

## **Sexual Minority Women**

### **Introduction**

There is a paucity of information about the cancer experience of the approximately six percent of women in the U.S. who are sexual minorities.<sup>1, 2</sup> Until recently, sexual orientation measures were not included in national health data systems, making it impossible to accurately estimate the prevalence of cancer among sexual minority women (SMW). Persistent efforts by lesbian, gay, bisexual, and transgender (LGBT) scientists and colleagues in the past half-decade have resulted in the incorporation of sexual orientation measures in an increasing number of government surveys.<sup>3, 4</sup> These and other efforts are expanding the range of national population data relevant to determining cancer prevalence rates among sexual minority women compared to heterosexual women. Despite definite progress in understanding the extent to which sexual minority women are affected by cancer, two significant areas of research are underdeveloped and warrant specific attention. First, the research that has been conducted on cancer among SMW to date has focused primarily on breast cancer screening. There is a vital need to improve the understanding of other aspects of cancer among SMW in the U.S.. Second, at their best, government surveys provide only gross estimates of population subgroup prevalence, and, due to sample size and number of measures, they are limited in their applicability to exploring differences within groups. Population-based studies are needed to explore the social, cultural, and behavioral factors that may influence differences within groups in cancer rates and in response to treatment options.

As the Institute of Medicine (IOM) Lesbian Health report points out, SMW women “have historically been the target of prejudice.”<sup>5</sup> In community and population-based surveys, lesbians have reported discrimination in routine health care and lack of trust with providers.<sup>6-11</sup> The dearth of information on breast cancer among SMW stems in part from the prejudice that has dominated professional and societal attitudes toward SMW’s health needs, and this lack of information may also affect the health of sexual minority women.<sup>5</sup>

Methodological limitations of sample size, lack of consensus on how to define and measure sexual orientation, and non-inclusion of sexual orientation measures on government surveys (related in part to a lack of accepted definitions) have presented obstacles to more rapid advancement of lesbian health research.<sup>5</sup> While there are still large gaps in information about the health of SMW, scientific interest has increased over the past decades. As described at The 2000 Scientific Workshop on Lesbian Health, the hypothesis that breast cancer incidence may be higher in lesbians garnered a great deal of media attention in the 1990s.<sup>12, 13</sup> During the same time period, the National Lesbian Health Advocacy meetings with federal agencies began, leading to an increased focus by the Department of Health and Human Services on SMW health.<sup>13, 14</sup> Also noted at the Workshop on Lesbian Health was how questions regarding sexuality included in the Women’s Health Initiative and the Nurses Health Study allowed the field to further develop.<sup>13</sup> Furthermore, in 1999 and 2000, several reports were published describing health disparities among SMW, the lack of research focusing on

SMW, and recommendations for future research.<sup>5, 13, 15, 16</sup>

### **Concept/Exposure Definition**

As Dean et al. note, SMW “are defined by their sexual orientation,” and the definition varies throughout history and across cultures.<sup>10</sup> Therefore the meaning of sexual orientation, as described in the IOM Lesbian Health report, differs based on one’s culture and race/ethnicity.<sup>5, 17</sup> Although many measures have been developed to identify SMW, there is not a standard definition. Generally speaking, SMW include lesbians, bisexuals, women who partner with women, and women who have sex with women. Moreover, the report explains that sexual orientation is often described as being predicated on three factors: desire or attraction, behavior, and identity.<sup>5</sup>

In a nationwide study of randomly sampled adults examining issues of sexuality, Laumann et al. measured sexual orientation based on the following criteria – sexual contact with another woman, attraction to another woman, and identifying as a lesbian.<sup>17</sup> This study found that the prevalence of women classified as SMW varied depending on several factors including socioeconomic position, race/ethnicity, religious beliefs, and region. The authors also point out that many women who reported having sexual relations with woman did not necessarily self-identify as lesbian. Women of lower socioeconomic position were more likely to report being attracted to or having sexual contact with women, but to not identify with being a lesbian.

