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Using Ancillary Sociodemographic Data to Identify Sexual Minority Adults Among Those Responding "Something Else" or "Don't Know" to Sexual Orientation Questions

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Abstract

Background: General population surveys are increasingly offering broader response options for questions on sexual orientation—for example, not only gay or lesbian, but also "something else" (SE) and "don't know" (DK). However, these additional response options are potentially confusing for those who may not know what the terms mean. Researchers studying sexual orientation-based disparities face difficult methodological trade-offs regarding how best to classify respondents identifying with the SE and DK categories.

Objectives: Develop respondent-level probabilities of sexual minority orientation without excluding or misclassifying the potentially ambiguous SE and DK responses. Compare 3 increasingly inclusive analytic approaches for estimating health disparities using a single item: (a) omitting SE and DK respondents; (b) classifying SE as sexual minority and omitting DK; and (c) a new approach classifying only SE and DK respondents with > 50% predicted probabilities of being sexual minorities as sexual minority.

Materials and Methods: We used the sociodemographic information and follow-up questions for SE and DK respondents in the 2013–2014 National Health Interview Survey to generate predicted probabilities of identifying as a sexual minority adult.

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Results: About 94% of the 144 SE respondents and 20% of the 310 DK respondents were predicted to identify as a sexual minority adult, with higher probabilities for younger, wealthier, non-Hispanic white, and urban-dwelling respondents. Using a more specific definition of sexual minority orientation improved the precision of health and health care disparity estimates.

Conclusions: Predicted probabilities of sexual minority orientation may be used in this and other surveys to improve representation and categorization of those who identify as a sexual minority adult.

Keywords

sexual orientation; health disparities; indirect estimation

To improve the health, safety, and well-being of sexual minority people (generally those who self-identify as gay, lesbian, or bisexual) and gender minority people (those whose gender identity is different than their sex assigned at birth[1]), Healthy People 2020 called for more population-based surveys to add a standardized set of questions to help identify sexual minority populations.[2] Given the differences noted between sexual and gender minority populations in Healthy People 2020 and elsewhere,[3] we focus here on those who identify as a sexual minority.

Until recently, population-based monitoring of health and health care disparities among sexual minority adults compared with their heterosexual peers had been limited, as few nationally representative surveys collected this information.[4,5] The National Health Interview Survey (NHIS)—a gold-standard, population-based health survey—has incorporated sexual orientation since 2013, providing methodological and substantive information about the health of sexual minority adults.

Items in population-based surveys must balance the need for response options to capture multiple sexual minority groups with the need to minimize confusion among respondents. Measuring sexual minority orientation in population surveys may result in misclassification when categories such as “something else” (SE) and “don’t know” (DK) are omitted. However, while such response options are needed to better capture a range of identities, they may be unfamiliar to some respondents.

Although some standard response options clearly map sexual minority categories (eg, “bisexual,” “lesbian”), other response options may or may not indicate sexual minority orientation for respondents who are unfamiliar with the category names[6,7] or whose preferred response option does not appear. In highly specialized surveys administered to samples that represent a large proportion of sexual minorities,[8,9] it is possible to include labels such as “queer” or “asexual.” In general population surveys, nonspecific sexual orientation response categories may help include sexual minority respondents who identify with such lower-prevalence categories, including not knowing what their sexual identity is, not having a sexual identity, or not identifying with any label.[10] Many general population surveys, including the NHIS and at least 7 other federal surveys,[11] use the SE and DK response categories to be inclusive of these diverse options. The proportion of sexual minority adults who do not self-identify as “gay,” “lesbian,” or “bisexual,” and therefore

might benefit from SE and DK options, is increasing, with related terminology rapidly evolving and diversifying.[12,13] Thus, it is important to learn how best to treat these potentially ambiguous response options; appropriately doing so would improve the validity and precision of estimates for groups with small sample sizes.[14]

APPROACHES TO ANALYZING SE AND DK RESPONSES

In some cases, it may be feasible to analyze SE and DK responses with follow-up questions that ask what such responses mean,[15] as was done with the 2013–2014 NHIS, but not in subsequent years. Since follow-up questions apply to a small number of respondents and assignment to sexual orientation categories is not automatable due to the diversity of responses, each response must be individually reviewed and classified. Nonetheless, the NHIS may inform approaches for large surveys that use a single item without follow-up, including later NHIS surveys.

