Addressing Health Disparities Affecting Lesbian, Gay, Bisexual, and Transgender (LGBT) Youth and Adults in Wisconsin

Prepared for the
Wisconsin Department of Health Services,
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By
Lauren Benditt
Emily Engel
Melissa Gavin
Elizabeth Stransky

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Robert M. La Follette School of Public Affairs
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1225 Observatory Drive, Madison, WI 53706
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Foreword

This report is the product of a semester-long collaboration between the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison and Wisconsin Department of Health Services, AIDS/HIV Program, Division of Public Health.

Inequality in health conditions is an empirical and health policy puzzle about which much remains unknown, although much progress has been made toward solving it. Public health policy that seeks to address unmet health needs is hampered by the lack of knowledge about who is at greater risk of certain health conditions and why that is the case. This report addresses health differentials between the Lesbian, Gay, Bisexual, and Transgender (LGBT) population and the non-LGBT population. As this report shows, the size of the LGBT population in Wisconsin is not known because no survey asks the questions needed to identify all LGBT individuals. Some identify LGB status based on sexual behavior, misclassifying those who identify as LGB but are not sexually active. In addition a serious concern is that nonconsensual sex, including violent sexual assault, could misclassify the assaulted individual as LGB or non-LGB based on the assaulter's gender. Other surveys categorizing individuals on the basis of self-identification, misclassifying individuals reluctant to reveal their sexual preferences in surveys, especially if administered face-to-face. The stigma that may limit health care for LGB individuals causes the failure to identify them. Finally, surveys rarely identify transgender individuals, a limitation evident in the Wisconsin data. Most survey questions about gender provide only the male/female option and have no questions that differentiate between current and natal gender.

This report presents analyses of Wisconsin health surveys of youth and adults. It documents a statistically significant difference in health conditions between Wisconsin's LGB and non-LGB populations (surveys, including the three this report analyzes, rarely identify transgender individuals). Sample size and LGB identification issues limit additional analysis of the reasons for these disparities. The authors' analyses suggest, however, that adverse health conditions are more prevalent among LGB individuals because they are more likely to engage in more health risk behaviors, although evidence suggests that family support and other "safety indicators" reduce the probability of adverse health conditions. These results inform the recommendations that the Department of Health Services improve data collection and review programs instituted elsewhere that attempt to reduce LGBT health disparities. Drawing on their training in public management and policy analysis, the authors present a decision-making matrix that DHS could use in developing health policy to address Wisconsin health differentials.

The authors' training is part of the La Follette School of Public Affairs' two-year graduate program that leads to a master's degree in public affairs. Students study policy analysis and public management, and they pursue a concentration in a public policy area of their choice. They spend the first year and a half taking courses that provide them with the tools they need to analyze public policies.

Although acquiring a set of policy analysis skills is important, there is no substitute for doing policy analysis as a means of learning policy analysis. Public Affairs 869, required in the program's final semester, provides graduate students that opportunity. The authors were all enrolled in Public Affairs 869, Workshop in Public Affairs (section 2). They collaborate to improve their policy analysis skills while contributing to the capacity of public agencies to analyze and develop policies on issues of concern to Wisconsin residents.

The students in this workshop were assigned to one of three teams. One group worked on this report, while the others collaborated with the Wisconsin Department of Children and Families and the U.S. Government Accountability Office, Chicago office.

Mari Gasiorowicz, HIV Prevention Evaluation Coordinator, first suggested the topic of this report. I am grateful for the time and effort she and Linda McCart, who had worked with a 2008 project team, gave in the development of potential topics and in the selection of this one. Mari and Molly Herrmann, HIV Prevention Program Development Specialist, were generous in the time they gave to working with students throughout the semester. This report would not have been possible without their assistance. I also thank Secretary Karen Timberlake for her support through her endorsement of staff spending time to discuss key issues with the team. The acknowledgments section thanks other individuals who supported the students as they pursued data and policy insights. I add my gratitude to the appreciation expressed there.

The conclusions herein are those of the authors alone. The topic they address is large and complex, and this report can only add some additional insight from an analysis that is necessarily constrained by the semester time frame. Nevertheless, much has been accomplished, and I trust that the Department of Health Services will gain from this report as it continues to address health disparities in Wisconsin.

The report also benefited greatly from the support of faculty and the staff of the La Follette School of Public Affairs, especially that of Publications Director Karen Faster, who edited and managed production of the report.

I hope that, through this involvement in the tough issues state government faces, our students have learned a great deal about doing policy analysis and have gained an appreciation of the complexities and challenges confronting state and local governments in Wisconsin. I hope that this report will contribute to the work of the Department of Health Services and to the ongoing public discussions about health policy in Wisconsin and elsewhere.

Karen Holden
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Executive Summary

Mounting evidence suggests that health disparities exist between the lesbian, gay, bisexual and transgender (LGBT) and non-LGBT populations. The Wisconsin Department of Health Services (DHS) therefore commissioned the University of Wisconsin-Madison's Robert M. La Follette School of Public Affairs to study the extent of these health disparities in Wisconsin and to provide recommendations on how best to address them.

Studies conducted elsewhere in the United States indicate that, in addition to having higher rates of HIV/AIDS and sexually transmitted infections, LGBT individuals have higher rates of substance abuse, obesity, tobacco use, and mental health problems as compared to non-LGBT individuals. To assess LGBT health disparities in Wisconsin, we analyzed three data sets.

Our analysis faced the common challenges of collecting data on LGBT individuals. These challenges stem from the inherent complexities of sexual orientation and gender identity. Generating reliable data on sexual orientation requires inquiring about sexual behavior, identity, and attraction. At least one additional measure on gender identity is necessary to identify transgender individuals, since sexual orientation and gender identity are mutually exclusive categories. Available data lacked gender identity questions and comprehensive measures on sexual orientation. In addition, surveys, including the three we analyze in this report, rarely identify transgender individuals.

Data indicate the existence of health disparities between LGB and non-LGB youth and adults in Wisconsin. However, data limitations prevented us from assessing the extent of these disparities.

Our report also highlights four case studies that DHS can consider when designing initiatives to reduce LGBT health disparities. These include 1) the Seattle and King County LGBT website, 2) the Kansas City, Missouri, Health Department PULSE and Check the PULSE surveys, 3) the Massachusetts Department of Public Health, and 4) the City of Chicago's Office of LGBT Health. We assess each initiative's advantages and disadvantages and provide a summary of the common themes found in successful initiatives.

Last, we present a decision-making matrix that DHS can use to uniformly compare potential initiatives across a range of criteria. These criteria include 1) increasing understanding and awareness of LGBT health disparities, 2) manageable and sustainable costs, 3) administrative feasibility, and 4) political feasibility.

We recommend that DHS incorporate comprehensive questions about gender identity and sexual orientation in its regular data collection efforts. Additionally, we recommend that DHS use the decision-making matrix to inform its plan of how to best address the health needs of Wisconsin's LGBT residents.

Introduction

Mounting evidence suggests health disparities exist between the lesbian, gay, bisexual and transgender (LGBT) and non-LGBT populations. Aside from documenting differences in the incidence of HIV/AIDS and sexually transmitted infections, national literature indicates that LGBT individuals experience higher levels of substance abuse, tend to be disproportionately overweight or obese, use tobacco at higher rates, and have higher rates of depression and suicidality compared to their non-LGBT counterparts (Aaron, 2001; Boehmer et al., 2007; Dean et al., 2000; Gruskin et al., 2007; Mays et al., 2002; Skinner, 1994; Valanis et al., 2000).

Wisconsin's Department of Health Services (DHS) AIDS/HIV Program seeks to understand and reduce the health disparities that may exist between the state's LGBT and non-LGBT populations. According to *Healthy People 2010*, an agenda set forth by the U.S. Department of Health and Human Services, health disparities are the "unequal burden in disease, morbidity and mortality rates experienced by ethnic/racial groups as compared to the dominant group" (2000, 1).

In addition to having the same basic health care requirements as individuals in the general population, LGBT individuals also have unique health care issues related to specific health risk factors, distinct medical conditions, and stigma and discrimination (Johnson, Mimiaga, & Bradford, 2008). Specific health risk factors include factors related to sexual behavior, such as higher incidences of HIV/AIDS and sexually transmitted infections. Distinct medical conditions are health concerns specific to the LGBT community, such as the particular health needs of transgender individuals. Finally, social stigma creates stress and feelings of shame and self-hatred that have mental health manifestations, including depression, low self-esteem, anxiety, suicidality, substance abuse, and feelings of despair and powerlessness. This may decrease an individual's health-seeking behaviors (Meyer & Northridge, 2007). Discrimination against LGBT individuals, particularly in hiring practices and marriage laws that prevent access to health insurance coverage, potentially limit regular and preventative health care.

Meyer (2001) classifies LGBT health behaviors and conditions into three categories for describing the role of public health policy in reducing LGBT health disparities.[1] These categories are:

1. Those associated with LGBT sexual behaviors, sexual orientation, and gender identity;
2. Those not associated with LGBT sexual behaviors, sexual orientation, and gender identity; and
3. Those that require culturally competent approaches from health care providers for successful treatment.

[1] We use "LGBT health disparities" in this report to describe health disparities between the LGBT population and the non-LGBT population.

To the extent that LGBT health disparities have been researched and documented, the first category (health behaviors and conditions due to sexual behaviors, orientation, and gender identity) has received the most attention. However, public health research has largely ignored LGBT health disparities other than those due to sexually transmitted diseases (Boehmer, 2002).

The body of literature that substantiates and addresses the second category (health behaviors and conditions not related to sexual behaviors, orientation, or gender identity) is growing, though it continues to face major definitional and data limitations. For example, research often draws from convenience samples that may not be representative of the LGBT population, and studies use varying measures to identify LGBT individuals (Meyer, 2001).