Referencing a table in the Laumann report,<sup>17</sup> the IOM report notes that SMW are incredibly diverse

and can be of any race/ethnicity, socioeconomic position, or age.<sup>5</sup> The authors of the report emphasize that “there is no single type of family, community, culture, or demographic category fully characteristic of [SMW].”<sup>5</sup> Analysis of data from the United States Census has provided more specific information about diversity among same-sex female-headed households.<sup>18-21</sup>

### **Biologic Plausibility**

Sexual orientation is a proxy for many individual and social risk factors that potentially influence breast cancer risk and outcomes. Risk factors associated with SMW include nulliparity, older age at first birth, alcohol consumption, smoking, and obesity.<sup>22-27</sup> As Cochran points out, none of these risk factors is exclusive to lesbians, but all may be more prevalent among this population.<sup>27</sup>

### **Critical Review of the Literature, by Outcomes in Breast Cancer Continuum**

#### ***Introduction***

The overall effect of sexuality is not well understood because few studies have explored its role in breast cancer. The studies that have been conducted have generally focused on risk factors, screening behaviors, and quality of life.

#### ***Incidence and Etiology***

The incidence of breast cancer among SMW is not known. However, SMW make up about six percent of women in the United States and should, thereby make up about six percent of all cases of breast cancer.<sup>26</sup> Dibble points out that this may be a conservative estimate, if breast cancer is higher among SMW,<sup>26</sup> as some studies suggest.<sup>12</sup> Though

few studies have examined the incidence of breast cancer among SMW, a study by Kavanaugh-Lynch et al. examined breast cancer risk among lesbians using three surrogate correlates of sexual orientation: no male sexual partners ever, never married and not currently using contraceptive, and not currently married and not using contraceptive. She found an elevated risk for all three measures.<sup>28</sup> In contrast, a pooled analysis of seven independently-conducted surveys of SMW found no difference in the prevalence of self-reported history of breast cancer among self-identified SMW, compared to all U.S. women combined, despite the higher prevalence of a number of breast cancer risk factors reported by SMW in these surveys.<sup>27</sup> The pooled analysis by Cochran and colleagues, however, had a number of limitations. Breast cancer risk was estimated by self-report of breast cancer and thus, by definition, was limited to survivors. If SMW have different survival rates than the general population of women, this could introduce a survival bias in estimating breast cancer risk. Furthermore, none of the seven studies were population-based and the authors note that a healthy-volunteer bias likely resulted in some underestimation of the prevalence of disease and risk factors in these studies. Finally, the SMW in the pooled analysis were young (mean age = 36 years) and not representative of the age group most at risk for breast cancer nor probably of the full population of SMW. Despite the limitations of the pooled analysis by Cochran, a recent in-depth review of studies on this issue by The Safeguards Project & The LGBT Health Resource Center led them to conclude that Cochran and colleagues' pooled analysis provides "the best possible picture at this time."<sup>29</sup> Ultimately, the limitations of the Cochran analysis

reflect those of the underlying studies and underscore the need to develop better strategies for capturing a representative sample of the full SMW population in which true breast cancer incidence can be measured.

The research that has been conducted among SMW suggests that they may be at higher risk of developing breast cancer than heterosexual women, based on perceived differences in prevalence of risk factors associated with breast cancer in community and population-based studies. Most research suggests that lesbians differ from heterosexual women in that they are more likely to be nulliparous and they are more likely to consume alcohol, smoke, and be overweight.<sup>27</sup> Thus, while the existing data strongly suggest that SMW are at increased risk of breast cancer, both the reality of increased risk and the magnitude of the presumed increase remain uncertain.

