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Regular health care use by lesbians: a path analysis of predictive factors

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Background. Lesbians have more health risks than other women but access preventive medical care less frequently.

Objective. To test the influence of (i) provider inquiry about sexual orientation, (ii) perceived provider gay-positivity and (iii) patient disclosure of sexual orientation on regular health care use in a sample of Canadian lesbians.

Methods. A path analysis using community survey data from 489 lesbian respondents.

Results. 78.5% [95% confidence interval (CI): 74.7–82.0] of women reported regular health service use; 75.8% (95% CI: 72.2–79.8) of women had disclosed their sexual orientation to their provider; and 24.4% (95% CI: 20.6–28.2) of women had been asked about their sexual orientation by their provider. Of those women whose physicians had inquired about their sexual orientation, 100% (95% CI: 97.5–100.0) had disclosed. In the final path analysis, perceived provider gay-positivity and level of patient outness predicted disclosure, which, along with health status predicted regular health care use. All paths were significant at $P < 0.05$.

Conclusions. Provider-related factors including perceived gay-positivity and inquiry about sexual orientation are strongly associated with disclosure of sexual orientation. Disclosure is associated with regular health care use. Minor changes to practice could improve access to health services for lesbians.

Keywords. Disclosure, health services accessibility, homosexuality, physician–patient relations, primary health care.

Introduction

Equitable access to health care is important to the elimination of health disparities between populations.[1,2] Community-based health surveys and other studies that have included questions about sexual orientation have shown that lesbians have unique health service needs.[3–5] For example, lesbians are more likely to have behavioural risk factors for breast and gynaecological cancers, to be smokers, and to have patterns of heavy alcohol use.[4–9] Despite higher risk health behaviours, lesbians are less likely to receive preventive health care, including clinical breast exams, pap smears and mammography.[4–7,9]

Lesbians who disclose their sexual orientation to their provider report increased comfort, better communication and have a greater likelihood of seeking health services.[3,10–15] Failure to disclose sexual orientation sometimes leads to delay of care.[10–12] Both patient and provider factors can inhibit disclosure of sexual orientation and result in barriers to access. Patients who are uncomfortable with their own sexuality or who rarely disclose their sexual orientation in other contexts may be particularly unlikely to disclose their sexual orientation to a health care provider.[3,10–12] For providers, failure to inquire about sexual orientation may inhibit patients' willingness to disclose.[11,12] Studies of provider inquiry about sexual orientation have found low inquiry rates ranging from 17 to 30%.[11,12] Many patients will try to anticipate their providers' reactions to the disclosure of sexual orientation by looking for clues to their providers' attitudes about

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sexual minorities. Where no obvious clues of 'gay-positivity' are found, fear of provider judgement may inhibit patients' willingness to disclose. For example, many providers may use heterosexist language in their histories, presuming their patients are heterosexual (e.g. 'Are you married?'). Clinic intake forms rarely include language that is inclusive of all sexual orientations.[3] In some cases, providers may be overtly homophobic. In the largest survey of gay and lesbian physicians to date, 88% of respondents said they had heard colleagues disparage gay or lesbian patients because of their sexual orientation.[16]

Understanding the contributions of patient and provider factors that constitute barriers to access for lesbians can help us to effectively target interventions for improving health care equity. In this study, we test the relationship between regular health service use and provider inquiry about sexual orientation, patient disclosure of sexual orientation and perceived provider attitudes about sexual orientation in a sample of Canadian lesbians. We hypothesize that patients' level of openness about their sexual orientation, the rate at which providers inquire about their sexual orientation and patients' perceptions of their providers' attitudes about sexual orientation will all be associated with the likelihood that a patient will disclose their sexual orientation to their provider. Further, we hypothesize that patients' disclosure of sexual orientation to their providers will increase their likelihood of having regular health service use.