Finally, the third category of health behaviors and conditions (those not distinct for LGBT individuals but that may require culturally competent health care) needs further attention in the public health sector. Gay men and lesbians report experiencing health care environments that are culturally insensitive (Harcourt, 2006). Stein and Bonuck (2001) indicate that the hostile response of health care providers to a patient's orientation makes many gay and lesbian respondents reluctant to disclose their orientation to providers. Individuals afraid of being stigmatized by health care providers may avoid seeking care (Ungvarski & Grossman, 1999). In a survey of all internal medicine residency programs in the United States, researchers found trainings in culturally competent health care to be deficient in addressing LGBT issues (McGarry et al., 2008).

Assessing and addressing these three factors in a comprehensive, thoughtful way is important to reducing and eventually eliminating LGBT health disparities.

Barriers that limit access to health care include low-income status, lack of or inadequate coverage by health insurance, and geographically limited access to health care providers. A lack of domestic partner benefits may also contribute to LGBT health disparities. Health disparities will be observed to the extent that LGBT youth and adults face these barriers. Sexual discrimination, stigma, and/or cultural and language barriers can also contribute to health discrepancies for LGBT youth and adults (Gay and Lesbian Medical Association, 2001).

Complicating the ability of public health agencies and health care providers to address health disparities is the lack of a consensus on how to identify LGBT individuals. For research purposes, women who primarily orient with other women are classified as lesbians, men who primarily orient with other men are classified as gay, and individuals who orient with men and women are classified as bisexual. The term transgender describes individuals who identify with another gender or who have expressions or behaviors that are traditionally not associated with their natal sex (Johnson, Mimiaga, & Bradford, 2008).

Data collection efforts for purposes of health care research have only recently started asking about sexual orientation, but they still seldom include a measure on gender identity. Behavior, identity, and attraction are common measures for determining sexual orientation (Sell, 1997). If used alone, these do not provide comprehensive measures of the LGB population. Even when individuals do not engage in the identified behaviors, they may still identify with a sexual minority. Individuals may be attracted to others of the same sex without acting on that attraction or may engage in same-sex sexual activity without identifying as LGB. Surveys can only reliably identify LGBT individuals by including questions that ask about gender identity and about the behavior, identity, and attraction facets of sexual orientation. However, many data collection efforts, including Wisconsin surveys that gather health care data on the state's population, only inquire about a subset of these.

Evidence we examined indicates that some of the health disparities found in national literature apply to Wisconsin's population. However the data we analyzed are unable to accurately describe the magnitude of these differences in Wisconsin because of the LGBT identification issue. The inability to fully understand the nature and causes of the disparities creates challenges for policy makers and health practitioners. Once DHS establishes the scope of Wisconsin's LGBT health disparities through improved data collection, the state can take more effective steps to reduce and ultimately eliminate them.

Nationwide, public initiatives are being taken to address LGBT health disparities, providing useful policy examples. This report describes four of these initiatives, which might be useful models for DHS in addressing LGBT health disparities.

DHS asked our research team to:

1. Analyze Wisconsin data to assess the extent of LGBT health disparities;
2. Identify and describe efforts nationally that address LGBT health disparities;
3. Create a decision-making process to help determine how to structure the agency's response to LGBT health disparities; and
4. Make recommendations for data collection techniques so agency staff can increase their understanding of LGBT health disparities.

This report begins by presenting findings from our analysis of three Wisconsin data sets on differences in health outcomes and risk behaviors between the LGBT and non-LGBT populations. Next, the report examines four promising initiatives from other communities that address LGBT health disparities. This discussion highlights each initiative's structure, strengths, and weaknesses. We also highlight three themes in these initiatives that make them promising practices. Next, we provide a decision-making matrix for analyzing any potential policy option to combat LGBT health disparities. DHS can use this matrix systematically compare policy or administrative options as it seeks to meet the health care needs of Wisconsin's population. The report concludes with recommendations on next steps to address LGBT health disparities.

What We Can Learn From Current Data

To assess the extent of LGBT health disparities in Wisconsin, one must have data that includes not only appropriate health measures but also data that accurately identify LGBT and non-LGBT individuals. Survey questions must be sensitive to the complexities of sexual orientation and gender identity; otherwise, analyses of survey results may produce unreliable or incomplete findings. The following section underscores the importance of including questions on both sexual orientation and gender identity on future population surveys. We argue that only with a more comprehensive measure of LBGT status can DHS understand the health differentials among Wisconsin's residents and be able to measure over time reductions in health disparities as a consequence of policy actions.

First, this section discusses the challenges of collecting quality data on LGBT individuals due to the inherent complexities of sexual orientation and gender identity. It argues that reliable data on sexual orientation requires inquiring about sexual behavior, identity, and attraction. Additionally, surveys should include a measure on gender identity, since sexual orientation and gender identity are distinct characteristics.

Next, it presents the policy relevant results from the three surveys we used to assess LGBT health disparities in Wisconsin among adults and youth. These surveys include the 2007 Wisconsin Behavior Risk Factor Survey, the 2007 Wisconsin Youth Risk Behavior Survey, and the 2005 Dane County Youth Assessment. None of these surveys include a measure of gender identity. We therefore limit our findings to LGB individuals.

Our analysis of data on LGB and non-LGB youth and adults indicated several differences in health behaviors and outcomes. LGB adults are significantly more likely than non-LGB adults to be current smokers, to have received mental health treatment, and less likely to have a personal doctor. LGB youth are more likely to use tobacco and other drugs, consume alcohol, have mental health problems, have asthma, be obese, and be attempting to lose weight.

Our analysis demonstrates disparities between the LGB and non-LGB communities. However, data limitations prevent us from being able to address the causes of these disparities. This section, therefore, reiterates the need for DHS to collect better data on this population.[2] This section concludes by discussing the other limitations of the analysis.

[2] The data section refers only to LGB individuals because the surveys did not include questions that allowed us to identify transgender individuals. The other parts of this report, however, refer to the entire LGBT community.

Identifying LGBT Individuals in Surveys

DHS collects data to assess the health status and health care needs of Wisconsin's residents, so staff can tailor public policies to address those needs. DHS can only accomplish this goal for the LGBT community when it accurately distinguishes the LGBT and non-LGBT populations, which requires measures of gender identity and of sexual orientation based on behavior, identity, and attraction. Failure to include these four measures cripples DHS's ability to assess and address the health care needs of this population for two reasons.

First, this is a burgeoning field where researchers are only beginning to understand whether and why LGBT individuals may be at increased risk.[3] Are they more at risk due to environmental forces such as stigma or discrimination? Does the increased risk relate to sexual practices? Research on each of factor is essential for better understanding of its independent effects on various health outcomes. With respect to sexual orientation, isolating these factors and observing their impacts is possible only through asking about behavior, identity, and attraction.

Collecting data on transgender individuals is vital to DHS's efforts to enhance its staff's understanding of Wisconsin's LGBT residents, because gender identity is likely to affect health outcomes separately from sexual orientation. Transgender individuals are frequently overlooked in surveys, possibly due to the perceived sensitivity of this topic and because surveys have not yet established a standard way of asking about non-natal gender identity. Because gender identity is separate from sexual orientation, surveys must include a separate question on gender identity in order to identify this group accurately. This is particularly important, because transgender individuals may sexually identify as heterosexual or homosexual. Regardless of their sexual orientation, they may still be at increased health risk because of their gender identity (Gay and Lesbian Medical Association, 2001; Boehmer, 2002). Further, anecdotal evidence suggests that transgender individuals have unique health needs that are most likely not being addressed in the doctor's office (Gay and Lesbian Medical Association, 2001). Until we have a better understanding of the ways in which the different facets of sexual orientation and gender identity are connected to health outcomes, it is important to collect data using all of these measures.

[3] Our knowledge base is so limited that we do not even know how many LGBT individuals there are. A common statistic, based on Kinsey's research, is that "10 percent of males are more or less exclusively homosexual" (Kinsey et al., 1948). Many have criticized Kinsey's methodology and therefore his findings are frequently dismissed. More recently, however, Laumann et al. (1994) demonstrate that the incidence of homosexual desire (i.e., attraction and/or behavior) in the United States is 7.7 percent for men and 7.5 percent for women. Moreover, only 2.8 percent of men identify as gay and only 1.4 percent of women identify as lesbian. This finding highlights the difficulty with identifying LGB individuals based on only one of the three criteria (identity, attraction and behavior); fewer individuals claim to be LGB than "are" LGB based on their attraction and behavior.

Second, if we do not include the four measures of gender identity and sexual orientation based on behavior, identity, and attraction, we may misidentify individuals as LGBT or non-LGBT. Miscategorizing people may underplay or exaggerate the differential health needs of the LGBT population, presenting a concern when designing responses to those differentials. Researchers would classify an individual who identifies as LGB but has never had sex as "heterosexual" if the survey only asked about sexual behavior. This begs the questions, "How do we define who is LGB and who decides?" Is it based on sexual behavior, i.e., if individuals have had sexual contact with others of the same sex, they are therefore LGB? Or are they only LGB once they assign the designation to themselves? Although behavior and identity may lead to different health outcomes, it highlights the challenges with reliably identifying these individuals on surveys. Until the field develops better measures and/or until social norms change, evaluating the health needs of this population will continue to be a struggle.

Wisconsin Data

To assess whether LGBT health disparities exist in Wisconsin, we analyzed data from three surveys. These included the 2007 Wisconsin Behavior Risk Factor Survey (BRFS), the 2007 Wisconsin Youth Risk Behavior Survey (YRBS), and the 2005 Dane County Youth Assessment (Dane County 2005). We provide insights into the general Wisconsin population based on these data sets, which include information on the health behavior and outcomes of more than 7,000 adults and 23,000 youth in Wisconsin.

The previous discussion explored the challenges of collecting reliable data on the LGBT community. With this backdrop, we discuss the analysis and findings of these data samples. First, each of the data samples only includes one measure of sexual orientation. The BRFS and the Dane County 2005 ask about sexual identity while the YRBS measures sexual behavior. Second, none of the surveys inquire about gender identity. The lack of comprehensive measures of sexual orientation and gender identity severely limit our ability to assess the extent of LGBT health disparities in Wisconsin.