### **Screening**

Breast cancer screening frequency among SMW may differ from that of heterosexual women. SMW receive mammograms less frequently than do heterosexual women,<sup>24</sup> potentially increasing their risk for later-stage diagnosis and worse prognosis. A study by Diamant et al. found that lesbian, but not bisexual, women were less likely than were heterosexual women to have had a clinical breast exam in the past two years.<sup>11</sup> In an analysis of pooled data from multiple studies of over 11,000 lesbian and bisexual women, Cochran also found that SMW had a lower lifetime breast cancer screening prevalence rate than what was expected, using population-based norms.<sup>27</sup>

Several researchers have also explored the reasons why SMW may receive less screening. Lauver et al. found that they include cost, scheduling, discomfort, competing life demands, fear, and embarrassment.<sup>30</sup> Conversely, reasons for seeking mammograms included good health practices, responding to the perception of being at high risk of cancer, and the desire to ensure early detection.<sup>30</sup> Among lesbians with a first-degree relative with breast cancer, Burnett found that the odds of obtaining a mammogram was positively associated with being concerned about developing breast cancer and socioeconomic position.<sup>31</sup> In addition, Dean and others suggest that SMW may have decreased access to appropriate health care, due in part to lower average household incomes and to the fact that health insurance rarely covers the partners of SMW.<sup>10, 24</sup> Research suggests that even SMW with health insurance and financial resources may have difficulty obtaining appropriate care due to homophobia among health care providers<sup>24, 27</sup> or simply due to ignorance among physicians about lesbian health issues.<sup>27</sup>

Few interventions have been developed to improve breast cancer screening rates among SMW. Bowen, in a randomized controlled trial, found that lesbian and bisexual women who received breast cancer risk counseling intervention had reductions in anxiety and fear about breast cancer, and also had increased screening for up to two years after the intervention.<sup>24</sup> Dibble et al. conducted a pilot study to determine whether lesbian-specific educational interventions would impact cancer-screening behaviors among lesbians over the age of 50. It was not possible to obtain conclusive results, due to loss to follow-up and small numbers, but the authors stress the need to

develop appropriate interventions for this underserved population.<sup>32</sup>

Research suggests that SMW have lower screening rates than do heterosexual women. Several barriers to screening have been identified, as have interventions that increase screening among this population. However, compared to most racial/ethnic minority groups, SMW have had little research dedicated to improving their screening rates.

### ***Diagnosis and Treatment***

Dibble conducted one of the few studies investigating breast cancer diagnosis and treatment in SMW.<sup>26</sup> She found no significant differences in diagnostic or surgical procedures, or chemotherapy or radiotherapy regimens between lesbians and heterosexual women.<sup>26</sup> However, lesbians did report significantly more side effects from chemotherapy.<sup>26</sup> Further research with larger samples is necessary to determine if these results are consistent across different SMW populations.

Nothing is known about participation of SMW in clinical trials.

### ***Morbidity***

Little is known about morbidity associated with breast cancer treatment and survivorship among SMW, but several studies have examined quality of life among SMW diagnosed with breast cancer. Matthews found that although SMW and heterosexual women similarly rated their overall quality of life, lesbians were less happy with their medical care, lacked support on an emotional level, and experienced higher levels of stress.<sup>33</sup> In

a different study, Boehmer et al. found that women with breast cancer had a more positive experience when they were able to discuss their sexual orientation and when they had less “helpless-hopeless coping.”<sup>34</sup> In another study, Boehmer et al. found that women who identified themselves as being lesbian or bisexual used healthier coping mechanisms than women who reported “partnering with women,” but did not self-identify as being lesbian or bisexual.<sup>35</sup> Fobair et al. found that lesbians reported fewer body image problems, were more likely to obtain social support from partners and friends, and were more likely to report anger than were heterosexual women.<sup>36</sup> In a different study, Fobair et al. also found that a 12-week support program for lesbians was helpful in reducing emotional distress and improving coping.<sup>37</sup>

Overall, current research findings conclude that SMW experience quality of life similar to that of heterosexual women after breast cancer diagnosis, though their qualitative experiences may differ.

Nothing is known regarding survival and mortality differences among SMW and heterosexual women.