In this paper, we describe and consider the statistical properties of 3 analytic approaches to identifying sexual minority adults using SE and DK response options: (a) exclusion of SE and DK responses, (b) classifying only those who respond SE as sexual minorities, and (c) a new approach that uses probabilities that incorporate ancillary information on sociodemographics.

The most common approach is to exclude ambiguous (SE, DK) cases.[4,16–19] This approach assumes SE and DK responses do not provide useful information about sexual minority orientation. Excluding those who provide ambiguous responses may, however, underestimate the sexual minority population and bias measures of disparities by sexual orientation.

A second approach is to classify SE respondents as sexual minorities and exclude those who answer DK.[20] Previous NHIS research established that SE respondents are primarily sexual minorities, while fewer than half of DK respondents are sexual minorities.[15] Using the second approach assumes that everyone who answers SE has an equal 100% probability of identifying as a sexual minority and that everyone who answers DK is unlikely to identify as a sexual minority. However, someone who has a detailed understanding of sexual orientation categories might choose DK to indicate that they are familiar with the response options but are undecided.[10,15,21,22] In contrast, someone who is unfamiliar with terms, including “straight, that is, not lesbian or gay,”[19] might instead choose SE because the other response options are unfamiliar to them.

We propose a third approach which may identify sexual minorities with greater precision: modeling the probability that SE and DK respondents identify as sexual minorities based on other known information about them. Specifically, we estimate the probability of identifying as a sexual minority based on ancillary sociodemographic information. Awareness of diverse sexual orientations has increased in recent cohorts, which may affect understanding and use of sexual minority labels across age groups.[23] For example, because of cohort differences, an 80-year-old who responds SE might be less likely to be a sexual minority than a 20-year-old who responds DK.[24] Such awareness may also vary by race and ethnicity. For example, in one study, racial and ethnic minorities more often responded “not sure or don’t know”

after being asked their sexual orientation[25] than non-Hispanic whites. Another study found that less-educated and Hispanic respondents, particularly those completing the survey in Spanish, were less familiar with the sexual orientation categories.[14] Further, subsequent cognitive interviews showed some transgender and racial/ethnic minority respondents rejected traditional terms to describe their sexual orientation, highlighting particular challenges faced by specific subgroups of respondents.[10]

MATERIALS AND METHODS

Using NHIS survey data, we compared 3 analytic strategies for using SE and DK responses to estimate health disparities for sexual minorities. Specifically, using the single NHIS sexual orientation item, we tested the following 3 analytic approaches: (1) omitting SE and DK respondents; (2) classifying SE respondents as sexual minorities and omitting DK respondents; and (3) classifying those with > 50% predicted probabilities of being sexual minorities as "sexual minority" and the remainder as "heterosexual." The new third approach requires the 2-part sexual orientation question asked only in the 2013–2014 NHIS. The follow-up portion of this 2-part question requires special access by the National Center for Health Statistics and is not publicly available. This third approach supports automated classification of SE and DK respondents, even on surveys that do not field the follow-up question and can be used to estimate health disparities between people who identify as sexual minority and as heterosexual. This proposed analytic approach is analogous to an indirect estimation technique that converts ancillary information on surname and address to improve predicted probabilities of race/ethnicity.[26,27]

NHIS

We used data from the 2013 and 2014 NHIS, a nationally representative, multipurpose household health survey that serves as the primary source of health data on the civilian, noninstitutionalized US population. Using a multistage area probability sample design, data are collected continuously throughout the year by computer-assisted personal interviewing (with telephone interviewing to complete missing portions).

We drew analytic variables from the NHIS Household Composition, Family Core, and Sample Adult Core modules. The Household Composition module includes basic demographic and relationship information on all household residents, while the Family Core module collects sociodemographic and health information on all family members. In addition, 1 "sample adult" aged 18 or older from each family is randomly selected to complete the Sample Adult module, answering for themselves unless physically or mentally unable to do so (in which case a knowledgeable family member serves as a proxy respondent). The main sexual orientation question and follow-up questions to SE and DK responses appear in this Sample Adult Core module.