Recognizing these limitations, we wanted to see what we could learn from available data. Again, this discussion focuses solely on LGB individuals, because the surveys did not collect data on transgender individuals. We grouped lesbians, gay men, and bisexuals together throughout this analysis. This means that we compare LGB individuals to their non-LGB counterparts.[4]

[4] We grouped LGB individuals together primarily because separating LGB individuals by identity in the statewide surveys results in sample sizes too small to produce statistically reliable results. Although the Dane County survey provides a much larger sample of LGB individuals, the survey question prevents us from differentiating between lesbians/gays and bisexuals. Although this could have provided insight into whether females and males of the LGB community have different health outcomes, consistent methodology across all three data sets makes our results more internally comparable. Whether lesbians, gay men, and bisexuals are more at risk for some health

Wisconsin Behavior Risk Factor Survey (BRFS)

The national Centers for Disease Control and Prevention (CDC) designed the BRFS and administered it at the state level with help from state health departments. The survey questions ask about general demographic information, eating and exercise habits, alcohol and tobacco use, sexual behaviors, and other potentially risky behaviors. Wisconsin's version of the BRFS surveyed 7,435 adults from across the state in fall 2007. For descriptive statistics regarding the racial and ethnic composition of this data set, see Appendix A.

To identify LGB respondents, the BRFS asked whether the respondent identified as heterosexual, homosexual, bisexual, other, or don't know. We identify the second and third options as LBG, excluding from our sample those who responded "other," "don't know," and those who skipped the question. The final sample size is 6,655 including 101 LGB respondents (1.4%).[5]

Youth Risk Behavior Survey (YRBS)

The CDC also designed the YRBS and worked with each state's education department to administer the survey in high schools. Similar in its construction to the BRFS, the survey asks about general demographic information, eating and exercise habits, alcohol and tobacco use, sexual behaviors, and other potentially risky behaviors. The YRBS surveyed 2,094 youth across Wisconsin in fall 2007. Demographic data and descriptive statistics are available in Appendix B.

The YRBS asks about sexual behavior, i.e., whether youth had ever had sexual contact but not about sexual identity. The possible answers included "never," "with someone of the opposite sex," "with someone of the same sex," or "with people of both sexes." We categorize respondents as LGB if they reported having sex with someone of the same sex or people of both sexes. We categorized those answering that they have only had sex with someone of the opposite sex as non-LGB. We excluded from our sample non-sexually active youth who could not be classified as LGB or non-LGB and the 15 youth who skipped this question. The final sample size is 2,079, including 111 LGB individuals (5.3%). LGB youth comprise 8.6 percent of sexually active youth.

Dane County Youth Assessment 2005 (Dane County 2005)

The 2005 Dane County Youth Assessment was a countywide written survey administered in schools to seventh- through 12th-graders. The survey asks about family, peers, school environment, substance abuse, sexual activity, health, and positive youth behaviors. Dane County 2005 surveyed 23,129 youth—38 percent of those youth attended school in the Madison Metropolitan School District.

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outcomes than their other LGB peers remains an important question but lies outside the scope of this report, which focuses solely on whether LGB individuals (as a group) are more at risk than their non-LGB counterparts.

[5] Because this survey did not explicitly ask about transgender identity or status we were unable to identify these individuals. Some may have identified as "don't know" or "other" in terms of sexual orientation, but we are unable to differentiate them from the information provided.

Other descriptive statistics can be found in Appendix C.

The survey asked youth about their sexual identity, though in a different way than the BRFS. The question specifically asked all respondents "Do you ever feel confused about whether you are lesbian, gay, or bisexual?" The possible answers included:

- Always
- A lot
- Sometimes
- Rarely
- Never confused, because I do consider myself to be lesbian, gay, or bisexual
- Never confused, because I don't consider myself to be lesbian, gay, or bisexual

We identify non-LGB youth if they checked the last item as were LGB youth if they checked the second to last item. We excluded from our sample youth who reported questioning their sexuality (the first four items). New research suggests that questioning youth are more prone to various risk factors than their peers who identify as LGB (Espelage, Aragon & Birkett, 2008). However, the intent of our study is to determine if there are significant differences between LGB and non-LGB individuals. Since we cannot reliably place individuals questioning their sexuality into either of these groups, we excluded them from the analysis, resulting in a final sample of 1,961 LGB youth (9.2%).

We calculate different percentages of LGB individuals in each of these data sets. These differences exist, in part, because the surveys use different questions to identify the LGB population, which points to the more general challenge of identifying LGB individuals in surveys.

Methods

We used two statistical methods to analyze the data. First, we used analysis of variance (ANOVA), which identifies the statistical significance in difference of means between two groups. The two groups we compare are LGB and non-LGB individuals. ANOVA tests indicate whether one group is more likely to give a certain answer, but it does not indicate how much more likely they are to do so. We used logistic regression models to better capture the magnitude of the increased odds. Regression models offer more sophisticated insights into the data, because they allow one to hold other factors constant, isolating the independent effect of one factor on another.[6] We constructed regression models to observe the

[6] Isolating the effects of factors that are related to specific health outcomes increases confidence that the resulting effect of the independent variable of interest (in our analysis, "LGB") is not the result of other variation that may be random in nature. Using a multiple regression allows us to understand the complex relationships between factors that may lead to disparities in health outcomes. For example, an ANOVA performed on the YRBS suggested that LGB youth were

independent effects of being LGB on different health outcomes, (see Appendix D for more information on methods and the comprehensive results from these regressions).

Results

This section presents the findings of our analyses of the three data samples we used as we sought to determine whether LGB health disparities exist in Wisconsin among youth and adults. Overall, we find a marked pattern of difference between non-LGB and LGB youth. LGB youth are much more likely to use tobacco, marijuana or other drugs; report mental health problems; be trying to lose weight; or have asthma. This confirms national studies. For adults, the only disparity in health outcomes we found is that LGB adults are more likely to seek mental health treatment.

Youth

Studies conducted in other states suggest there are significant health disparities between LGB youth and their non-LGB peers (Garafalo et al., 1998; Ryan et al., 2009; Bontempo & D'Augelli, 2002; Robin et al., 2002). Our investigation of health risks and outcomes with the YRBS and Dane County 2005 identifies health disparities between LGB and non-LGB youth for most health outcomes that are measured. We find a distinct pattern in which regression results confirmed disparities in tobacco use, mental health, marijuana and other drug use, asthma, and attempts at weight loss. Our discussion focuses on the mental health results as an example; the regression results on other health outcomes appear in Appendix D.

Our analysis of variance tests found significant differences for all of these behaviors in at least one of the youth data samples. Table 1 presents the mean differences in these behaviors between LGB and non-LGB youth (the highlighted column) over a variety of health outcomes. Positive numbers indicate a higher likelihood of engaging in the corresponding behavior by the group before the slash. Again, because the YRBS identifies LGB youth with a behavior question, we compared sexually active LGB youth to sexually active non-LGB youth. Since many studies document that sexually active youth are more at risk for a variety of health outcomes, comparing sexually active non-LGB youth to sexually active LGB provides the most equal comparison. We also wanted to see whether there were differences between 1) LGB youth and non-sexually active, non-LGB youth; and 2) sexually active and non-sexually active non-LGB youth. The other two columns show these results. Overall, these three comparisons find disparities between LGB and non-LGB youth and an increased risk associated with being sexually active as well as same-sex sexual behavior.

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significantly more likely to use marijuana than heterosexual youth. However, after including variables that isolated tobacco use and binge drinking, the relationship between LGB youth and marijuana use disappeared. This implies that tobacco use and binge drinking are predictive of marijuana use, while being LGB (without also being a smoker or binge drinker) does not make one more likely to use marijuana.

Table 1: Youth Health Risk Factors and Outcomes in Wisconsin
Analysis of variance (ANOVAs) between LGB and non-LGB youth: Youth Risk Behavior Survey and 2005 Dane County Youth Assessment data

Dependent Variables	Data Set	F Statistic	Mean Difference		
			LGB/ non-LGB	LGB/ No Sex	non-LGB/ No Sex
Tobacco Use	YRBS	131.88**	0.243**	0.517**	0.273**
	DC05	27.57**	0.041**	--	--
Alcohol Consumption	YRBS	163.72**	0.012	0.392**	0.379**
	DC05	0.16	-0.004	--	--
Binge Drinking	YRBS	131.74**	0.041	0.362**	0.321**
	DC05	6.52*	0.026*	--	--
Mental Health Problem	YRBS	34.98**	0.204**	0.287**	0.082**
	DC05	16.62**	-0.047**	--	--
Marijuana Use	YRBS	217.62**	0.223**	0.609**	0.386**
	DC05	42.40**	0.051**	--	--
Other Drug Use	YRBS	60.42**	0.232**	0.366**	0.134**
	DC05	50.13**	0.023**	--	--
Asthma	YRBS	6.57**	0.107*	0.143**	0.036**
	DC05	--	--	--	--
Overweight	YRBS	6.59**	0.018	-0.032	-0.051**
	DC05	13.64**	0.034**	--	--
Trying to Lose Weight	YRBS	7.21**	0.186**	0.186**	0.0006
	DC05	--	--	--	--

**Significant at p<0.01 *Significant at p<0.05
Author's calculations

To further understand the magnitude of these disparities, we estimated regression models that take account of other factors that may lead to the association between health outcomes and LGB status. Table 2 presents the results for mental health problems from two logistic regression models. Model 1 estimates the relationship between mental health problems and LGB status while controlling for other demographic variables. The higher probability of LGB individuals reporting mental health problems seen in Table 2 persists. This model finds being LGB increases the odds of having mental health problems by 191 percent, which is consistent with the literature (Bontempo & D'Augelli, 2002; Garafalo et al., 1998; Robin et al., 2002).