## **Discussion**

### ***Limitations***

Limitations to the literature are driven by the lack of data collected about women of diverse sexual orientations. This is likely caused by potential discrimination regarding sexual orientation in both clinical and research settings. Discrimination is a serious barrier in SMW health research. The IOM Lesbian Health report suggests that SMW

participating in studies may not discuss being gay because they do not trust researchers.<sup>5</sup> Moreover, there has been little funding support for research on SMW health topics and several investigators report difficulty in publishing data on SMW.<sup>5, 38</sup> Dean notes that before Healthy People 2010 included “persons defined by sexual orientation,” there was virtually no funding to support the study of SMW health.<sup>10, 15</sup> However, limited, discernible progress has been made since publication of the Healthy People 2010 Companion Document on LGBT Health.<sup>21</sup> Of particular note, National Center for Health Statistics (NCHS) staff and LGBT scientists have conducted cognitive testing studies to determine the most acceptable measures for sexual orientation to include on government and other surveys.<sup>39</sup> This work has facilitated the inclusion of sexual orientation measures on government surveys, as noted earlier.

There are several limitations in the study of breast cancer among SMW. Perhaps most importantly, there is no simple and accurate measure of sexual orientation.<sup>40</sup> Different studies define SMW in various ways, making it difficult to compare results across studies.<sup>5</sup> There may be sampling bias in studies of SMW because lesbians who are actively involved in the lesbian community may be more likely to participate than other lesbians.<sup>40-42, 42</sup> The IOM Lesbian Health report also points out that SMW are a relatively small group “dispersed throughout the population [making] it difficult and expensive to obtain a population-based sample (or probability sample).”<sup>5</sup> Furthermore, the use of small sample sizes and non-randomization of participants preclude generalizability of study results.<sup>5</sup>

### **Gaps in Knowledge**

The paucity of SMW breast cancer data is due, in large part, to the limitations described above. Existing data come from studies focused on screening, to the exclusion of other parts of the breast cancer continuum, including diagnosis, treatment, morbidity, mortality, or other aspects of breast cancer survivorship.

### **Conclusion and Future Directions**

Several recent reports have provided recommendations for enhancing future research in SMW's health.<sup>5, 15, 16</sup> First and foremost, funding for research about SMW is essential. The 2000 Scientific Workshop on Lesbian Health specifically recommended the federal government solicit and fund such research.<sup>13</sup> Dean also makes several important suggestions.<sup>10</sup> First, the study population needs to be specifically defined, perhaps through a large-scale probability survey to collect data on sexual orientation in general,<sup>10</sup> as well as women's self-perceptions of their sexual orientation. Second, there is a related need to develop valid measures of sexual orientation.<sup>10</sup> Third, the development of methods for sampling "hidden populations" will greatly improve future studies,<sup>10</sup> not only for SMW, but for other underserved groups. Fourth, further development of methods for soliciting information on "sensitive topics," such as computer-assisted interviews, is also needed.<sup>5, 10</sup> In addition, Healthy People 2010 reports that federal surveys need to include questions regarding sexual orientation.<sup>15</sup> Other government-supported efforts are also underway to address these concerns and definite progress has been made as evidenced by the numerous surveys that now include these types of questions.<sup>3</sup> The

Scientific Workshop on Lesbian Health further highlighted the need for research to include the diversity of lesbian populations.<sup>13</sup>

Following results from Laumann,<sup>17</sup> SMW research should address race/ethnicity, socioeconomic position, age, disability, other population characteristics, and regional differences among SMW.<sup>13</sup> Furthermore, to reduce barriers and improve access to quality cancer and other health care for SMW, there is a critical need for additional education and SMW cultural competency training among health care providers (including all positions within the health care and public health workforce), educators, researchers, and students.<sup>13, 15</sup> The CDC-funded "Removing the Barriers" program was developed and implemented by the Mautner Project for Lesbians with Cancer to improve health care providers' knowledge and competence for treating sexual minority women.<sup>7</sup> Enthusiasm for this program and positive evaluations over time indicate that such programs meet a recognized need and warrant expansion.

### **Integration of Research on Sexual Orientation with Research in Other Domains**

The study of SMW can be and has been included in the study of overall women's health, making these investigations diverse and efficient. Sexual orientation has been added as an additional demographic variable in several large-scale studies of women's health.<sup>22, 43</sup> Inclusion of simple questions on sexual minority status has not affected the response rate of the participants, and including these variables has enabled the field to

move forward in ways that research using smaller, less representative, samples cannot.