Data in this study were from 71,254 sample adults (aged ≥18 y) and are representative of the US adult civilian, non-institutionalized population. Final response rates for the Sample Adult modules were 61.2% (2013) and 58.9% (2014).[28,29]

The institutional review board at RAND found this study to be exempt from review.

Two-part Sexual Orientation Question

Respondents were asked “Which of the following best represents how you think of yourself?” For men, the response options were “gay,” “straight, that is, not gay,” “bisexual,” SE, and DK. For women, the response options were “lesbian or gay,” “straight, that is, not lesbian or gay,” “bisexual,” SE, and DK. Respondents who answered SE were asked a follow-up question, “What do you mean by something else?” Response options were “you are not straight, but identify with another label such as queer, omnisexual, or pansexual,” “you are transgender, transsexual, or gender variant,” “you have not figured out or are in the process of figuring out your sexuality,” “you do not think of yourself as having sexuality,” “you do not use labels to identify yourself,” and “you mean something else.” Respondents who answered DK were asked a follow-up question, “What do you mean by don’t know?” The response options were “you don’t understand the words,” “you understand the words, but you have not figured out or are in the process of figuring out your sexuality,” and “you mean something else.” Respondents who answered, “you mean something else” to either question could then give a free-text response. For adults who answered SE or DK to the initial (main) sexual orientation questions, we assigned each possible follow-up response to sexual minority orientation (1 = sexual minority; 0 = other; Table 1).

Sociodemographic Characteristics

Age, race and ethnicity, educational attainment, poverty status, and urbanicity were included in the analysis; category formation was informed by limited sample sizes. Age was categorized into the following groups: 18–24, 25–54, 55–74, and 75 and over. For race and ethnicity, the categories were Hispanic, non-Hispanic white, and non-Hispanic other. Educational attainment was categorized as less than high school degree, high school diploma/GED/missing, and greater than high school degree. Poverty status was defined according to the ratio of a family’s total income to the federal poverty level (FPL). Ratios were categorized as poor (< 100% of FPL), not poor (≥ 100% of FPL), and missing (if poverty status could not be determined). Urbanicity was dichotomized as residing in the central city of a metropolitan statistical area (MSA) versus residing in a noncentral city of an MSA or not in an MSA.

Health Indicators

To describe the precision and potential bias of alternative methodological approaches to including the SE and DK response options when estimating health disparities by sexual minority orientation, we examined health measures for which there are known disparities by sexual orientation:[3] 3 health-related behaviors [current cigarette smoking, heavy drinking day(s) in the past year, met federal guidelines for aerobic physical exercise based on leisure-time activity], 3 health status indicators (excellent or very good health status, serious psychological distress in the past 30 d, obesity), 2 health care service utilization indicators (received influenza vaccine during past year, ever tested for human immunodeficiency virus [HIV]), and 5 health care access indicators (has a usual place of care, failed to obtain needed care due to cost, currently uninsured, current public health plan coverage, and current private health plan coverage).

Prediction Model

To build the model that predicts whether an adult who answered SE or DK to the initial (main) sexual orientation question identifies as a sexual minority, we predicted sexual minority orientation (as defined by the classified follow-up response) from the following covariates: an SE indicator (vs. DK) derived from responses to the initial sexual orientation question, age, sex, race/ethnicity, education, poverty status, and urbanicity. Because the effects of the sociodemographic measures for SE and DK are likely to differ, we included the interactions of the SE indicator with each of the other sociodemographic indicators. Next, we generated predicted probabilities of identifying as a sexual minority for each respondent who answered SE or DK to the initial sexual orientation question. People with ≤ 50% predicted probability were classified as heterosexual and those with > 50% predicted probability as sexual minority.

Comparison of Alternative SE/DK Analytic Approaches

We calculated prevalence estimates and SEs for each of 13 health-related indicators unadjusted and adjusted (for all sociodemographic characteristics listed in Table 2) for adults who identified as sexual minority and for those who identified as heterosexual using each of 3 approaches. The first approach omitted those who responded SE or DK. The second approach classified all SEs as sexual minorities but omitted those who responded DK. The third approach classified SE or DK respondents based on their predicted probabilities of being sexual minorities as described in the previous paragraph.

