ABSTRACT. In 1982, Mathews et al. surveyed San Diego County Medical Society’s (SDCMS) physicians about their attitudes toward homosexuality. They found significant differences in prevalence of homophobic attitudes by gender, year of medical school graduation, specialty, and practice setting. To assess current physicians’ attitudes toward homosexuality and persons with HIV infection, an anonymous, self-administered, 17-item survey was mailed to all 4,385 members of the SDCMS and 1,271 UCSD physicians. The survey included items measuring attitudes toward homosexuality and toward entry to medical school and referral
patterns, conditional on sexual orientation and HIV status of hypothetical referents. Only 3% of respondents would not admit a highly qualified homosexual applicant to medical school compared with 30% in 1982. Similarly, 9% would discontinue referrals to a gay pediatrician compared with 46% of respondents in 1982. Forty-two percent would not admit a “highly qualified but asymptomatic HIV-infected applicant with excellent response to antiretroviral therapy to medical school” and 66% would discontinue referral to a general surgeon known to be HIV infected.

In multiple logistic regression analyses controlling for sex and medical school affiliation, significant (p < 0.05) independent predictors of being in the highest 10% on an HIV-phobia scale were year of graduation from medical school and degree of homophobia (model ROC = 0.77). This survey suggests a substantial reduction in homophobia since 1982. However, attitudes toward homosexuals and year of graduation from medical school appear to be significant predictors of attitudes toward persons with HIV infection. doi:10.1300/J082v52n03_01 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com> © 2007 by The Haworth Press, Inc. All rights reserved.]

**KEYWORDS.** Physician, attitudes, homosexuality, HIV, homophobia, medical, prejudice, HIV phobia

**INTRODUCTION**

Physicians’ attitudes are important because of the possible impact they may have on the structure and quality of patient care (Najman, Klein, & Munro, 1982). These attitudes have been linked to racial, gender, and socioeconomic discrepancies in cardiac (Schulman et al., 1999), liver (Eckhoff et al., 1998), and renal (Alexander & Sehgal, 1998) medical care. In 1982, Mathews et al. surveyed San Diego County Medical Society’s physicians about their attitudes toward homosexuality (PATH-I). They found significant differences in homophobic and homophilic attitudes across demographics of gender, year of medical school graduation, specialty, and practice setting. This is despite the fact that the American Psychiatry Association removed homosexuality from its *Diagnostic and Statistical Manual of Mental Disorders, Second Edition* (DSM-II) and in 1992 called on physicians “to do all that is possible to decrease the stigma related to homosexuality wherever and whenever it may
Seventeen years later, we studied the same medical association and the University of California San Diego full-time attending faculty with the same emphasis on homosexuality, but we also included questions on physicians’ attitudes toward HIV (PATHH-II) and examined the linkage between homophobia and HIVphobia.

METHOD

Sample

In March 1999, anonymous self-administered questionnaires were mailed from the University of California at San Diego (UCSD) to all 4,385 members of the San Diego County Medical Society (SDCMS) and 1,271 UCSD-attending physicians. A cover letter was included with the survey, which requested participation in a study designed to assess physicians’ attitudes toward homosexuality and toward HIV-infected and homosexual patients and colleagues.