Policy intervention opportunities for the study of and improvement of breast cancer outcomes for SMW are plentiful. Policy in the area of research activities could include the required inclusion of sexual minority variables in all federally funded studies, and reporting of SMW status in final and status reports to funding institutions. Including gender, ethnic, and racial status in these reports resulted in a clear jump in awareness of demographic distribution of samples recruited for general research and improved our understanding of the role of these key differences in health.<sup>44</sup>

National surveys that monitor the health of the nation's population should be the first targets for inclusion of sexual minority variables, along with large federal- and state-funded surveys and studies.

While many other recommendations have been made to improve SMW health research, the recommendations discussed in this section have been the most frequently cited. If implemented, important research will begin to address the many critical questions that, to date, remain unanswered.

## References

1. Kinsey AC. *Sexual Behavior in the Human Female*. Philadelphia, PA, USA: Saunders, 1953.
2. Kelly CE. Bringing homophobia out of the closet: antigay bias within the patient-physician relationship. *Pharos Alpha Omega Alpha Honor Med Soc*. 1992, 55(1):2-8.
3. GayData.org. Data Sources [web page]. Philadelphia, PA, USA: Randal L. Sell, Sc.D., Drexel University, School of Public Health, 2007. Available at [http://www.gaydata.org/ds001\\_Index.html](http://www.gaydata.org/ds001_Index.html). Accessed 14 Jun 2007.
4. Bradford JB, Mayer KH. Demography and the LGBT population: What we know, don't know, and how the information helps to inform clinical practice. In: Makadon HJ, Mayer KH, Potter J, Goldhammer H, editors. *The Fenway Guide to Enhancing the Healthcare of Lesbian, Gay, Bisexual and Transgender Communities*. Philadelphia, PA, USA: American College of Physicians, 2007.
5. Solarz AL, Committee on Lesbian Health Research Priorities, Neuroscience and Behavioral Health Program, Health Sciences Policy Program, Health Sciences Section, Institute of Medicine, editors. *Lesbian Health: Current Assessment and Directions for the Future*. Washington, DC, USA: National Academies Press, 1999. Available at [http://books.nap.edu/execsumm\\_pdf/6109.pdf](http://books.nap.edu/execsumm_pdf/6109.pdf). (ISBN: 03-0906-567-4)
6. Klitzman RL, Greenberg JD. Patterns of communication between gay and lesbian patients and their health care providers. *J Homosex*. 2002, 42(4):65-75.
7. Scout, Bradford J, Fields C. Removing the barriers: improving practitioners' skills in providing health care to lesbians and women who partner with women. *Am J Public Health*. 2001, 91(6):989-90.
8. Barbara AM, Quandt SA, Anderson RT. Experiences of lesbians in the health care environment. *Women Health*. 2001, 34:45-62.

## *Identifying Gaps in Breast Cancer Research*

9. Mays VM, Cochran SD. Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. *Am J Public Health*. 2001 , 91(11):1869-76.
10. Dean L, Meyer IH, Robinson K, Sell RL, Sember R, Silenzio VMB, Bowen DJ, Bradford J, Rothblum E, White J, Dunn P, Lawrence A, Wolfe D, Xavier J. Lesbian, Gay, Bisexual, Transgender Health: Findings and Concerns. *J Gay Lesbian Med Assoc*. 2000, 4(3):102-51.
11. Diamant AL, Schuster MA, Lever J. Receipt of preventive health care services by lesbians. *Am J Prev Med*. 2000, 19(3):141-8.
12. Haynes S. Risk of breast cancer in lesbians [conference proceeding]. Presented at the Annual Meeting of the National Gay and Lesbian Health Education Foundation; Los Angeles, CA. Los Angeles, CA, USA: Annual Meeting of the National Gay and Lesbian Health Education Foundation, 1992.
13. Haynes SG. Scientific Workshop on Lesbian Health 2000: Steps for Implementing the IOM Report. *J Gay Lesbian Med Assoc*. 2001, 5(2):43-78.
14. Plumb M. Advocating for Lesbian Health in the Clinton Years. In: D'Emilio J, Turner WB, Vaid U, editors. *Creating Change: Sexuality, Public Policy and Civil Rights*. New York, NY, USA: St. Martin's Press, 2000; pp. 361-81.
15. Gay and Lesbian Medical Association (GLMA), LGBT Health Experts. *Healthy People 2010 Companion Document for Lesbian, Gay, Bisexual, and Transgender (LGBT) Health*. San Francisco, CA, USA: Gay and Lesbian Medical Association, 2001. Available at [http://www.glma.org/\\_data/n\\_0001/resources/live/HealthyCompanionDoc3.pdf](http://www.glma.org/_data/n_0001/resources/live/HealthyCompanionDoc3.pdf).