Methods

Data were obtained from a self-administered survey that was developed to identify the service needs of sexual minorities in Ontario.[17] The survey instrument was developed by a coalition of community groups in consultation with paid research consultants. Since few standardized scales exist to address the experiences of sexual minorities in health services, most survey items were developed by the researchers. The completed survey was piloted with a sampling of potential survey participants and a focus-group was held to discuss the face validity and content validity. Because this was a grassroots, community-initiated project, no academic or health service institutions were involved in the data collection. Consequently there were no provider–patient relationships between the survey respondents and the researchers. The survey was anonymous. A cover sheet explaining the project was included with each survey. The return of the completed survey indicated implied consent to participate in the research project. We received approval from the Research Ethics Board of St Michael's Hospital in Toronto to conduct a secondary analysis of the survey data.

The questionnaire was distributed across Ontario between February and July of 1995. Advertisements were placed in local newspapers and newsletters as well as in two free weekly newspapers in Toronto and Ottawa that target an LGB readership. Flyers were posted on bulletin boards of community groups, in bars and in libraries across Ontario. Both advertisements and flyers included a toll-free telephone number to enable people to phone and request a survey. Flyers and advertisements also announced the location of survey distribution sites across the province. Many community groups distributed the survey to their memberships. Selected bars, social events and dances left surveys for their participants. Of the 6000 surveys distributed, 1223 were returned (20.4%). An unknown number of the distributed surveys were vandalized, removed from the distribution sites or were discarded after the deadline had passed. Consequently it is difficult to determine the real survey response rate.

For our dependent variable we used the responses to the statement: ''I see my regular doctor or GP (i) every month (ii) once or twice a year, (iii) every few years (iv) never.'' We considered women who reported seeing their regular family doctor or GP ''every few years'' or less frequently to have irregular use of services and women who reported seeing their regular doctor more than ''every few years'' to have regular use of services. Research that compared self-reported health care utilization to medical records has found that patients accurately report whether or not they have seen a physician in the past year, although those patients who have frequent visits tend to over-report the number of visits.[18] Our independent variables included patient disclosure of sexual orientation, provider inquiry about sexual orientation and perceived provider gay-positivity. Those who answered ''yes'' to the statement: ''I have told [my regular doctor (family, GP)] that I am lesbian/gay/bisexual'' were considered to have disclosed their sexual orientation to a physician. Respondents who answered ''yes'' to the statement: ''The (family doctor, GP) I have seen most often has not assumed I am heterosexual but has asked me what my sexual orientation is'' were considered to have been asked their sexual orientation by their regular physician. A scale (range 0–1) was created to measure perceived provider gay-positivity using the responses to eight questions that related to the respondent's perception of her provider's knowledge, attitudes, assumptions and statements related to sexual orientation. To validate the scale we used the Mann–Whitney *U* test to compare the mean summary scores between patients who agreed and those who disagreed with the following statement: ''In my opinion, health care professionals need to have more knowledge and sensitivity to issues related to being lesbian/gay/bisexual.'' Covariates included age, self-reported

health status, household income adjusted for number of dependants and level of outness, (i.e. level of openness about being lesbian). Because there are degrees of outness (i.e. some lesbians are out only to close friends whereas others are out to acquaintances or employers), we calculated a summary score that ranged from 0 to 1 using empirically derived weightings for being out to close friends, brothers, sisters, children, parents/stepparents, relatives, neighbours, acquaintances, coworkers and bosses or supervisors. Higher summary scores indicated being more out. To validate the outness scale we used the Mann–Whitney *U* test to compare the means between groups of patients that agreed and disagreed with the following two statements: (i) ''I'm generally quite open about being lesbian/gay/bisexual'' and (ii) ''I generally try to hide the fact that I am lesbian/gay/bisexual.''