All analyses were conducted using SAS-callable SUDAAN 11.0.1 or SAS Survey Procedures (version 9.4) to account for NHIS's stratified, complex cluster sampling design. Estimates incorporated the final sample adult weights adjusted for nonresponse and calibrated to population control totals to enable generalizability to the civilian noninstitutionalized population aged 18 years or above.

RESULTS

Characterizing Respondents Based on Answer to Primary Sexual Orientation Question

Table 2 shows demographic characteristics by sexual orientation, based on responses to the main sexual orientation item. Thirty-one percent of adults who identified as SE were young (ages 18–24), most were non-Hispanic white (60%) or non-Hispanic other (30%), and most had education greater than a high school degree (63%). About half of SE respondents lived in the central city of an MSA (52%), and 29% were in poverty. Compared with their heterosexual peers, SE respondents tended to be younger and more likely to identify as non-Hispanic other. SE respondents were generally more like bisexual respondents than like gay/lesbian respondents.

About half of adults who identified as DK were ages 25–54 and about half were Hispanic or non-Hispanic other. About one third (32%) did not complete high school and about one quarter (24%) were poor. Compared with their heterosexual peers, DK respondents tended to have lower income and educational attainment and more often identified as Hispanic. Compared with their sexual minority counterparts, DK respondents had lower educational

attainment, were less likely to live in urban areas, and were more likely to be Hispanic than their gay/lesbian peers. Compared with DK respondents, SE respondents tended to be younger, higher in education, and less likely to be Hispanic.

Using the Follow-up Items to Classify SE and DK Respondents and Sexual Minority Adults

Table 1 shows the assignment of follow-up responses to sexual minority or other categories, among those who initially responded SE or DK. Among those classified as sexual minorities, the most common explanations for responding SE or DK to the primary sexual orientation question were “in the process of figuring out your sexual orientation” (37%), “do not use labels” (27%), “do not think of yourself as having sexuality” (12%), “identify with another label” (7%), “something else” (7%), and “transgender, transsexual, or gender variant” (5%). Among those who were not classified as sexual minorities, the most common explanations for responding SE or DK to the primary question were “don’t understand the words” (45%) and refusal to answer (32%).

Predicting Sexual Minority Orientation

As shown in Table 3, the main effects suggest that the odds of being a sexual minority were higher for adults who responded SE (vs. DK) and, among DK respondents (to whom the main effects apply), highest for 25–54 year olds, non-Hispanic white adults, men, those who were not poor, and those in urban locations. The table within Supplemental Digital Content 1 (http://links.lww.com/MLR/B844) presents the results from Table 3 in a form that can be used to obtain predicted probabilities.

Interaction terms also indicate that the association between SE (vs. DK) and sexual minority orientation was more positive for those aged 18–24 years, for non-Hispanic others, and for those with less than a high school diploma.

Next, we classified all who initially responded SE or DK as identifying as sexual minority or heterosexual based on the predicted probabilities. Table 4 characterizes the 2 resulting groups. Respondents with > 0.50 predicted probability of being sexual minority were more often aged 18–24 years, non-Hispanic white, not poor, in the central city of an MSA, and with higher education. Although only 20% of DK respondents were classified as sexual minorities (vs. 94% of SE respondents, results not shown), because DK responses were more common than SE responses, DK respondents constituted 31% of sexual minorities who responded SE or DK.

A total of 197 SE and DK respondents were classified as sexual minorities based on a predicted probability of > 0.50; when combined with the 1664 gay, lesbian, and bisexual respondents, this suggests that 11% of sexual minorities may use SE and DK responses. Table shows variation in this percentage by demographic characteristics (Supplemental Digital Content 2, http://links.lww.com/MLR/B845). Approximately 20% of sexual minorities without a high school diploma used DK or SE responses.

Comparison of 3 Automatable Strategies for Assigning SE/DK Cases to Sexual Minority

Table 5 compares the point estimates and SEs for selected health indicators of those who identified as heterosexual and as sexual minority, using 3 definitions of sexual minority orientation. Estimates based on analytic approach (a) excluded those who responded SE or DK; approach (b) classified all SE responses as sexual minorities and excluded those responding DK; and approach (c) classified those with > 50% predicted probabilities who initially responded SE or DK as sexual minorities.