Measures

The survey instrument ascertained demographic characteristics including specialty, gender, year of graduation from medical school, practice setting, and sexual orientation. Sexual orientation was not a demographic included in the PATH-I survey. This was followed by an 8-item 5-category Likert-type attitudinal scale (PATHH-8) used to assess general attitudes toward homosexuality (Appendix A). The first seven items were the items with highest internal consistency reliability from the PATH-I study (Mathews et al., 1987). Responses from these seven items were averaged and then scale scores (PATHH-7) were categorized into terciles interpreted as homophobic, neutral, and homophilic. The eighth item concerned homosexuals being allowed to marry. This item was included in an expanded homophobia scale (PATHH-8) formed by averaging scores across all eight items. Since the question regarding homosexual marriage was not included in the PATH-I survey, only the PATHH-7 scale was used to compare PATH-I data with PATHH-II data. We added the PATHH-8 item since same-sex marriage has become a controversial topic in the media, legislature and courts. The survey also included six attitudinal questions concerning the medical profession, three concerning homosexuality, and three concerning HIV (Appendix B). The three questions concerning homosexuality were the same questions from the PATH-I survey and were used to form the
medical homophobia scale by averaging the possible responses, partitioning scores into terciles, and interpreting the resultant groups as medically homophobic, neutral, or homophilic. An HIV-phobia scale was similarly constructed as the average of the responses to the three questions dealing with HIV-infected physicians or medical students. Internal consistency reliability was estimated using Cronbach’s alpha. Bivariate associations between predictor and outcome variables were analyzed using contingency tables for ordinal or categorical measures and ANOVA for continuous measures. Multiple logistic regression models were fit to evaluate independent effects of characteristics found to be associated with outcomes in bivariate analysis. The data were analyzed using the Stata version 6.0 (STATA Corporation, College Station, Texas). The survey was approved by the UCSD Human Subjects Committee.

RESULTS

Of the 5,656 physicians surveyed, 13% (736) responded. The respondents were mainly male (78%) and heterosexual (93%). Most graduated from medical schools between 1960 and 1989 (82.8%). About 41% practiced in primary care specialties (general or family practice, internal medicine or pediatrics). Overall specialty response rates ranged from internal medicine at 24% to psychiatry at 5%. Twenty-two percent of respondents were female and 7% classified themselves gay or bisexual.

Gay and bisexual respondents were more likely to support gay marriage (p < 0.0001) and to favor entry of healthy HIV-positive students to medical school (p < 0.0001), but there was no difference by sexual orientation on entry of a gay student. There were also no significant differences in referral to gay specialists, but gay and bisexual respondents were more likely to continue patient referral to HIV-positive pediatricians and general surgeons than their heterosexual counterparts (p = 0.01).

To classify respondent attitudes, we developed HIV-phobia and medical homophobia scales. The HIV-phobia scale was constructed from the three items dealing with referral intentions to HIV-positive colleagues and entry of a healthy HIV-positive student to medical school (Appendix B). This scale was reliable with a Cronbach alpha = 0.72. The Medical Homophobia scale was constructed from the three items ascertaining referral intentions regarding homosexual colleagues and entry of a highly qualified gay medical student (Appendix B). This
scale was reliable with a Cronbach alpha = 0.78. Logistic regression analysis of predictors of HIV-phobia, defined as being in the highest tenth percentile on the HIV-phobia scale, identified year of graduation and PATHH-8 scores as highly significant. After controlling for year of graduation and PATHH-8 scores, neither gender nor sample group (SDCMS vs. UCSD) was associated with HIV-phobia. The same relationships were observed in a comparable model predicting membership in the upper tenth percentile of the Medical Homophobia scale. In a logistic regression model fit to identify predictors of opposing entry of a healthy HIV-positive student to medical school, year of graduation, sexual orientation, and PATHH-8 scale scores were significant predictors. After controlling for these factors, neither gender nor sample group was predictive.

With regard to entry into medical school of homosexual and of HIV-infected students, we found that those respondents who opposed a homosexual’s entry to medical school were 7.7 times more likely to oppose an HIV-positive student’s entry (Odds Ratio 7.7; p < 0.0001) (Table 1). Also, by correlating the questions regarding comfort in treating gay and HIV-positive patients, we found that the more uncomfortable a respondent was treating a homosexual patient, the more uncomfortable h/she would be treating a HIV-positive patient (Spearman rank correlation of 0.50, p < 0.001) (Table 2). Correlating referral intentions, we found respondents who would discontinue referral to a gay colleague were more likely to discontinue referral to a HIV-positive colleague (Odds Ratio 4.2; p < 0.0001).