We used path analysis to test a hypothesized model of the patient and physician predictors of regular health service use by lesbians. Path analysis is an extension of multiple regression in which hypothesized models can be tested. Pathways between variables are proposed and these are expressed quantitatively as path coefficients. Path coefficients are standardized regression coefficients that show the direct effect of an independent variable on a dependent variable in the path model. Thus when a model has two or more independent variables, path coefficients are partial regression coefficients that measure the extent of the effect of one variable on another in the path model, controlling for other variables. In our proposed model (Fig. 1), disclosure was hypothesized to mediate the effects of outness, provider inquiry and perceived provider gay-positivity on regular health care use. Health status and age were hypothesized to have direct effects on health care use. Earlier analyses of potential confounding variables had demonstrated that there was no relationship between household income and regular health service use in this sample; consequently, we did not include income in this model. Our hypothesized model was specified by the following path equations:

$$(1)\quad \text{Health use} = \beta_{1a}\text{age} + \beta_{1b}\text{disclosure} + \beta_{1c}\text{health status} + \text{error}$$

$$(2)\quad \text{Disclosure} = \beta_{2a}\ \text{outness} + \beta_{2b}\ \text{inquiry} \pm \beta_{2c}\ \text{provider gay positivity} + \text{error}$$

We used the Lisrel 8.54 program for this analysis.[19] Weighted least squares method was used and the adequacy of model fit was determined by the chi-square test (a significant chi-square implies poor fit) and other fit indexes including root mean square error of approximation (RMSEA) (<0.05 indicates a good fit), normed fit index (NFI) (>0.90 indicates a good fit) and goodness of fit index (GFI) (>0.90 indicates a good fit).

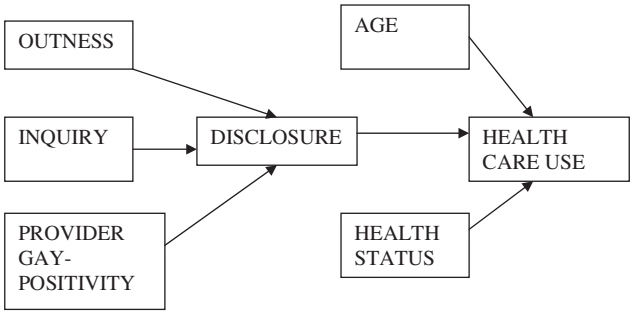

FIGURE 1 *Proposed model of health care utilization by lesbians*

Results

Description of study population

Of 1233 male and female survey respondents, 504 females self-identified as 'lesbian' or 'gay'. We excluded 5 lesbians who did not have a regular health care provider and 10 lesbians whose response to this question was missing. This left us 489 respondents for analysis.

The socio-demographics of our sample are described in Table 1. A 75.8% (95% CI: 72.2–79.8%) of our sample had disclosed their sexual orientation to their provider and 24.4% (95% CI: 20.6–28.2%) of our sample had been asked their sexual orientation by their provider. All (95% CI: 97.5–100%) the 116 women whose

TABLE 1 *Demographics of Study Population*

Characteristics	Study population (n = 489)
Age (mean ± SD)	36 ± 9.3
Caucasian (95% CI)	93.9% (91.3–95.7%)
Canadian born	85.3% (82.0–89.1%)
English spoken at home	96.5% (94.5–97.8%)
Disability/long-term illness	19.1% (15.8–22.9%)
Post-secondary education	76.2% (72.2–79.8%)
Unemployed within last year	5.0% (3.4–7.3%)
Adjusted household income less than $20 000	50.9% (46.2–55.6%)
Gay or lesbian identity for less than 3 years	16.0% (13.1–19.6%)
Lifetime sexual contact with	
Women only	26.3% (22.6–30.4%)
Men only	2.1% (1.1–3.8%)
Men and women	71.2% (67.0–75.1%)
Currently in a same-sex relationship	76.1% (72.1–79.7%)
Have children	25.8% (22.1–29.9%)