Table 2: Regression, Mental Health Problems—Youth
Multiple logistic regressions predicting the odds of long-term mental health problems among Wisconsin youth: YRBS data

	Odds Ratios	
	Model 1	Model 2
LGB	2.917**	1.653
No Sex	0.460**	0.681*
Male	0.793	1.007
Upper Class	0.847	0.922
Family Support		0.614*
Safe at School		1.070
Overweight		1.093
Black	0.520*	0.351**
Hispanic	1.371	1.019
Asian	0.791	0.638
Native American	0.969	0.678
Pacific Islander	1.654	0.792
Multiracial	1.312	1.342
Sexual Assault		1.677*
LGB Tobacco Use		0.796
Tobacco Use		1.418
Marijuana Use		0.970
Other Drug Use		2.167**
Suicide		3.870**
Pseudo R^2	0.045	0.149

**Significant at p<0.01 *Significant at p<0.05

Model 2 builds on Model 1 by adding health risk behaviors that the literature indicates LGB youth engage in at higher rates than non-LGB youth (e.g. tobacco use, drug use, suicidal ideation). Being LGB loses its significance in this model, implying that the independent effect of being LGB observed in Model 1 can be attributed to the higher probability of LGB youth engaging in risky behavior.

In the case of mental health, the variables indicating drug use and attempted suicide are correlated with being LGB (Bontempo & D'Augelli, 2002; Garafalo et al., 1998; Robin et al., 2002). This is demonstrated when the variables take on significance that in Model 1 had been associated with being LGB. Model 2 reinforces the importance of environmental factors for LGB youth by indicating that youth who feel supported by their families are 39 percent less likely to have mental health problems. Previous research on the Dane County 2005 data suggest that the negative mental health outcomes, specifically depression and suicidality, can be mitigated by reducing homophobic harassment in schools and increasing parental support (Espelage, et al., 2008).

We found this change in significance between Model 1 to Model 2 across multiple health outcomes. These findings suggest that being LGB does not in itself cause poorer health outcomes for LGB youth, but rather that they experience poorer outcomes because they are more likely than non-LGB youth to have engaged in risky behaviors. Again, this may relate to environmental factors that have harmed their health.

Adults

Studies by Conron et al. (2008), Meyer (2003), McNair (2003), Tang et al. (2004), and Valanis et al. (2000) document a number of differences in health outcomes between LGB and non-LGB adults. The analysis of variance (Table 3) indicates that LGB adults are significantly more likely than non-LGB adults to be current smokers and to have received mental health treatment and significantly less likely than non-LGB adults to have a personal doctor.

Table 3: Adult Health Risk Factors and Outcomes in Wisconsin
Analysis of variance (ANOVAs) between LGB and non-LGB adults: Behavior Risk Factor Survey

	F Statistic	Mean Difference: LGB/non-LGB
Smoked Ever	0.87	0.042
Current Smoker	9.24**	0.110**
Asthma	0.49	-0.022
Received Mental Health Treatment	40.96**	0.161**
High Blood Pressure	0.00	0.003
Obese	0.08	-0.011
Regular Physical	0.04	-0.018
Binge Drink	2.30	-0.060
Have Personal Doctor	8.56**	-0.093**

**Significant at p<0.01
Authors' calculations

We addressed the regression analysis for adults in the same way as for youth—controlling for demographic factors in the first model and then including health risk behaviors and outcomes in the second model. However, the only health outcome that continued to exhibit a disparity between LGB and non-LGB adults was in mental health treatment (see Table 4).

Table 4: Regression, Mental Health Treatment—Adults
Multiple logistic regressions predicting the odds of receiving mental health treatment among Wisconsin adults: BRFS data

	Odds Ratios	
	Model 1	Model 2
LGB	2.597**	1.749
Male	0.583**	0.650**
Low Income	1.555**	1.342*
High School or Less	0.795	0.740*
Some College	0.994	0.874
Black	1.090	0.521**
Hispanic	1.955*	1.150
Other Race	0.961	0.638
Rural		0.402**
<10 Bad Mental Health Days/Month		4.987**
10-20 Bad Mental Health Days/Month		7.129**
20-30 Bad Mental Health Days/Month		8.578**
Asthma		1.321*
Smoker		1.159
High Blood Pressure		0.894*
Obese		1.150
Pseudo R^2	0.144	0.145
**Significant at p<0.01 *Significant at p<0.05		
Authors' calculations		

In the second model, the significance of being LGB was primarily taken on by the variables indicating the number of bad mental health days. The BRFS did not include as many measures for environmental risk factors as did the YRBS. LGB individuals also made up a much smaller percentage (1.4%) of the sample population. Consequently, our regression results for this data set are generally inconclusive. Results from these analyses are available in Appendix D.

Limitations

Conducting research on the LGBT community poses unique challenges. Our analyses of the three surveys demonstrate these limitations: accurate identification, sample size, and identification that may reflect risks.

First, due to the sensitive nature of the topic, some respondents may not answer questions related to sexuality. This prevents us from accurately determining the size of Wisconsin's LGBT (and non-LGBT) population. Those who skip the question are excluded from analyses; depending on which group respondents identify with, results may be biased.

Not asking whether sexual contact was voluntary also causes a problem with miscategorizing people. In our discussion of youth mental health problems, the regression analysis reinforces the limitations of the measures used to identify

LGB youth. Table 4 suggests that LGB adults are more likely to have mental health problems because of higher probability of engaging in specific behaviors with greater health risk. However, of the 103 youth whom we identified as LGB based on their same-sex sexual contact, 37 indicated that they had received unwanted sexual contact. Consequently, we cannot determine if sexual assault is predictive of mental health problems, whether LGB youth are more likely to be sexually assaulted (which makes them more likely to have mental health problems), or if the association arises because the survey results are more likely to classify those who are sexually assaulted as LGB.

The YRBS data identify LGB youth by asking about sexual behavior but it does not ask whether this sexual contact was wanted. If the sexual contact was unwanted, same-sex sexual activity may not indicate sexual orientation. Future research must find out whether this sexual contact is consensual.

The difficulty identifying LGBT individuals and the sensitivity associated with discussing sexual orientation can lead to small sample sizes when using LGBT status as a category of analysis. Small samples prompt concerns for statistical power, because differences are harder to find. In our analysis, we did not find significant differences between the LGB and non-LGB groups for a number of health risks and outcomes. Conversely, where we find significant differences, the disparity is large enough that we are able to identify it despite the small sample size (and less statistical power).

All of our data sets also suffer from omitted variable bias. In many of the regressions that we constructed from the YRBS data, the variable of whether a respondent feels safe at school was significant. Bontempo and D'Augelli (2002) discuss the importance of at-school victimization in predicting health risk behaviors among LGB youth (i.e., that LGB youth who are victimized at school are more likely to engage in risky behaviors than other LGB youth). It is possible that LGB youth who have "come out" may be more susceptible to victimization—and therefore feel less safe at school—than students who have not. DHS may want to take this difference into consideration when designing survey questions. For the youth data (both the YRBS and Dane County 2005) we also have no measure of socioeconomic status, which often determines significant differences among groups.

Finally, each of our data sets provided us with cross-sectional data. As Bontempo and D'Augelli (2002) point out, data of this type do not allow us to draw any causal relationships from the logistic regressions because there is no indication of temporal order. Drawing causal relationships was not our explicit purpose; we were primarily assessing differences between the LGB and non-LGB groups. However, consideration of the sequence of events may be important for DHS.

Promising Practices from Around the Country

State and local government agencies outside Wisconsin have created initiatives to combat LGBT health disparities in their communities. In this section, we outline four case studies that we call promising practices. These initiatives provide innovative ways to enhance access to LGBT health information for all audiences, to enact extensive data collection, and to begin a comprehensive approach to addressing LGBT health disparities in Wisconsin.

Our study of promising practices involved independent and collaborative research and interviews (see Appendix E for promising practices methodology). We identified a list of government-led initiatives occurring at the state, county, and municipal levels. From this list, we selected four to highlight:

1) Seattle and King County LGBT website;
2) Kansas City, Missouri, Health Department PULSE and Check the PULSE surveys;
3) City of Chicago's Office of LGBT Health; and
4) Massachusetts Department of Public Health.[7]

We chose these initiatives—which differ in focus, funding, and scope—to show the variety of possible alternatives. We also decided to focus on promising practices from different regions of the country, with an emphasis on the Midwest.

Three themes emerged from these case studies. First, promising practices are motivated by a desire to show that LGBT health is about more than just HIV/AIDS and sexually transmitted infections. Second, promising practices have support and involvement from community, agency, and political leaders. Third, promising practices are shaped by funding constraints.

Access to Information for All: Seattle and King County LGBT Website

The Public Health Division of the Seattle and King County Department of Health (Seattle DH) has a website[8] devoted to LGBT health. Seattle DH staff believed this website was the first of its kind created by a government agency in the United States when it went live in June 2000 (J. Ing, personal communication, March 30, 2009). The site provides access to information via three headings: LGBT topics by target population; LGBT health issues; and LGBT local and national resources (Seattle and King County Department of Health, n.d.). Each area includes these subtopics:

[7] Seattle and King County use the acronym "GLBT." For consistency throughout this report we have modified it to LGBT.
[8] http://www.kingcounty.gov/healthServices/health/personal/glbt.aspx

- LGBT topics by target population
  - Gay and bisexual men
  - Lesbian and bisexual women
  - Youth
  - Transgender people
  - Health care providers
- LGBT health issues
  - Alcoholism
  - Depression and mental health
  - Domestic violence
  - Drugs
  - Improving overall health
  - Psychotherapy
  - Safety and hate crimes
  - Tobacco and smoking
- LGBT local and national resources
  - LGBT friendly health care providers
  - Health studies
  - Resources in King County and Washington state
  - Resources throughout the United States

Each link provides access to multiple resources. Jeff Ing, Senior Web Developer for the Seattle and King County Department of Health, shared the following information about the site and its history:

Staff at Seattle DH initially created the website at the urging of an employee, Dr. Carolyn Halley, a Health Educator in the HIV/AIDS program. They applied for and received a $10,000 National Institutes of Health grant in 1999 to create the site. Seattle DH staff doubted that the project could receive continued funding, so they asked Dr. Halley post materials that would stay relevant without constant updates.