In general, alternative definitions of sexual minority orientation had modest effects on the point estimates and increased precision by reducing SEs. The absolute change in point estimate when using approach (b) versus approach (a) (SE inclusion vs. exclusion) exceeded 1.0 percentage points in 3 instances, with the largest difference (−1.4 percentage points) observed forever tested for HIV (adjusted). The change in point estimate was 0.5–0.9 percentage points in 6 instances (unadjusted heavy drinking, adjusted met federal guidelines for leisure-time physical activity, both unadjusted and adjusted excellent/very good physical health, unadjusted serious psychological distress, and both unadjusted and adjusted influenza vaccination). The change in point estimates was <0.5 percentage points for 13 of 26 instances. Approach (c) versus approach (a) differences (probabilities vs. exclusion) tended to be larger and in the same direction as the (b) versus (a) differences, with differences exceeding 1.0 percentage points in 6 of 26 instances, 0.5–1.0 percentage points in 9 of 26 instances, and <0.5 percentage points in the remaining 11 instances. The largest difference using approach (c) was −1.9 percentage points for adjusted ever tested for HIV indicator.

The last 2 columns in Table 5 show the change in SEs associated with using the 3 approaches. In all but 2 instances (unadjusted experienced psychological distress and unadjusted currently uninsured), the use of more precise definitions reduced the SE, thereby improving the precision of the point estimates and their differences.

DISCUSSION

In a population-level survey, asking specialized questions about sexual orientation with many inclusive response options is challenging because respondents are often unfamiliar with less common response options. This leads survey designers to include ambiguous terms, such as SE or DK, which are meant to be inclusive. The increasing diversity of sexual orientation labels in recent years means the use of these ambiguous responses and the magnitude of their effect on the measurement of health disparities by sexual orientation may increase.

Earlier analyses[15] found that people who identified as SE were more likely to identify as sexual minority than those who responded DK. We extended this work and found that SE is used more by young, poor, urban, and non-Hispanic other race respondents, and is endorsed less often than DK, which is used most often by older, poor, racial/ethnic minority respondents with less educational attainment.

Both an earlier approach,[15] which classifies SE but not DK as sexual minorities, and our new approach, which incorporates sociodemographic information and classifies SE and DK cases with predicted probabilities > 0.50 as sexual minorities, increase the precision of health estimates for sexual minorities by increasing the sample size for those groups. In addition, the probability-based approach better predicts identification as a sexual minority (by incorporating sociodemographic variables) than does using only the distinction between SE and DK as a predictor.

Here we develop and apply person-level probabilities of sexual minority orientation based on the original ambiguous response and other sociodemographic characteristics to ensure that these cases are represented in the sample. We find that both SE and DK responses include high proportions of sexual minorities and estimate that 11% of sexual minorities would be omitted if the SE and DK responses (< 1% of all cases) were excluded, including 20% of sexual minorities without a high school degree. Simply classifying SE as sexual minorities and DK as heterosexual would result in few false positives but would overlook 31% of sexual minorities with potentially ambiguous responses and 11%×31% = 3% of all sexual minorities.

Among adults responding SE or DK, younger, not poor, non-Hispanic white, urban respondents with higher education were those most likely to identify as sexual minorities, but some sociodemographic patterns differed between SE and DK respondents.

The third approach classifies as sexual minorities those adults who responded SE or DK and had predicted probabilities > 0.50 of being sexual minorities. This approach improves the precision of health-related estimates for sexual minorities and may identify at-risk groups (eg, those with less HIV testing). Further, as more people endorse these ambiguous response options, the effects on the magnitude of the estimates and their precision will increase. Going forward, fully automatable classification of responses (vs. manual classification based on people's written responses) has greater potential for widespread use. Researchers could also implement multiple imputation of sexual minority status based on the predicted probabilities for SE and DK respondents, which would make small improvements to model SEs.[30]

A key limitation of this study is that sample sizes for SE and DK respondents were relatively small and necessitated aggregating men and women and other heterogeneous demographic groups (eg, black and Asian) for adequate power. Furthermore, many surveys will not have sufficiently large sample sizes of sexual minorities to make reliable estimates for those groups, even with the methods described here. Nonetheless, these analyses provide an effective means to describe the sexual minority orientation of those who use SE and DK responses and to include them appropriately in analyses of health and health care disparities without requiring other surveys to field the follow-up questions. Lastly, one response option to the NHIS follow-up question pertained to gender identity rather than sexual orientation. Although the results presented here were not sensitive to how we classified the 12 individuals who selected this option, best practice guidelines[8] suggest that gender identity should be measured using specific gender-identity items (though rarely measured in this manner on large federal surveys[5,11]).