provider inquired about their sexual orientation had also disclosed their sexual orientation whereas only 65.2% (95% CI: 60.5–70.1%) of the women whose provider did not inquire about their sexual orientation had disclosed. 78.5% (95% CI: 74.7–82.0%) of our sample reported regular health service use. Of the women who had disclosed their sexual orientation, 84.2% (95% CI: 80.4–87.8%) had regular health service use while only 66.4% (95% CI: 58.0–75.1%) of women who had not disclosed their sexual orientation had regular health service use. The mean provider gay-positivity score was 0.54 (SD = 0.25: range 0.00–1.00). As expected, those respondents who felt that providers need sensitivity training had a significantly lower positivity score than those respondents who did not feel that providers need additional training (0.51 versus 0.72, $P < 0.001$). The mean outness score was 0.67 (SD = 0.28; Range 0.00–1.00). As expected, those respondents who agreed that they were open about their sexual orientation had significantly higher outness scores than those who disagreed (0.77 versus 0.39, $P < 0.001$). Similarly, those respondents who agreed that they generally try to hide their sexual orientation had lower outness scores than those who disagreed with this statement (0.41 versus 0.72, $P < 0.001$).

Path analysis

Model modifications. Three hundred and eighty seven subjects were used in the path analysis. One hundred and two subjects were not included because of missing data. During the modelling process, the provider inquiry variable was removed because it was highly correlated to patient disclosure (*all* patients disclosed their sexual orientation if the provider inquired) and the age variable was removed because its effect on health care use was not statistically significant. The effect estimates for the remainder of the proposed paths were significant ($P < 0.05$) and were retained in the final model. Table 2 presents the zero-order correlations among the variables in the model. Regular health care use was positively associated with higher levels of outness, disclosure of sexual orientation and higher levels of perceived provider positivity about sexual orientation. Regular health care use was negatively associated with better health status. Our final model with estimates of the effect of each path is shown in Figure 2. The final model is specified by the following path equations:

$$(1)\ \text{Health care use} = (-0.16)\,\text{outness} + (0.37)\,\text{disclosure} + (-0.39)\,\text{health status} + \text{error}$$

$$(2)\quad \text{Disclosure} = (0.32)\,\text{outness} + (0.68)\,\text{provider gay positivity}$$

The fit indices for this model are excellent. The chi-square statistic divided by the degrees of freedom should be less than three.[20] In our case the chi-square statistic was 3.23 with two degrees of freedom ($P = 0.20$). The RMSEA was 0.04. The GFI and the NFI were 0.98 and 0.96, respectively.

TABLE 2 *Correlation matrix for variables used in the final path analysis*

	Health care use	Disclosure	Outness	Provider positivity	Health status
Health care use	1.000				
Disclosure	0.321	1.000			
Outness	0.043	0.511	1.000		
Provider positivity	0.178	0.773	0.285	1.00	
Health status	–0.416	–0.079	–0.035	–0.122	1.00

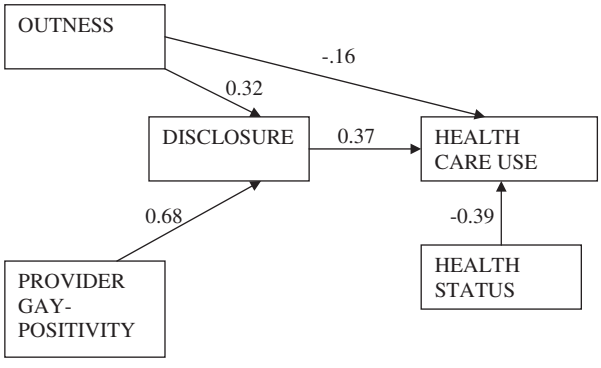

FIGURE 2 *Final model of health care utilization by lesbians*

In our final model, patient disclosure of sexual orientation (0.38) and patient's health status (–0.37) had direct effects on regular health care use. Patient outness had a smaller direct effect on regular health care use (–0.16) as well as an indirect effect on health care use, which was mediated through disclosure of sexual orientation ($0.32 \times 0.37 = 0.12$). Interestingly, the direct effect of being more out on regular health care use was negative (–0.16) while the indirect effect was positive (through increased disclosure, 0.12). This led to a sum effect of outness on health care use that was quite small (–0.16 + 0.12= –0.04) Finally, perceived provider positivity had an indirect effect on health care utilization that was fully mediated through disclosure of sexual orientation ($0.68 \times 0.37 = 0.25$). In this model, as we excluded provider inquiry about sexual orientation, perceived provider gay-positivity was a more important determinant of patient disclosure than was patient outness (0.68 versus 0.32).