The Seattle DH communications team has maintained the site since 2000. Other public health employees have added to its content over time. For example, Dr. Bob Wood, the Director of the HIV/AIDS Program, wrote a series of articles titled "Dr. Bob's Alerts." Since the website's inception, other government agencies have requested advice from Seattle DH on how to create similar websites.

Seattle DH staff feels confident that this site helps to reduce LGBT health disparities by increasing access to information. It offers resources to patients including health studies and lists of LGBT-friendly heath care providers. The communications team credits Dr. Halley with writing the website in a plain, neutral voice that is easy to read.

Health care providers have indicated that the website has made them more aware of the health needs of LGBT people. They suggest that the site helped them

rethink their practices. Seattle DH has heard that the sample patient intake form, for example, has helped providers design forms that create a more inclusive environment (see Appendix F for the sample form). Health care providers have also suggested that the website has given them the tools to foster discussion with LGBT patients about their specific health needs.

The website has its challenges. Project funding came entirely from the grant, and the site has not received additional funding since 2000. No one at Seattle DH keeps the resources on the site current. As a result, the posted information remains mostly the same as the day the site launched, leading to decreased web traffic over time. Further, only one original member of the team that created the site remains at Seattle DH, so the project lacks a core of employees with a knowledge of and investment in the project. The communications team also cites the lack of a reference list as a major weakness. This lack of sources can hurt their credibility with the public and other agencies.

The Seattle DH website provides an example of how a project with a limited scope can have a broad impact on LGBT health. Even though the website did not receive continued funding, it has remained live for almost a decade. This website offers increased access to LGBT health information, a goal that Wisconsin may want to pursue.

Extensive Data Collection: Kansas City, Missouri, Health Department's PULSE Surveys

William D. Snook, Program Manager for Health and Social Marketing for the Kansas City, Missouri, Health Department, shared the following information:

In 2003, the Kansas City, Missouri, Health Department (Kansas City HD) administered an LGBT community health assessment survey called the PULSE. Kansas City HD believes that at that time, the PULSE was the second survey of its kind done in the United States. Kansas City HD designed this survey to obtain a baseline of the relative health and needs of the LGBT population in the Kansas City metropolitan area (see Appendix G for sampling methods). Kansas City HD employees suggest that the reputation of public health within the LGBT community was not strong. The survey allowed Kansas City HD an opportunity to rebuild bridges within the community.

Following the success of the PULSE, Kansas City HD administered Check the PULSE, the 2006 follow-up survey (see Appendix G for survey instrument and sampling methods). Check the PULSE also allowed respondents to identify whether they had participated in the initial survey (Kansas City, Missouri, Health Department, 2006). This identification created a panel of respondents that Kansas City HD could compare over time. Kansas City HD credits Check the PULSE as the first time a comprehensive LGBT health survey was repeated within the same community in the United States.

Kansas City HD believes the PULSE surveys helped decrease LGBT health disparities in their community by allowing them to engage in more effective data collection. A high response rate was crucial, so Kansas City HD paid special attention to how it engaged participants and created excitement for the project (see Appendix G for promotion techniques). Kansas City HD's Division of Health Education and Health Communications gave the project a $6,000 marketing grant that the survey's marketing team used to make it visible through advertisements in the community (Kansas City, Missouri, Health Department, 2003). Even without offering incentives to fill out the survey, the campaign generated enough interest within Kansas City's LGBT community to get a sizable response on the surveys.

The PULSE surveys further helped increase the size and quality of LGBT health data by asking questions that captured a respondent's current health condition, family health history, lifestyle, and access to health information and resources. The survey inquired about respondents' experiences with discrimination based on their orientation. With this full compilation of statistics, Kansas City HD could get a sense of the health status and needs of the LGBT population in their city, rather than having to rely on national data.

The PULSE surveys emphasized collaboration between community and agency leaders. Kansas City HD partnered with the Lesbian and Gay Community Center of Greater Kansas City to create and administer the survey. They formed joint working groups to decide what questions should be asked, how best to ask those questions, how to enlist respondents, and how to disseminate information from the analysis. The survey was advertised in the community spaces where volunteers were to conduct it. Giving the survey provided a method to disseminate health information: Kansas City HD trained volunteers to accurately and efficiently answer health-related questions from respondents, which included everything from knowing where to receive tobacco cessation materials to providing information on LGBT-friendly clinics. These steps helped foster more cooperation between Kansas City HD and the LGBT community.

The PULSE surveys also show a government agency taking a more comprehensive approach to addressing LGBT health disparities. As a result of the initial PULSE survey, Kansas City HD began to conduct more extensive and meaningful outreach in the community. It combined health campaigns targeted at the LGBT population to show a more multi-faceted approach to public health. For example, the Department offered Hepatitis A and B vaccines to PULSE respondents and, as a result, administered more than 4,000 vaccinations.

While the PULSE surveys have many strengths, they also suffer from weaknesses. The survey instruments do not capture the three components of sexual orientation. Both surveys only explicitly ask about behavior, not attraction or identity. Since respondents had to volunteer to take the survey, the responses may have only captured those comfortable with identifying openly as LGBT.

The 2006 follow-up survey presented greater challenges for Kansas City HD than the 2003 effort. The PULSE staff and volunteers found it easier to create interest in the initial survey and could not replicate the same enthusiasm in 2006. The change in survey methods between 2003 and 2006 also presented difficulties. In 2003, respondents filled out the surveys with pens and paper. This allowed the surveys to be incredibly portable, with volunteers able to carry it on clipboards to anywhere in the community. It also provided respondents an opportunity to expand on questions and tell their story about health. This method, however, proved time-intensive during the analysis stage. To make analysis easier, respondents took the 2006 survey online. While this format made the data analysis simpler, it limited access to the survey and depersonalized the experience. This change in method resulted in an unanticipated change in the culture around the survey and its perception in the community. Survey respondents now felt the experience was cold and impersonal, and therefore became less likely to participate or complete the full survey (W. Snook, personal communication, April 1, 2009).

As of April 2009, Kansas City HD has no plan to conduct a follow-up to the 2006 survey. Kansas City HD staff report that the 2003 PULSE received recognition both inside Kansas City and from outside agencies. Kansas City HD continues to receive inquiries from agencies in the United States and around the world about the construction and analysis of the surveys. Wisconsin may find it beneficial to look to Kansas City for guidance when identifying new avenues of data collection for LGBT health.

Increasing Awareness and Understanding of LGBT Health Issues: City of Chicago Office of LGBT Health

Simone Koehlinger, Director of the Office of LGBT Health in the city of Chicago's Department of Public Health, shared the following information:

The City of Chicago created the Office of LGBT Health in 1999, based on the model set forth by a similar New York City office that has since closed. On the vanguard of Chicago's campaign to address the needs of the LGBT community, the health office's initiatives include providing cultural competency trainings, public information and marketing materials regarding LGBT health issues, and community engagement work centered on LGBT health.

In 2001, the Chicago LGBT office produced "Kevin's Room," a dramatic film series portraying HIV/AIDS in the African-American community. The series brought attention to the health needs of LGBT people of color and won accolades for its positive portrayal of people of color within the LGBT community. Using a reality show format, "Kevin's Room" was produced as a series of three films. The series is a creative and entertaining means of encouraging viewers to be proactive in their health and well-being. It has been recognized inside and outside of the Chicago area.

The health office continues to produce other material and outreach efforts to improve the health status of LGBT individuals. These include social marketing campaigns, presentations at and co-convening community health forums, and efforts to increase awareness of LGBT health issues. The office is involved in several initiatives to address LGBT health. The "Crystal Breaks" campaign is a social marketing campaign to reduce use of crystal methamphetamine in the LGBT community. The campaign includes a website, advertisements on city buses and trains, and support for ending addiction to crystal methamphetamine. Another of the social marketing campaigns co-developed by the LGBT office focuses on the healthy choices and lifestyles of LGBT individuals, with the message, "How Are You Healthy?" By focusing on the positive, the campaign seeks to help LGBT individuals embrace healthy behaviors. The office is also co-organizing the national summit on lesbian, gay, bisexual, transgender, and intersexed health taking place in Chicago in August 2009.

In addition, the LGBT health office is addressing transgender issues by convening a transgender work group and helping pilot a transgender behavioral surveillance study in the city.

Data collection is not a priority for the Chicago LGBT health office, although it has been involved in data collection efforts. The office was instrumental in adding a sexual orientation question on the state's Youth Risk Behavior Survey, though efforts to get a sexual orientation question on the Behavior Risk Factor Survey were unsuccessful.

Funding for the office comes from a variety of sources. The Director's salary is paid through the City Commissioner's office, while other staff is largely grant supported. Their programs have a heavy reliance on funding from other divisions within the city health department, such the HIV/AIDS, mental health and substance abuse divisions. Funding for "Kevin's Room" came from the city commissioner's office, HIV/AIDS division, and pharmaceutical companies.

To date, the city has not formally evaluated the Chicago LGBT health office's programs. The office reports to the city on pre- and post-test measures for their cultural competency trainings. While office staff admits the measures are less than ideal, they are the only tangible evidence the office is able to track in terms of programmatic effectiveness.

Not all of the initiatives have met with success. A roundtable to facilitate discussion of lesbian health issues failed to garner enough interest to get off the ground. Also, LGBT health office Director Simone Koehlinger describes her agency's place within the city department of health as "bittersweet" because while staff are welcome and somewhat celebrated, some individuals in the department are not yet convinced of the health disparities. Koehlinger admits that the LGBT office's success, at least in part, can be attributed to the tremendous support it receives from the community, others within the city health department, and

political leaders, such as Mayor Richard Daley and city commissioners (S. Koehlinger, personal communication, April 14, 2009).