We then compared responses from the PATH-I survey in 1982 and the currently reported survey (1999). On the PATHH-7 scores, which were identical scales in both surveys, we found PATH-I respondents to have strongly homophobic responses 58% of the time compared with

<table>
<thead>
<tr>
<th>Medical School Admission for Gay Student</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical school admission for HIV+ student</td>
<td>Yes</td>
<td>62.2%† (406)‡</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>34.5% (225)</td>
</tr>
</tbody>
</table>

†Percentages are cell percentages and the ‡number in each cell are in parentheses.

Those opposed to homosexual entry to medical school were 7.7 times (odds ratio, p < 0.001) more likely to oppose HIV+ entry.
TABLE 2. HIV Phobia and Medical Homophobia and Treating Gay Patients

<table>
<thead>
<tr>
<th>Treatment feelings toward HIV+ patients</th>
<th>No Negative Feelings</th>
<th>Sometimes Uncomfortable</th>
<th>Often Uncomfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td>No negative feelings</td>
<td>53.4%†</td>
<td>1.3%</td>
<td>0.2%</td>
</tr>
<tr>
<td>(348)§</td>
<td>(8)</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>Sometimes uncomfortable</td>
<td>23.5%</td>
<td>9.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>(153)†</td>
<td>(60)</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>Often uncomfortable</td>
<td>4.8%</td>
<td>5.4%</td>
<td>2%</td>
</tr>
<tr>
<td>(31)</td>
<td>(35)</td>
<td>(13)</td>
<td></td>
</tr>
</tbody>
</table>

†Percentages are cell percentages and the §number in each cell are in parentheses.

The more uncomfortable a physician was treating a homosexual patient, the more uncomfortable h/she would be treating a HIV+ patient with Spearman rank correlation of 0.50 (p < 0.001).

PATHH-II respondents at 19% of the time. PATH-I respondents would not admit a gay student to medical school 28% of the time, while the PATHH-II respondents would not do so only 3% of the time. PATH-I respondents were more likely to discontinue referral to gay Pediatricians (46%), Surgeons (25%), Psychiatrists (42%), and Radiation Oncologists (17%) than PATHH-II respondents–Pediatricians (10%), Surgeons (6%), Psychiatrists (6%), and Radiation Oncologists (1%) (all highly significant with p < 0.0001).

DISCUSSION

There was a considerable decrease in the prevalence of homophobic attitudes among survey respondents since 1982, although 33% of the responding physicians disagreed or strongly disagreed to homosexual marriage. Dramatic differences in attitudes toward homosexuality and HIV were evident when responses were stratified by year of medical school graduation with more contemporary graduates consistently more accepting of homosexuality and HIV infection than their predecessors. The least homophobic specialties in ranked order were psychiatry, internal medicine, and pediatrics, while the most homophobic specialties in ranked order were surgery (excluding orthopedics), family medicine, and orthopedics. However, it is interesting to note that gay specialists, such as Pediatricians, Surgeons, and Psychiatrists, still face considerable discrimination by losing colleague referrals. These data need to be investigated in future studies to clarify the reasons driving these decisions.
This investigation clearly demonstrated that HIV-phobia exists in medicine and is correlated with homophobia. The most HIV-phobic specialties in ranked order were orthopedics, surgery (excluding orthopedists), and obstetrics-gynecology. The least HIV-phobic specialties were psychiatry, pediatrics, and internal medicine. Furthermore, this investigation demonstrated that HIV infection is a significant barrier to specialty practice with 60% of respondents discontinuing referral to an HIV-positive general surgeon and one-third refusing admission of a healthy HIV-positive applicant to medical school. It is interesting to note that this survey was contemporary with the American Medical Association revising its statement on health care workers with HIV, which stated that there was no significant risk of HIV transmission from an HIV-infected health care worker to a patient (GLMA, 1999). A limitation of this observation is that physician respondents could have interpreted being “uncomfortable” with treating HIV-infected patients with being clinically uncomfortable and not personally uncomfortable, which may have skewed the results toward more respondents reporting being “uncomfortable” instead of “having no negative feelings.” However, this is unlikely since the other option of “no negative feeling” does not imply a clinical opinion whatsoever.