Discussion

We have demonstrated a strong association between disclosure of sexual orientation and regular health

service use in a population of lesbian respondents to a health survey. In our sample, provider-related characteristics such as inquiry about sexual orientation and perceived provider gay-positivity were more likely to influence patients' willingness to disclose than were patient-related characteristics such as outness. This is a promising finding since it implies that the ability to influence patient disclosure of sexual orientation and, therefore, to improve health service uptake lies within the sphere of influence of lesbians' primary care providers.

Few studies have quantitatively assessed the relative importance of provider and patient factors in determining appropriate health service use by lesbians. Our analyses are not confounded by health insurance status as the survey was conducted in Ontario, which provides universal health care coverage to its residents. Like other large studies of lesbian populations, our data were derived from a sample of volunteers. Our sample was mostly white and mostly educated and so is probably not representative of the lesbian population in general. This is a common problem that has faced most researchers who have used a convenience sampling approach to the study of lesbian health issues. Questions about sexual orientation have recently been added into several large population health surveys, and so the generalizability of research on lesbian health is likely to improve as the inclusion of these topics on health surveys is more accepted. However, most of these large community surveys do not ask detailed questions related to one's experience of discrimination related to sexual orientation or disclosure about sexual orientation. So for these detailed questions, convenience sampling remains the most feasible option for studies that look at gay-related issues.

Despite the homogeneity of our sample in terms of race and education, we did have good variation in levels of outness, and rates of disclosure and regular service use. Still it is possible that the relationships we have demonstrated between disclosure and health service use would be different in the general population of lesbians who might be on average less out, less likely to disclose and less likely to access care.

Disclosure of sexual orientation to health care providers is an anxiety producing event for many lesbians.[21] While the majority of survey respondents in our sample and in other samples do disclose their sexual orientation, a significant number of lesbians have difficulty or are unable to disclose to their physicians. There are several simple steps that providers can take to improve health service delivery to lesbian patients and patients belonging to other sexual minorities. First, lesbian patients often scan providers' offices for clues that help them determine whether it is safe to disclose their sexual orientation to their providers. Providers can create a welcoming clinical environment by displaying posters showing same-sex couples or posters with gay-positive messages (e.g. this is an LGBT-positive space). Rainbow flags, pink triangles and visible non-discrimination statements are also powerful indicators of a welcoming environment. Other methods for conveying positive attitudes include the use of gay-related educational pamphlets and inclusive clinic intake forms (e.g. single, same-sex partner, common-law, married, separated or divorced). These can be important signals to our patients that we understand and accept sexual minorities in our practices.

In our sample, inquiry was associated with disclosure 100% of the time. Providers can also encourage disclosure by inquiring about sexual orientation using inclusive language and a non-judgmental tone with all patients. For example, when broaching the topic of sexual or relationship partners, providers can avoid making assumptions about the gender of a patient's partner and choose gender-neutral language such as 'partner' or 'significant other' in favour of 'wife' or 'husband'. The Gay and Lesbian Medical Association has produced a guideline that offers more detail on creating a welcoming and safe clinical environment for sexual minorities.[22]

Our work has demonstrated the importance of the provider in encouraging disclosure of sexual orientation by lesbians and improving health service use. Research that addresses barriers to provider inquiry about sexual orientation could provide an important next step to improving service delivery to this vulnerable population.

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References

[1] U.S. Department of Health and Human Services. *Healthy People 2010: Understanding and Improving Health*. 2nd edition. Washington, DC: U.S. Government Printing Office; November 2000.