Comprehensive Approach to Health Disparities: Massachusetts Department of Public Health

Stewart Landers, Senior Program Director, Massachusetts Department of Public Health, shared the following information:

The state of Massachusetts leads the way in terms of its public health approach to addressing LGBT health disparities. Its comprehensive approach includes public/private partnerships, data collection, public information campaigns, and the creation of community task forces on specific LGBT health concerns.

The Massachusetts Department of Public Health, in collaboration with several other community partners, created the Access Project in the 1990s to focus on LGBT health issues. It promoted the message "Homophobia in health care is unhealthy" with posters, signs on buses, and other marketing techniques to reach the general public. During that project, one of the community partners developed the "Standards of Practice" for health professionals. The standards covered a range of topics, including employment policies, composition of boards of directors, nondiscrimination policies, and cultural competency training for professionals. While the initial goal was to require community partners contracting with the state to abide by these standards, the politics proved too difficult, and the standards were made advisory. The official partnership between the department and the Access Project has since ended, and staff describes the relationship as "not a rigid joint program anymore" although the department continues to fund the project at an annual level of $125,000.

A primary focus of the Massachusetts Department of Public Health in 2009 is on collecting data on the LGBT population and LGBT health disparities. The department gathers data through the state's Youth Risk Behavior Survey (Massachusetts YRBS), Behavioral Risk Factor Survey (Massachusetts BRFS), and Youth Health Survey. The Department of Public Health administers the Youth Health Survey to high school and middle school students using a randomized sample survey method, similar to the administration of the Massachusetts YRBS. The department is also working on adding a question regarding transgender identification on the Youth Health Survey. The Massachusetts YRBS includes both a sexual identity and a sexual behavior question. By focusing on data collection, department staff feels they have had better success convincing policymakers and the public that health disparities do exist between the LGBT and the non LGBT populations.

In addition, the department surveyed community partners to find out what kinds of data they were gathering. This survey included community partners that worked with the department on a range of issues, including domestic violence, nutrition, and community health. This survey helped the health determine the

quality and quantity of LGBT data being accumulated. In addition, it alerted the department to culturally insensitive data collection techniques (for example, one program was still asking individuals whether they were hermaphroditic instead of intersexed).

This information has enabled the Massachusetts Department of Public Health to raise awareness and increase community involvement around eliminating LGBT health disparities. In November 2008, the state published "A Health Profile of Massachusetts Adults by Sexual Orientation Identity: Results from the 2001-2006 Behavioral Risk Factor Surveillance System Surveys." This report detailed the state's health disparities between the LGB population and the non-LGB population and was widely cited.

The department has launched an LGBT task force to target substance abuse in the LGBT population. Additionally, an LGBT tobacco cessation task force is taking shape. Finally, the department provides a small amount of funding to a shelter for victims of domestic partner violence.

To date, rigorous evaluation of the Massachusetts Department of Public Health's efforts to reduce LGBT health disparities has been limited. Department staff believe disparities have been reduced in the last several years, but they recognize that it is difficult to attribute this reduction to any single initiative. In particular, staff cite the passage of Massachusetts' marriage law five years ago, which legally recognized same sex marriages, as well as the changes ushered in by a more progressive administration elected in November 2006, as having played a role in reducing LGBT health disparities.

Overall, the Massachusetts' Department of Public Health's data collection efforts, public education campaigns, and use of task forces provide examples of how a state public health entity might address LGBT health disparities. Although we cannot confirm whether these efforts alone have been effective in reducing the state's LGBT health disparities, the work Massachusetts has done to reduce and eliminate health disparities was the most comprehensive state-level approach we encountered and may serve as a useful model for DHS.

What Can We Learn From These Promising Practices?

Analysis of these cases reveals a few common themes. Consideration of these themes might be useful in developing future initiatives to address LGBT health disparities in Wisconsin.

Promising practices are motivated by a desire to show that LGBT health is more than just HIV/AIDS and sexually transmitted infections.

Initiative leaders express a common desire to dispel the myth that LGBT health focuses primarily on HIV/AIDS and sexually transmitted infections. They work to increase the visibility of LGBT health disparities in their community. By doing so, they believe they are beginning to craft ways to overcome the structural

barriers preventing the elimination of these disparities. They also are making efforts to break down health stereotypes within and around the LGBT community.

Promising practices have support and involvement from community, agency, and political leaders.

Our interviewees emphasize the importance of support and involvement from a variety of sources. Initiatives thrive when the leaders understand the local LGBT community's needs and collaborate with major groups in that community. This involvement typically begins with a program leader who was already a member of the local LGBT community. Agency support also is crucial to the longevity and scope of the initiative. Support from the political leaders in a community keeps these initiatives in existence. Finally, support and involvement from the community as a whole is integral to continued success.

Promising practices are shaped by funding constraints.

The type of funding shapes the construction of each initiative. Funding constraints dictates the scope, staffing, and longevity of each program. While each project struggles to find consistent financial support, they make the most of limited funds, sometimes employing creative techniques to garner and sustain funding.

Decision-Making Matrix

The challenge of identifying and reducing LGBT health disparities may lead DHS to consider new policy options as it seeks to meet the needs of Wisconsin's population. Before implementing any initiative, DHS should evaluate alternatives within a framework that outlines the department's goals and desired effects.

We created a decision-making matrix to facilitate uniform comparison of potential policy options (see Appendix H for the decision-making matrix in table form with instructions). The matrix draws on the review of LGBT health literature, analysis of existing state data, and our exploration of promising programs throughout the country. The matrix contains four overarching goals. These goals are further divided into 10 impact categories. The impact categories aim to measure how well an initiative achieves the broader goals.

DHS can use this matrix to evaluate any potential change in organizational structure or new initiative to help combat LGBT health disparities. We created a list of questions for each goal to aid in the analysis. The following sections explain the four goals and corresponding impact categories.

Goal 1: Effectiveness of Increasing Understanding and Awareness of LGBT Health Disparities

Wisconsin faces a difficult challenge in LGBT health. The lack of health data and research focused exclusively on LGBT people has created a situation where agencies struggle to know how best to substantiate and address LGBT health disparities. DHS should analyze any new initiative by how well it increases understanding and awareness of LGBT health disparities for DHS, health professionals, the general public, and the LGBT community.

Impact Category A: DHS

DHS should consider how this potential initiative fits within its existing structure, mission, and programs. It may want to consider how well this initiative will address LGBT health data collection.

- How does this initiative fit with DHS's mission to protect and promote the health and safety of the people of Wisconsin?
- Could it help promote better data collection on LGBT health?
- Would it promote DHS's continuing goal to reduce health disparities throughout the state?
- Does DHS have the capacity to effect change within the health profession?

Impact Category B: Health professionals
Health professionals in Wisconsin provide a critical resource that can improve LGBT health outcomes. DHS should consider how the initiative would affect the understanding and awareness of LGBT health issues for health professionals.

- How would health professionals receive this initiative?
- Would it affect the chances for collaboration around LGBT health with health professionals?
- Would it reach health professionals and help promote greater knowledge of LGBT health concerns and best practices?

Impact Category C: General public
Any new initiative would happen in the greater policy context. DHS should consider its impact on the perceptions and beliefs of the general public.

- How would the general public receive this initiative?
- Does it provide opportunities for the general public to participate in its creation and implementation?
- How would it break down stereotypes about LGBT people?

Impact Category D: LGBT community
Collaboration and involvement with the local LGBT community can affect the success of any new initiative. DHS should consider how the initiative would affect the understanding and awareness of LGBT health disparities within the local LGBT community.

- How would the LGBT community receive this initiative?
- Does it provide opportunities for the LGBT community to participate in its creation and implementation?
- Would it promote collaboration between DHS and the LGBT community?
- Would it foster a positive reputation for DHS in the LGBT community?

Goal 2: Manageable and Sustainable Cost to the Department

DHS would need to evaluate the financial impact of any potential initiative to address LGBT health. As the case studies show, multiple sources of funding exist and can be effective in facilitating work around LGBT health. The source of funding, along with the likelihood that this funding can be renewed or increased, should be considered for the short- and long-term.

Impact Category A: Short-term
Questions regarding short-term funding include:

- What are the short-term costs?
- What are potential sources of short-term funding to jumpstart the initiative?

Impact Category B: Long-term
Questions regarding long-term funding include:

- What are the long-term costs?
- What are the potential sources of long-term funding to sustain it?

Goal 3: Administrative Feasibility

DHS should further consider the impact of any potential change on its administration. Determining the ease with which a change could be made, the administrative steps that would need to be taken to make this initiative happen, and the effect the initiative would have on infrastructure are important in analyzing whether the initiative might be successful. Questions regarding administrative feasibility can be categorized as short- or long-term.

Impact Category A: Short-term
Short-term considerations would include any immediate actions that DHS would need to take if this initiative were enacted.

- What immediate changes would need to take place within DHS?
- Should DHS create a task force or committee (with people from outside the agency) to examine alternatives?
- Where should DHS house this initiative?

Impact Category B: Long-term
Long-term considerations would refer to how this initiative might affect DHS over time. They also include questions regarding how DHS would continue the initiative and hold it accountable.

- Does this initiative promote growth and innovation within DHS and around LGBT health in general? If yes, then how?
- How would DHS hold this initiative accountable?
- Could DHS sustain it beyond changes in leadership?
- How long should DHS expect to continue it?
- How can DHS measure outcomes?

Goal 4: Political Feasibility

Finally, DHS should consider how the political climate would affect the feasibility of the initiative. To do so, the department should consider internal and external political feasibility. In both cases, DHS should also evaluate how the change would affect the possibility for collaboration.

Impact Category A: Internal feasibility
Questions regarding internal feasibility focus on how various players within DHS would respond and interact once this initiative began.

- Who will be the internal advocates for the initiative?
- Who will be resistant to it within DHS? Why?
- How will advocates garner support?

Impact Category B: External feasibility

Conversely, questions regarding external feasibility investigate the potential for support from political leaders and other stakeholders outside DHS. These questions also consider how this initiative would affect the DHS's relationship with other state agencies.

