ONC health IT certification program modifications: final rule. *Fed Regist*. 2015;80(200):62601-62759.

13. Gonzalez Morganti K, Bauhoff S, Blanchard J, et al. The evolving role of emergency departments in the United States. Santa Monica, CA: RAND Corp. http://www.rand.org/content/dam/rand/pubs/research_reports/RR200/RR280/RAND_RR280.appendix.pdf. Published 2013. Accessed March 27, 2017.

14. Hanlan KAO, Cabaj RP, Schatz B, Lock J, Nemrow P. A review of the medical consequences of homophobia with suggestions for resolution. *J Gay Lesbian Med Assoc*. 1997;1(1):25-39.

15. Schilder AJ, Kennedy C, Goldstone IL, Ogden RD, Hogg RS, O'Shaughnessy MV. "Being dealt with as a whole person": care seeking and adherence—the benefits of culturally competent care. *Soc Sci Med*. 2001;52(11):1643-1659.

16. Hutchinson MK, Thompson AC, Cederbaum JA. Multisystem factors contributing to disparities in preventive health care among lesbian women. *J Obstet Gynecol Neonatal Nurs*. 2006;35(3):393-402.

17. Bradford J, Cahill S, Grasso C, Makadon H. *How to Gather Data on Sexual Orientation and Gender Identity in Clinical Settings*. Boston, MA: The Fenway Institute; 2012.

18. Agency for Healthcare Research and Quality, HCUPnet. Information on ED visits from the HCUP Nationwide Emergency Department Sample (NEDS). https://www.hcup-us.ahrq.gov/nedsoverview.jsp. Published 2013. Accessed March 25, 2016.

19. The Equality Study. http://www.equalitystudy.com. Published 2016. Accessed March 25, 2016.

20. GenIUSS. Gender-related measures overview. Los Angeles. http://williamsinstitute.law.ucla.edu/wp-content/uploads/GenIUSS-Gender-related-Question-Overview.pdf. Published February 2013. Accessed September 10, 2016.

21. Creswell JW. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Los Angeles, California: Sage Publications; 2013.

22. Friese S. *ATLAS.TI 7 Quick Tour*. Scientific Software Development; 2012:1-73. http://atlasti.com/wp-content/uploads/2014/05/QuickTour_a7_en_07.pdf. Accessed September 9, 2016.

23. Akerlof K, Debono R, Berry P, et al. Public perceptions of climate change as a human health risk: surveys of the United States, Canada and Malta. *Int J Environ Res Public Health*. 2010;7(6):2559-2606.

24. Harris KM, Maurer J, Kellermann AL. Influenza vaccine—safe, effective, and mistrusted. *N Engl J Med*. 2010;363(23):2183-2185.

25. Harris K, Maurer J, Black C, et al; Centers for Disease Control and Prevention (CDC). Interim results: influenza A (H1N1) 2009 monovalent and seasonal influenza vaccination coverage among health-care personnel—United States, August 2009-January 2010. *MMWR Morb Mortal Wkly Rep*. 2010;59(12):357-362.

26. Park M. KnowledgePanel design summary: GfK. http://www.knowledgenetworks.com/ganp/docs/KnowledgePanel(R)-Design-Summary.pdf. Updated 2012. Accessed July 10, 2016.

27. StataCorp. Stata statistical software: release 13. 2013. http://www.stata.com/support/faqs/resources/citing-software-documentation-faqs/. Accessed February 19, 2016.

28. New York Association of Psychiatric Rehabilitation Services, Inc. HHC to adopt mandatory cultural competency training to improve health of LGBT New Yorkers. http://www.nyaprs.org/e-news-bulletins/2011/2011-07-05-HHC-to-Adopt-Mandatory-Cultural-Competence-Training.cfm. Published July 6, 2011. Accessed September 10, 2016.