[2] Gay and Lesbian Medical Association. Healthy People 2010: companion document for lesbian, gay, bisexual and transgender (LGBT) health. 2001. San Francisco, CA.
[3] Committee on lesbian health research priorities, Institute of Medicine. Solarz A. editor. Lesbian health: current assessment and directions for the future. Washington, D.C.: National Academy Press; 1999.
[4] Diamant AL, Wold C, Spritzer K, Gelberg L. Health behaviors, health status and access to and use of health care: a population-based study of lesbian, bisexual and heterosexual women. *Arch Fam Med* 2000; **9**: 1043–1051.
[5] Valanis BG, Bowen DJ, Bassford T, Whitlock E, Charney P, Carter RA. Sexual orientation and health: comparisons in the Women's Health Initiative sample. *Arch Fam Med* 2000; **9**: 843–853.
[6] White J, Dull V. Health risk factors and health seeking behaviour in lesbians. *J Women's Health* 1997; **6**: 103–112.
[7] Cochran SD, Mays VM, Bowen D *et al*. Cancer-related risk indicators and preventive screening behaviors among lesbians and bisexual women. *Am J Public Health* 2001; **91**: 591–597.
[8] Cochran SD, Keenan C, Schober C, Mays VM. Estimates of alcohol use and clinical treatment needs among homosexually active men and women in the US population. *J Consult Clin Psychol* 2000; **68**: 1062–1071.
[9] Moran N. Lesbian health care needs. *Can Fam Physician* 1996; **42**: 879–884.
[10] White JC, Dull VT. Room for improvement: communication between lesbians and primary care providers. *J Womens Health* 1998; **2**: 95–110.
[11] van Dam MA, Koh AS, Dibble SL. Lesbian disclosure to health care providers and delay of care. *J Gay Lesbian Med Assoc* 2001; **5**: 11–19.
[12] Stein GL, Bonuck KA. Physician–patient relationships among the lesbian and gay community. *J Gay Lesbian Med Assoc* 2001; **5**: 87–93.
[13] Bergeron S, Senn CY. Health care utilization in a sample of Canadian lesbian women: predictors of risk and resilience. *Women Health* 2003; **37**: 19–35.
[14] Geddes VA. Lesbian expectations and experiences with family doctors. How much does the physician's sex matter to lesbians? *Can Fam Physician* 1994; **40**: 908–920.
[15] Diamant AL, Schuster MA, Lever J. Receipt of preventive health care services by lesbians. *Am J Prev Med* 2000; **19**: 141–147.
[16] Shatz B, O'Hanlan KA. Anti-gay discrimination in medicine: results of a national survey of Lesbian, Gay and Bisexual Physicians. San Francisco: American Association of Physicians for Human Rights/Gay Lesbian Medical Association.
[17] Coalition for Gay and Lesbian Rights in Ontario. *Systems Failure: A Report on the Experiences of Sexual Minorities in Ontario's Health-Care and Social Services Systems.* Toronto, 1997.
[18] Roberts RO, Bergstralh EJ, Schmidt L, Jacobsen SJ. Comparison of self-reported and medical record health care utilization measures. *J Clin Epidemiol* 1996; **99**: 989–995.
[19] Joreskog KG, Sorbom D. *LISREL 7: A Guide to the Program and Applications*. Chicago: SPSS Publications; 1989.
[20] Kline RB. *Principles and practice of structural equation modeling.* NY: Guilford Press; 1998. A very readable introduction to the subject, with good coverage of assumptions and SEM's relation to underlying regression, factor, and other techniques.
[21] Barbara AM, Quandt SA, Anderson RT. Experiences of lesbians in the health care environment. *Women Health* 2001; **34**: 45–62.
[22] Gay and Lesbian Medical Association. Creating a safe clinical environment for lesbian, gay, bisexual, transgender and intersex (LGBTI) patients. Available at: http://www.glma.org/medical/clinical/lbgtic-clinical-guidelines.pdf.