- Will legislators and other elected officials support this initiative?
- Which external agencies should be consulted?
- How would it affect DHS's relationship with other state agencies?
- Would it affect the chances for collaboration around LGBT health with other state agencies?
- If not feasible now, could there be future support for it?

Further Considerations

As indicated in the promising practices section of this report, none of the case studies highlighted have been evaluated for their effectiveness. This presents a problem for assessing their appropriateness as a model for DHS. For this reason, we urge due diligence in thoroughly vetting potential initiatives. We further encourage DHS to include a process for in the design of any new initiative it undertakes to address LGBT health disparities. Evaluations can bolster arguments for increased resources, help other agencies determine what model they might use, and provide accountability to stakeholders.

Conclusion and Recommendations

Understanding the health needs of Wisconsin's LGBT population presents particular health challenges for DHS. The complexities of sexual orientation and gender identification provide a data collection challenge for all health departments that rely on data to help measure health disparities in their communities.

Wisconsin can take some initial steps to help increase general understanding of its LGBT population and their health needs. First, DHS can strive to understand LGBT populations in a more comprehensive fashion. Questions on gender identity and sexual orientation (as measured by behavior, identity, and attraction) should be integrated into any data collection DHS undertakes. Informed and effective LGBT health policy only comes from knowing the scope of the problem Wisconsin faces.

Second, DHS can evaluate new policy options to address the obstacles that lead to LGBT health disparities. Ideally, this work would be done following initial research isolating the problems that apply specifically to Wisconsin. We have shown examples of how four public programs—Seattle, Kansas City, Massachusetts, and Chicago— have tried to combat three barriers to eliminating health disparities. These programs have used various techniques to increase general understanding of LGBT health issues, provide access to LGBT health information and resources, and develop a holistic treatment of LGBT health within public health departments. These initiatives may not yield the same results in the Wisconsin context but do provide a starting point from which to develop policy alternatives. The decision-making matrix gives DHS a framework for evaluating new policy options against the status quo. The matrix provides a uniform tool for analysis based on goals and impact categories rooted in research.

Our analysis of the available data indicates that Wisconsin's LGBT population faces many of the same health disparities that affect the national LGBT population. However, the data had significant limitations that make it difficult to draw any strong conclusions about the full extent of the disparity. In pursuing its mission of "protecting and promoting the health and safety of the people of Wisconsin," DHS should undertake steps to fully understand the scope of this problem. Once the nature of LGBT health disparities has been established, DHS can then choose to build off the success of other programs or create an initiative that would allow Wisconsin to be on the leading edge of addressing LGBT health disparities.

Appendix A: Wisconsin Behavior Risk Factor Survey: Descriptive Statistics

Table 5: Description of Variables and Descriptive Statistics from the BRFS
n=7,435

Variable Name	Description	Mean	Std. Dev.	Freq.
LGB	1 if respondent identifies as lesbian, gay or bisexual, 0 otherwise	0.014	0.119	101
Male	1 if male, 0 otherwise	0.599	0.49	4458
Low Income	1 if income below $50,000, 0 otherwise	0.653	0.475	4357
High School or Less	1 if highest education completed was high school or less, 0 otherwise	0.451	0.497	3347
Some College	1 if highest education completed was some college, 0 otherwise	0.269	0.443	2006
Black	1 if African American, 0 otherwise	0.079	0.27	591
Hispanic	1 if Hispanic, 0 otherwise	0.014	0.118	106
Other Race	1 if race or ethnicity other than Caucasian, African American or Hispanic, 0 otherwise	0.038	0.192	287
Rural	1 if respondent lives in a rural area, 0 otherwise (i.e. urban or suburban)	0.509	0.499	3787
Received Mental Health Treatment	1 if respondent has received mental health treatment, 0 otherwise	0.062	0.242	467
Smoker	1 if respondent is a current smoker, 0 otherwise	0.199	0.399	1480
High Blood Pressure	1 if respondent has been diagnosed with high blood pressure (hypertension), 0 otherwise	0.339	0.473	2521
Obese	1 if respondent is obese (based on BMI), 0 otherwise	0.275	0.447	2052
Asthma	1 if respondent has asthma, 0 otherwise	0.121	0.327	907
<10 Bad Mental Health Days/ Month	1 if respondent has fewer than 10 bad mental health days per month, 0 otherwise	0.046	0.21	346
10-20 Bad Mental Health Days/ Month	1 if respondent has 10 to 20 bad mental health days per month, 0 otherwise	0.037	0.19	279
20-30 Bad Mental Health Days/ Month	1 if respondent has 20 to 30 bad mental health days per month, 0 otherwise	0.049	0.217	371
Personal Doctor	1 if respondent has a personal doctor, 0 otherwise	0.874	0.331	6483
Binge Drinking	1 if respondent has been calculated to be a binge drinker (5 or more alcoholic beverages at one time for males, 4 or more alcoholic beverages at one time for females), 0 otherwise	0.189	0.391	1360

Variable Name	Description	Mean	Std. Dev.	Freq.
Mental Health Categorical	1 if 5 or fewer bad mental health days/month, 2 if 5-10 bad mental health days/month, 3 if 10-20 bad mental health days/month, 4 if 20-30 bad mental health days/month	1.874	1.147	1: 1310 2: 346 3: 279 4: 371
Check Up	1 if respondent has had a physical exam in the past year, 2 if last physical exam between 1 and 2 years ago, 3 if last physical exam between 2 and 5 years ago, 4 if last physical exam more than 5 years ago	1.549	0.950	1: 5122 2: 970 3: 655 4: 582
Smoked Ever	1 if respondent has ever smoked, 0 otherwise	0.494	0.500	3680

Authors' calculations

Appendix B: Wisconsin Youth Risk Behavior Survey: Descriptive Statistics

Table 6: Description of Variables and Descriptive Statistics from the YRBS
n=2,094

Variable Name	Description	Mean	Std. Dev.	Freq.
LGB	1 if respondent has had same-sex sexual contact, 0 otherwise	0.053	0.224	111
NSG	1 if respondent is not sexually active, 2 if respondent is non-LGB, 3 if respondent is gay	1.674	0.571	1: 787 2: 1181 3: 111
No Sex	1 if respondent has had no sexual contact, 0 otherwise	0.378	0.485	787
Male	1 if respondent is male, 0 otherwise	0.508	0.500	1064
Upper Class	1 if respondent is in 11th or 12th grade, 0 otherwise	0.515	0.499	1073
Black	1 if respondent is Black 0 otherwise	0.069	0.253	145
Hispanic	1 if respondent is Hispanic, 0 otherwise	0.065	0.248	137
Asian	1 if respondent is Asian, 0 otherwise	0.036	0.188	77
Native American	1 if respondent is Native American, 0 otherwise	0.013	0.116	29
Pacific Islander	1 if respondent is Pacific Islander, 0 otherwise	0.004	0.068	10
Multiracial	1 if respondent is multiracial, 0 otherwise	0.039	0.195	81
Family Supportive	1 if respondent's family is supportive, 0 otherwise	0.865	0.341	1799
Safe at School	1 if respondent reports feeling safe at school, 0 otherwise	0.908	0.288	1898
Overweight	1 if respondent is overweight (calculated based on BMI), 0 otherwise	0.107	0.309	225
Asthma	1 if respondent has asthma, 0 otherwise	0.211	0.408	442
Long Term Mental Health Problem	1 if respondent has been diagnosed with a long-term mental health problem, 0 otherwise	0.162	0.368	339
Sexual Assault	1 if respondent has had unwanted sexual contact, 0 otherwise	0.098	0.298	201
Binge Drink 5	1 if respondent has had 5 or more alcoholic drinks within a couple of hours in the last 30 days, 0 otherwise	0.068	0.252	140
Tobacco Use	1 if respondent has uses tobacco in the last 30 days, 0 otherwise	0.274	0.446	548
LGB Tobacco Use	1 if respondent is LGB and has used tobacco in the last 30 days, 0 otherwise	0.031	0.175	63
Marijuana Use	1 if respondent has used marijuana, 0 otherwise	0.381	0.485	799

Variable Name	Description	Mean	Std. Dev.	Freq.
Other Drug Use	1 if respondent has used other drugs, 0 otherwise	0.184	0.387	386
Suicide	1 if respondent has attempted to commit suicide in the last 12 months, 0 otherwise	0.149	0.356	312
Lose Weight	1 if respondent is trying to lose weight, 0 otherwise	0.451	0.497	939
Authors' calculations				

Appendix C: Dane County Youth Assessment 2005: Descriptive Statistics

Table 7: Description of Variables and Descriptive Statistics from the 2005 Dane County Youth Assessment
n=23,129

Variable Name	Description	Mean	Std. Dev.	Freq.
LGB	1 if identifies as lesbian, gay or bisexual, 0 otherwise	0.092	0.289	1961
Black	1 if African American, 0 otherwise	0.055	0.229	1233
Hispanic	1 if Hispanic, 0 otherwise	0.036	0.187	809
Native American	1 if Native American, 0 otherwise	0.009	0.099	221
Asian	1 if Asian, 0 otherwise	0.029	0.168	647
Hmong	1 if Hmong, 0 otherwise	0.020	0.142	461
Mixed Race	1 if respondent identifies as being of mixed race/ethnicity, 0 otherwise	0.061	0.240	1370
Other	1 if respondent identifies with an unlisted race/ethnicity, 0 otherwise	0.021	0.146	486
Overweight	1 if respondent is overweight, 0 otherwise	0.169	0.375	3560
Smoked	1 if respondent has smoked, 0 otherwise	0.133	0.340	2987
Drink	1 if respondent has consumed alcohol in the last year, 0 otherwise	0.502	0.500	11,239
Binge Drinking	1 if respondent has engaged in binge drinking, 0 otherwise	0.247	0.431	5534
Marijuana	1 if respondent has smoked marijuana, 0 otherwise	0.133	0.340	2998
Other Drugs	1 if respondent used drugs other than marijuana, 0 otherwise	0.025	0.158	579
Depressed	1 if respondent has been depressed, 0 otherwise	0.612	0.487	13,616

Authors' calculations

Appendix D: Regression Analysis Results

This appendix provides additional comments on methodology and the results from all regressions performed on the YRBS and BRFS data, including those not discussed in the body of the report. All results are based on the authors' calculations.