We used micro-data to develop predicted probabilities (see Supplemental Digital Content 1, http://links.lww.com/MLR/B844) that can be applied directly to the many surveys that use the NHIS sexual orientation question[11] and response categories. This application of probabilities from the 2013 to 2014 NHIS will also minimize the costs associated with survey designers developing their own questions and approach to representing people who identify with the smaller sexual orientation groups. Further, the widespread inclusion of sexual orientation measures in federal surveys,[5] in combination with the improved measurement of sexual orientation, could support more consistent and accurate characterization of sexual orientation-based health and health care disparities. Importantly, it can better represent respondents who previously may have been excluded or misinterpreted, including hard-to-reach subsets of sexualminority respondents who are especially likely to be omitted by LGB categories, thus better informing research, programs, and policies addressing the health and health care disparities experienced by sexual minorities.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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TABLE 1.

Sexual Minority Orientation Classification Based on Follow-up Responses About Sexual Minority Orientation Among Adults Who Answered, "Something Else" or "I Don't Know the Answer" Initially (N = 454)

	Respondents by Sexual Minority Orientation Classification, n (%)	
Response to the Follow-up Question	**Sexual Minority (N = 237)**	**Other (N = 217)**
"Gay/lesbian"	< 10 * (< 4)	
"Bisexual"	< 10 * (< 4)	
"Identify with another label"	16 (7)	
"Transgender, transsexual, or gender variant" †	12 (5)	
"In the process of figuring it out"	88 (37)	
"Do not think of myself as having sexuality"	29 (12)	
"Do not use labels"	65 (27)	
"Something else"	16 (7)	
"Don't understand the words"		97 (45)
Refused		69 (32)
Either "don't know" (> 10) or "straight, that is, not lesbian or gay" (n < 10)		51 (24)

* Cells <10 were suppressed for confidentiality.

† Although these options refer to gender identity rather than sexual orientation, they were given in response to a question about sexual orientation. Thus we, like Dahlhamer et al,[17] used them to infer that such respondents were more likely to identify as sexual minorities than as not sexual minority. Although this conclusion is far from certain, the results are not sensitive to this classification decision.

TABLE 2.

Distributions of Variables Used in the Sexual Minority Model for the Full Sample and by Initial Response to the Sexual Orientation Question: NHIS, 2013–2014 (Weighted Percentages)

		Initial Response to Sexual Orientation Question				
Predictor	**Full Sample (N = 69,270)**	**Heterosexual (n = 67,152)**	**Gay/Lesbian (n = 1149)**	**Bisexual (n = 515)**	**Something Else (n = 144)**	**Don't Know (n = 310)**
Age						
18–24	12.7	12.6	15.7	29.9	30.9	13.0
25–54	52.3	52.1	62.5	56.7	36.4	48.3
55–74	27.3	27.4	19.6	*	*	27.3
75+	7.7	7.8	2.2	*	*	11.3
Female	51.8	51.7	45.3	71.5	49.1	56.7
Race/ethnicity						
Hispanic	15.2	15.2	14.5	10.4	10.9	25.6
Non-Hispanic white	65.9	65.9	67.4	69.7	59.5	49.0
Non-Hispanic other	18.9	18.9	18.1	19.8	29.5	25.4
Education						
Less than high school degree	13.5	13.5	6.6	15.9	14.3	31.5
High school diploma/GED/missing	26.3	26.5	19.4	20.8	22.6	28.6
Greater than high school degree	60.2	60.0	74.0	63.3	63.1	39.9
Poverty status						
< 100% FPL	12.8	12.7	12.1	21.6	29.0	23.5
> 100% FPL	80.2	80.4	84.2	72.4	*	63.1
Missing	7.0	6.9	32.7	6.1	*	13.4
MSA, central city	32.9	32.6	44.6	46.7	51.7	39.6

*Suppressed to avoid disclosing an underlying count <10.

FPL indicates federal poverty level; MSA, metropolitan statistical area.

TABLE 3.