*California Breast Cancer Research Program*

16. United States Department of Health and Human Services (DHHS), National Women's Health Information Center, Office on Women's Health. Lesbian Health Fact Sheet [web page]. Washington, DC, USA: United States Department of Health and Human Services (DHHS), 2000. Available at <http://www.4woman.gov/owh/pub/factsheets/Lesbian.htm>. Accessed 1 Sep 2006.
17. Laumann EO. *The Social Organization of Sexuality: Sexual Practices in the United States*. Chicago, IL, USA: University of Chicago Press, 1994. (ISBN: 02-2646-957-3)
18. Sears RB, Gates G, Rubenstein WB. *Same-Sex Couples and Same-Sex Couples Raising Children in the United States: Data from Census 2000*. Los Angeles, CA, USA: University of California, Los Angeles, School of Law; Williams Project on Sexual Orientation Law and Public Policy, 2005. Available at <http://www.law.ucla.edu/williamsinstitute/publications/USReport.pdf>.
19. Simmons T, O'Connell M, United States Bureau of the Census. *Married-Couple and Unmarried-Partner households, 2000; Census 2000 Special Reports*. Washington, DC, USA: United States Department of Commerce, Economics and Statistics Administration, United States Bureau of the Census, 2003. Report ID: CENSR-5. Available at <http://www.census.gov/prod/2003pubs/censr-5.pdf>.
20. Smith DM, Gates GJ. *Gay and Lesbian Families in the United States: Same-Sex Unmarried Partner Households. A Preliminary Analysis of 2000 United States Census Data*. Washington, DC, USA: Washington DC Human Rights Campaign, 2001. Available at [http://gaydata.org/Data\\_Sources/ds008\\_USCENSUS\\_SMITH.pdf](http://gaydata.org/Data_Sources/ds008_USCENSUS_SMITH.pdf).
21. Ellis JM, Honnold J, Barrett KA. Identification and description of lesbians living in households reporting same-sex partnerships in public use micro-data samples [conference proceeding]. Presented at the National Lesbian Health Research Conference; San Francisco, CA, USA. San Francisco, CA, USA: National Lesbian Health Research Conference, 2001.

## *Identifying Gaps in Breast Cancer Research*

22. Case P, Austin SB, Hunter DJ, Manson JE, Malspeis S, Willett WC, Spiegelman D. Sexual orientation, health risk factors, and physical functioning in the Nurses' Health Study II. *Womens Health (Larchmt)* . 2004, 13(9):1033-47.
23. Fish J, Wilkinson S. Understanding lesbians' healthcare behavior: the case of breast self-examination. *Soc Sci Med*. 2003, 56(2):235-45.
24. Bowen DJ, Powers D, Greenlee H. Effects of breast cancer risk counseling for sexual minority women. *Health Care Women Int*. 2006, 27(1):59-74.
25. 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(10):1043-51.
26. Dibble SL, Roberts SA. A Comparison of Breast Cancer Diagnosis and Treatment Between Lesbian and Heterosexual Women. *J Gay Lesbian Med Assoc*. 2002, 6(1):9-17.
27. Cochran SD, Mays VM, Bowen D, Gage S, Bybee D, Roberts SJ, Goldstein RS, Robison A, Rankow EJ, White J. Cancer-related risk indicators and preventive screening behaviors among lesbians and bisexual women. *Am J Public Health*. 2001, 91(4):591-7.
28. Kavanaugh-Lynch MHE, White E, Daling JR, Bowen DJ. Correlates of Lesbian Sexual Orientation and the Risk of Breast Cancer. *J Gay Lesbian Med Assoc*. 2002, 6(3-4):91-5.
29. Shahbaz K, De Witt R. *Lesbians and Breast Cancer: A Review of Referred Literature*. Philadelphia, PA, USA: The SafeGuards Project & LGBT Health Resource Center, 2003. Available at <http://www.safeguards.org/?p=3> or as a PDF at <http://www.safeguards.org/wordpress/wp-content/uploads/breastcancer.pdf>.
30. Lauver DR, Karon SL, Egan J, Jacobson M, Nugent J, Settersten L, Shaw V. Understanding lesbians' mammography utilization. *Womens Health Issues*. 1999, 9(5):264-74.