29. Gay and Lesbian Medical Association. Healthy People 2010: companion document for lesbian, gay, bisexual, and transgender (LGBT) health. San Francisco, CA. http://www.glma.org/_data/n_0001/resources/live/HealthyCompanionDoc3.pdf. Accessed July 10, 2016.

30. Makadon HJ. Ending LGBT invisibility in health care: the first step in ensuring equitable care. *Cleve Clin J Med*. 2011;78(4):220-224.

31. Mansh M, Garcia G, Lunn MR. From patients to providers: changing the culture in medicine toward sexual and gender minorities. *Acad Med*. 2015;90(5):574-580.

32. Kim HJ, Fredriksen-Goldsen KI. Nonresponse to a question on self-identified sexual orientation in a public health survey and its relationship to race and ethnicity. *Am J Public Health*. 2013;103(1):67-69.

33. Cahill S, Singal R, Grasso C, King D, Mayer K. Do ask, do tell: high levels of acceptability by patients of routine collection of sexual orientation and gender identity data in four diverse American community. *PLoS One*. 2014;9(9):e107104.

34. Durso LE, Meyer IH. Patterns and predictors of disclosure of sexual orientation to healthcare providers among lesbians, gay men, and bisexuals. *Sex Res Social Policy*. 2013;10(1):35-42.

35. Balsam KF, Mohr JJ. Adaptation to sexual orientation stigma: a comparison of bisexual and lesbian/gay adults. *J Counsel Psychol*. 2007;54(3):306-319.

36. Martos A, Nezhad S, Meyer IH. Variations in sexual identity milestones among lesbians, gay men and bisexuals. *Sex Res Social Policy*. 2015;12(1):24-33.

37. Friedman MR, Dodge B, Schick V, et al. From bias to bisexual health disparities: attitudes toward bisexual men and women in the United States. *LGBT Health*. 2014;1(4):309-318.

38. Eliason MJ, Schope R. Does "don't ask don't tell" apply to health care? lesbian, gay, and bisexual people's disclosure to health care providers. *J Gay Lesbian Med Assoc*. 2001;5(4):125-134.

39. Klitzman RL, Greenberg JD. Patterns of communication between gay and lesbian patients and their health care providers. *J Homosex*. 2002;42(4):65-75.

40. Durso LE, Baker K, Cray A. LGBT communities and the Affordable Care Act: findings from a national survey. Washington, DC: Center for American Progress. https://www.americanprogress.org/wp-content/uploads/2013/10/LGBT-ACAsurvey-brief1.pdf. Published October 10, 2013. Accessed March 27, 2017.

41. Health Resources and Services Administration. Program assistance letter. https://bphc.hrsa.gov/datareporting/pdf/pal201602.pdf. Published March 22, 2016. Accessed October 10, 2016.

42. Centers for Medicare & Medicaid Services, Office of Minority Health. The CMS Equity Plan for improving quality of Medicare. https://www.cms.gov/About-CMS/Agency-Information/OMH/OMH_Dwnld-CMS_EquityPlanforMedicare_090615.pdf. Published September 2015. Accessed July 10, 2016.

43. German D, Kodadek L, Shields R, et al. Implementing sexual orientation and gender identity data collection in emergency departments: patient and staff perspectives. *LGBT Health*. 2016;3(6):416-423.

44. *Obergefell v Hodges*, 14-556 US 1,22 (2015).

45. National LGBT Health Education Center. Collecting sexual orientation and gender identity data. http://www.lgbthealtheducation.org/topic/sogi/. Published April 5, 2016. Accessed June 21, 2016.

46. Cahill S, Makadon HJ. Sexual orientation and gender identity data collection update: US government takes steps to promote sexual orientation and gender identity data collection through meaningful use guidelines. *LGBT Health*. 2014;1(3):157-160.

47. Cahill SR, Baker K, Deutsch MB, Keatley J, Makadon HJ. Inclusion of sexual orientation and gender identity in Stage 3 Meaningful Use guidelines: a huge step forward for LGBT health. *LGBT Health*. 2016;3(2):100-102.