Logistic Regression Model Predicting Sexual Minority Orientation at Follow-up Among Adults Who Answered "Something Else" or "I Don't Know the Answer" Initially (N = 454)

	Odds Ratio
Something else (ref = I don't know the answer)	10.75***
Age (ref = 25–54)	
18–24	0.22***
55–74	0.35**
75+	0.25***
Female	0.32***
Race/ethnicity (ref = non-Hispanic white)	
Hispanic	0.16***
Non-Hispanic other	0.47**
Education (ref = high school diploma/GED/missing)	
Less than high school degree	1.40
Greater than high school degree	1.34
Poverty status	
< 100% FPL (ref = > 100% FPL)	0.56*
Missing (ref = > 100% FPL)	0.19**
MSA, central city (ref = not MSA, central city)	1.61*
Interactions involving something else	
Something else × age 18–24	3.96*
Something else × age 55–74	0.31
Something else × age 75+	0.57
Something else × female	0.60
Something else × Hispanic	2.48
Something else × non-Hispanic other	4.37**
Something else × less than high school degree	12.76*
Something else × more than high school degree	0.61
Something else × < 100% FPL	1.02
Something else × poverty status missing	2.64
Something else × MSA, central city	1.23

FPL indicates federal poverty level; MSA, metropolitan statistical area.

*$P < 0.05$.

**$P < 0.01$.

***$P < 0.001$.

TABLE 4.

Distribution of Predictor Variables by Values of Predicted Probability for Adults Who Answered "Something Else" or "I Don't Know the Answer": NHIS, 2013–2014 (N = 454)

	Percentage	
Predictor	**Cases With Predicted Probabilities <0.50 (n = 257)**	**Cases With Predicted Probabilities ≥ 0.50 (n = 197)**
Initial response		
Something else	3	69
I don't know the answer	97	31
Age		
18–24	11	28
25–74	45	44
55–74	30	27
75+	14	1
Female	57	51
Race/ethnicity		
Non-Hispanic white	39	68
Hispanic	33	7
Non-Hispanic other	28	25
Education		
Less than high school degree	35	16
High school diploma/GED/missing	34	19
Greater than high school degree	31	65
Poverty status		
> 100% FPL	54	75
< 100% FPL	28	22
Poverty status missing	18	3
MSA, central city	33	56

MSA indicates metropolitan statistical area.

TABLE 5.

Selected Health Indicators of US Adults by Sexual Minority Orientation: United States, 2013–2014 (N = 69,270)

	Percent (SE)							
	Heterosexual*	Sexual Minority: Definition a†	Sexual Minority: Definition b‡	Sexual Minority: Definition c§	Change in Point Estimate (b−a)	Change in Point Estimate (c−a)	Change in SE (b−a)	Change in SE (c−a)
Selected health-related behavior indicator								
Current cigarette smoker								
Unadjusted	17.1 (0.24)	25.2 (1.46)	25.3 (1.39)	25.3 (1.36)	0.1	0.1	−0.07	−0.1
Adjusted‖	17.1 (0.24)	22.6 (1.33)	22.9 (1.27)	22.9 (1.25)	0.3	0.3	−0.06	−0.08
At least 1 heavy drinking day in the past year								
Unadjusted	23.7 (0.30)	35.3 (1.66)	34.7 (1.59)	34.1 (1.56)	−0.6	−1.2	−0.07	−0.1
Adjusted‖	23.8 (0.31)	29.9 (1.49)	29.5 (1.43)	29.1 (1.41)	−0.4	−0.8	−0.06	−0.08
Met federal guidelines for leisure-time physical activity								
Unadjusted	49.2 (0.36)	56.3 (1.82)	56.6 (1.74)	56.3 (1.71)	0.3	0.0	−0.08	−0.11
Adjusted‖	49.2 (0.36)	52.1 (1.95)	52.6 (1.85)	52.0 (1.82)	0.5	−0.1	−0.1	−0.13
Selected health status indicator								
Health status described as excellent or very good								
Unadjusted	39.0 (0.31)	39.3 (1.63)	39.9 (1.56)	40.3 (1.55)	0.6	1.0	−0.07	−0.08
Adjusted‖	39.0 (0.31)	41.9 (1.89)	42.5 (1.79)	43.1 (1.78)	0.6	1.2	−0.10	−0.11
Experienced serious psychological distress in past 30 d								
Unadjusted	3.3 (0.10)	7.4 (0.89)	8.0 (0.92)	8.0 (0.90)	0.6	0.6	0.03	0.01
Adjusted‖	3.3 (0.10)	7.0 (0.92)	7.3 (0.91)	7.5 (0.92)	0.3	0.5	−0.01	−0.4
Obese								
Unadjusted	29.0 (0.28)	31.1 (1.56)	30.8 (1.51)	30.8 (1.50)	−0.3	−0.3	−0.05	−0.06
Adjusted‖	28.9 (0.28)	30.9 (1.68)	30.8 (1.61)	31.0 (1.60)	−0.1	0.1	−0.07	−0.08
Selected health care service utilization indicator								