Of the 5,656 physicians surveyed, only 13% (736) responded. This response rate is too low to generalize these results to the entire surveyed population. The previous PATH-I survey had a 43% response rate, but did not include disclosure of sexual orientation for fear of a lower response rate (Mathews, 1982). A similar New Mexico study also had a higher response rate (53.6%). This study sampled physicians who had returned a previous survey and they also did not include sexual orientation as a demographic question (Tellez et al., 1999). Our current survey, PATHH-II, did include the sexual orientation variable, and this may account for the decreased response rate. It is noteworthy that about 7% of the respondents identified themselves as either homosexual or bisexual. This percentage is in the range of most published data on homosexual and bisexual prevalence, and suggest that the data are representative of sexual orientation of respondents. As with attitudinal surveys in general, corresponding respondent behavior and expressed attitudes cannot be stated with certainty (Larsen, Reed, & Hoffman, 1980; Katz, 1967). Despite these limitations, these findings are important in relation to the possible impact on the structure and quality of patient care (Najman et al., 1982; Friedman & Downey, 1994).

Various studies have suggested that negatively stereotyped patients receive less adequate health care, and this study shows that gay and
HIV-infected patients are negatively stereotyped (Najman et al., 1982; Schulman et al., 1999; Eckhoff et al., 1998; Alexander & Sehgal, 1998). It also shows that there is an association between homophobia and HIV phobia. More studies should be performed to assess the impact these negative attitudes have on the quality of care that is delivered to gay and HIV-positive patients. Our study shows that even though homophobia has become less prevalent over the past 17 years since PATH-I, it still exists, and is now linked with HIV phobia. It is evident that homosexuality and HIV infections are significant barriers to professional entry and the pursuit of specialty practice.

REFERENCES

Friedman RC, Downey JI. Homosexuality. NEJM 1994;331(14):923-930.

doi:10.1300/J082v52n03_01
APPENDIX A
Questions Assessing General Attitudes Toward Homosexuality

1. It would be beneficial to society to recognize homosexuality as normal.
2. Homosexuals should not be allowed to work with children.*
3. All homosexual bars should be closed down.*
4. Homosexuals should be given social equality.
5. Homosexuals should have equal opportunity employment.
6. There is no reason to restrict the places where homosexuals work.
7. Homosexuals should be barred from the teaching profession.*
8. Homosexuals should be allowed to marry.*

  Likert-type scoring: Strongly agree to Strongly disagree.

*Reversed scoring.
*Added question from PATH-I (PATHH-8 Question).
Items 1-7 make up the PATHH-7 score;
Items 1-8 make up the PATHH-8 score.

APPENDIX B
Medically Oriented Questions About Homosexuality and HIV

1. Should a highly qualified homosexual applicant be admitted to medical school? Yes; No
2. Should a highly qualified HIV-positive but asymptomatic applicant, with excellent response to antiretroviral therapy, be admitted to medical school? Yes; No
3. Suppose you learned that a physician colleague is a homosexual. Would you continue to refer your patients to this physician if he or she worked in any of the following specialties: Pediatrics, General Surgery, Psychiatry, Radiation Therapy? (Yes, would continue to refer; No, would discontinue referral)
4. Suppose you learned that a physician colleague is HIV infected. Would you continue to refer your patients to this physician if he or she worked in any of the following specialties: Pediatrics, General Surgery, Psychiatry, Radiation Therapy? (Yes, would continue to refer; No, would discontinue referral)
5. How do you feel about treating homosexual patients? (No negative feelings, sometimes uncomfortable or often uncomfortable)
6. How do you feel about treating HIV positive patients? (No negative feelings, sometimes uncomfortable, or often uncomfortable)