*California Breast Cancer Research Program*

31. Burnett CB, Steakley CS, Slack R, Roth J, Lerman C. Patterns of breast cancer screening among lesbians at increased risk for breast cancer. *Women Health*. 1999, 29(4):35-55.
32. Dibble SL, Roberts SA. Improving cancer screening among lesbians over 50: results of a pilot study. *Oncol Nurs Forum*. 2003, 30(4):E71-9.
33. Matthews AK, Peterman AH, Delaney P, Menard L, Brandenburg D. A qualitative exploration of the experiences of lesbian and heterosexual patients with breast cancer. *Oncol Nurs Forum*. 2002, 29(10):1455-62.
34. Boehmer U, Freund KM, Linde R. Support providers of sexual minority women with breast cancer: who they are and how they impact the breast cancer experience. *J Psychosom Res*. 2005, 59(5):307-14.
35. Boehmer U, Linde R, Freund KM. Sexual minority women's coping and psychological adjustment after a diagnosis of breast cancer. *Womens Health (Larchmt)*. 2005, 14(3):214-24.
36. Fobair P, O'Hanlan K, Koopman C, Classen C, Dimiceli S, Drooker N, Warner D, Davids H, Loulan J, Wallsten D, Goffinet D, Morrow G, Spiegel D. Comparison of lesbian and heterosexual women's response to newly diagnosed breast cancer. *Psychooncology*. 2001, 10(1):40-51.
37. Fobair P, Koopman C, DiMiceli S, O'Hanlan K, Butler LD, Classen C, Drooker N, Davids HR, Loulan J, Wallsten D, Spiegel D. Psychosocial intervention for lesbians with primary breast cancer. *Psychooncology*. 2002, 11(5):427-38.
38. Boehmer, U., Bowen, D., and Bauer, G. Overweight and obesity in sexual minority women: evidence from population-based data. *Am J Public Health*. 2007, in press.
39. Scout. LGBT Surveillance and Data Collection Briefing Paper. Boston, MA, USA: The Fenway Institute, 2007. Available at [http://www.lgbttobacco.org/files/Surveillance Briefing Paper 04.doc](http://www.lgbttobacco.org/files/Surveillance%20Briefing%20Paper%2004.doc).

*Identifying Gaps in Breast Cancer Research*

40. Powers D, Bowen DJ, White J. The influence of sexual orientation of health behaviors in women. *J Prev Interv Community*. 2001, 22(2):43-60.
41. Meyer IH, Rossano L, Ellis JM, Bradford J. A brief telephone interview to identify lesbian and bisexual women in random digit dialing sampling. *J Sex Res*. 2002, 39(2 ):139-44.
42. Bradford J, Honnold JA, Ryan CC. Disclosure of sexual orientation in survey research on women. *J Gay Lesbian Med Assoc* . 1997, 1(3):169-77.
43. 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(9):843-53.
44. Bowen DJ, Boehmer U. The lack of cancer surveillance data on sexual minorities and strategies for change. *Cancer Causes Control*. 2007, 18(4):343-9.