	Percent (SE)							
	Heterosexual*	Sexual Minority: Definition a†	Sexual Minority: Definition b‡	Sexual Minority: Definition c§	Change in Point Estimate (b−a)	Change in Point Estimate (c−a)	Change in SE (b−a)	Change in SE (c−a)
Received influenza vaccine during past year								
Unadjusted	41.6 (0.30)	42.0 (1.72)	41.3 (1.66)	41.2 (1.64)	−0.7	−0.8	−0.06	−0.08
Adjusted‖	41.5 (0.30)	47.5 (1.68)	46.9 (1.63)	46.7 (1.62)	−0.6	−0.8	−0.05	−0.06
Ever been tested for HIV								
Unadjusted	36.8 (0.32)	65.3 (1.70)	64.2 (1.67)	63.8 (1.65)	−1.1	−1.5	−0.03	−0.05
Adjusted‖	36.9 (0.32)	62.5 (1.79)	61.1 (1.73)	60.6 (1.71)	−1.4	−1.9	−0.06	−0.08
Selected health care access indicator								
Has a usual place to go for medical care								
Unadjusted	84.6 (0.23)	80.5 (1.34)	80.4 (1.28)	80.4 (1.26)	−0.1	−0.1	−0.06	−0.08
Adjusted‖	84.6 (0.23)	83.3 (1.13)	82.9 (1.09)	82.9 (1.07)	−0.4	−0.4	−0.04	−0.06
Failed to obtain needed medical care in past year due to cost								
Unadjusted	7.2 (0.15)	13.0 (1.06)	13.0 (1.02)	12.9 (1.00)	0.0	−0.1	−0.04	−0.06
Adjusted‖	7.2 (0.15)	11.3 (1.03)	11.4 (0.97)	11.5 (0.99)	0.1	0.2	−0.06	−0.04
Currently uninsured								
Unadjusted	14.9 (0.23)	17.4 (1.26)	18.0 (1.28)	18.2 (1.27)	0.6	0.8	0.02	0.01
Adjusted‖	14.9 (0.23)	19.9 (1.30)	20.1 (1.26)	20.4 (1.26)	0.2	0.5	−0.04	−0.04
Currently with public health plan coverage								
Unadjusted	31.9 (0.33)	23.4 (1.50)	24.0 (1.44)	24.3 (1.41)	0.6	0.9	−0.06	−0.09
Adjusted‖	31.8 (0.33)	28.3 (1.64)	28.5 (1.54)	28.7 (1.53)	0.2	0.4	−0.10	−0.11
Currently with private health insurance coverage								
Unadjusted	63.1 (0.34)	64.1 (1.59)	63.0 (1.57)	62.5 (1.56)	−1.1	−1.6	−0.02	−0.03
Adjusted‖	63.1 (0.34)	62.5 (1.88)	61.6 (1.78)	61.0 (1.76)	−0.9	−1.5	−0.10	−0.12

*For 4 of the health measures, the point estimate for heterosexual varied by 0.01 depending on the sexual minority measure used. SEs did not vary.

†Sample adults who responded, “something else” or “don’t know” are excluded.

‡Sample adults who answered, "something else" are classified as sexual minority. Sample adults who answered, "don't know" are excluded.

§"Something else" and "don't know" respondents with predicted probabilities of 0.5 or greater were classified as a sexual minority; otherwise, they were classified as heterosexual. ^

‖Adjusted for all sociodemographic characteristics listed in Table 1.