Methodology

We used binary logistic regressions when the dependent variables (i.e. the health outcome) assumed a value of one or zero. For example, respondents are classified as smokers (=1) or nonsmokers (=0). We estimated multinomial logistic regressions when the variable had three or more categorical values (e.g., respondent smoked one pack per week, two packs per week, three packs or more per week). Multinomial models allow one to examine differences in the likelihood of exhibiting a health status that is identified by more than two categories as compared to a base category.

We utilized the provided weights for the YRBS and BRFS in calculating the ANOVAs. The YRBS codebook introduction indicates that these weighted data are representative of "students across your site," in this case, Wisconsin (Centers for Disease Control and Prevention, 2007). Similarly, the BRFS data were weighted to represent the Wisconsin population (Centers for Disease Control and Prevention, 2008). Weights were not used in the regression analysis because weighting in regressions in essence increases the sample size, potentially leading to significant results that are not warranted. These weights are intended to take account of the characteristics that determined different sampling and response rates, including oversampling of Hispanics and African Americans. We included these demographic categories as independent variables in the regression to isolate the effects of these groups.

Youth Risk Behavior Survey

Table 8: Regression, Tobacco Use—Youth
Multiple logistic regressions predicting the odds of tobacco use in the last month among Wisconsin youth: YRBS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	3.096**	2.012*
No Sex	0.175**	0.410**
Male	1.868**	1.969**
Upper Class	1.525**	1.357*
Family Support		0.923
Safe at School		0.603*
Overweight		1.176
Black	0.534**	0.362**
Hispanic	1.677*	1.351
Asian	0.896	0.746
Native American	1.346	0.512
Pacific Islander	0.310	0.064**
Multiracial	1.032	0.603
Sexual Assault		1.130
Binge Drink 5		6.359**
Marijuana Use		7.683**
Other Drug Use		2.402**
Suicide		1.459
Long-Term Mental Health Problems		1.448*
Pseudo R^2	0.132	0.353

**Significant at p<0.01 *Significant at p<0.05

Table 9: Regression, Binge Drinking—Youth

Multiple logistic regressions predicting the odds of binge drinking five or more times in the last month among Wisconsin youth: YRBS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	1.527	0.816
No Sex	0.127**	0.378*
Male	1.580*	1.462
Upper Class	1.567*	1.347
Family Support		0.587*
Safe at School		1.216
Overweight		0.910
Black	0.402	0.455
Hispanic	1.685	1.107
Asian	1.126	0.069
Native American	1.713	1.296
Pacific Islander	4.370*	4.147
Multiracial	0.991	1.127
Sexual Assault		1.519
LGB Tobacco Use		0.947
Tobacco Use		6.558**
Marijuana Use		2.664**
Other Drug Use		1.465
Suicide		1.374
Long-Term Mental Health Problems		0.845
Pseudo R^2	0.098	0.270

**Significant at p<0.01 *Significant at p<0.05

Table 10: Regression, Marijuana Use—Youth
Multiple logistic regressions predicting the odds of marijuana use among Wisconsin youth: YRBS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	2.689**	1.901
No Sex	0.146**	0.219**
Male	1.359**	1.035
Upper Class	1.560**	1.481**
Family Support		0.511**
Safe at School		1.501
Overweight		1.328
Black	1.762**	2.714**
Hispanic	1.359	0.835
Asian	1.012	0.987
Native American	3.381**	3.475*
Pacific Islander	1.987	2.148
Multiracial	2.418**	2.739**
Sexual Assault		1.083
Binge Drink 5		2.671**
LGB Tobacco Use		0.429
Tobacco Use		8.136**
Other Drug Use		5.154**
Suicide		0.914
Long-Term Mental Health Problems		0.954
Pseudo R^2	0.159	0.361

**Significant at p<0.01 *Significant at p<0.05

Table 11: Regression, Other Drug Use—Youth
Multiple logistic regressions predicting the odds of drug use (other than marijuana) among Wisconsin youth: YRBS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	3.073**	0.965
No Sex	0.309**	0.965
Male	1.241	1.221
Upper Class	0.964	0.809
Family Support		0.645*
Safe at School		0.563*
Overweight		0.794
Black	0.864	0.691
Hispanic	2.189**	1.755
Asian	1.260	1.191
Native American	2.080	0.881
Pacific Islander	1.097	0.328
Multiracial	1.566	1.180
Sexual Assault		1.587
Binge Drink 5		1.550
LGB Tobacco Use		1.526
Tobacco Use		2.361**
Marijuana Use		5.318**
Suicide		1.808**
Long-Term Mental Health Problems		2.204**
Pseudo R^2	0.069	0.266

**Significant at p<0.01 *Significant at p<0.05

Table 12: Regression, Asthma—Youth

Multiple logistic regressions predicting the odds of having asthma among Wisconsin youth: YRBS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	1.880**	2.100*
No Sex	0.829	0.829
Male	0.746**	0.782*
Upper Class	1.065	1.124
Family Support		1.093
Safe at School		0.565**
Overweight		1.191
Black	1.216	1.301
Hispanic	1.041	1.154
Asian	0.649	0.674
Native American	0.806	0.931
Multiracial	1.157	1.173
Sexual Assault		1.269
Binge Drink 5		1.027
LGB Tobacco Use		0.661
Tobacco Use		1.053
Marijuana Use		0.828
Suicide		1.097
Long-Term Mental Health Problems		1.605**
Pseudo R^2	0.012	0.025

**Significant at p<0.01 *Significant at p<0.05

Table 13: Regression, Trying to Lose Weight—Youth
Multiple logistic regressions predicting the odds of trying to lose weight among Wisconsin youth: YRBS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	1.732*	3.979**
No Sex	1.013	1.188
Male	0.277**	0.237**
Upper Class	1.147	1.144
Family Support		0.910
Safe at School		1.174
Overweight		5.953**
Black	0.450**	0.430**
Hispanic	1.761*	1.786*
Asian	1.119	1.041
Native American	0.611	0.706
Pacific Islander	0.278	0.335
Multiracial	1.760*	1.541
Sexual Assault		1.197
Binge Drink 5		0.720
LGB Tobacco Use		0.196**
Tobacco Use		1.509**
Marijuana Use		1.074
Suicide		2.014**
Long-Term Mental Health Problems		1.074
Pseudo R^2	0.083	0.139

**Significant at p<0.01 *Significant at p<0.05

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Table 14: Regression, Smoking—Adults
Multiple logistic regressions predicting the odds of smoking among Wisconsin adults: BRFS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	1.068	0.957
Male	0.986	1.032
Low Income	1.301**	1.264**
High School or Less	3.279**	3.407**
Some College	2.910**	2.950**
Black	1.432**	1.499**
Hispanic	1.176	1.068
Other Race	2.133**	2.073**
Rural	0.894	0.918
<10 Bad Mental Health Days/Month		1.236
10-20 Bad Mental Health Days/Month		2.491**
20-30 Bad Mental Health Days/Month		2.995**
Asthma		1.069
High Blood Pressure		1.219**
Obese		0.690**
Pseudo R^2	0.045	0.071

**Significant at p<0.01

Table 15: Regression, Binge Drinking—Adults

Multiple logistic regressions predicting the odds of binge drinking among Wisconsin adults: BRFS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	0.904	0.896
Male	2.107**	2.199**
Low Income	0.680**	0.670**
High School or Less	1.446**	1.243*
Some College	1.484**	1.282**
Black	0.772	0.688*
Hispanic	1.038	0.964
Other Race	0.970	0.822
Rural		0.929
<10 Bad Mental Health Days/Month		1.221
10-20 Bad Mental Health Days/Month		0.961
20-30 Bad Mental Health Days/Month		1.185
Received Mental Health Treatment		0.780
Asthma		0.949
Smoker		2.798**
High Blood Pressure		1.227**
Obese		1.012
Pseudo R^2	0.031	0.068

**Significant at p<0.01 *Significant at p<0.05

Table 16: Regression, Asthma—Adults
Multiple logistic regressions predicting the odds of having asthma among Wisconsin adults: BRFS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	1.107	0.984
Male	1.540**	1.516**
Low Income	1.187	1.189
High School or Less	0.823*	0.817*
Some College	0.928	0.898
Black	1.767**	1.348*
Hispanic	1.197	1.035
Other Race	1.816**	1.728**
Rural		0.708**
Received Mental Health Treatment		1.643**
Smoker		1.126
High Blood Pressure		0.936
Obese		1.438**
Pseudo R^2	0.015	0.028

**Significant at p<0.01 *Significant at p<0.05

Table 17: Regression, Obesity—Adults
Multiple logistic regressions predicting the odds of being obese among Wisconsin adults: BRFS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	1.008	1.002
Male	1.137*	1.146*
Low Income	0.977	0.866*
High School or Less	1.440**	1.443**
Some College	1.528**	1.604**
Black	2.128**	2.316**
Hispanic	1.224	1.360
Other Race	1.263	1.287
Rural		1.185**
Asthma		1.446**
Received Mental Health Treatment		1.364**
Smoker		0.725**
High Blood Pressure		0.671**
Pseudo R^2	0.013	0.047

**Significant at p<0.01 *Significant at p<0.05

Table 18: Regression, Personal Doctor—Adults

Multiple logistic regressions predicting the odds of having a personal doctor among Wisconsin adults: BRFS data. Model 1 controls for demographic characteristics; Model 2 controls for both demographic and behavior characteristics.

	Odds Ratios	
	Model 1	Model 2
LGB	0.835	0.780
Male	0.373**	0.359**
Low Income	0.768**	0.732**
High School or Less	0.756**	0.746**
Some College	0.680**	0.686**
Black	0.890	0.703
Hispanic	1.023	1.007
Other Race	0.809	0.781
Rural		0.762**
<10 Bad Mental Health Days/Month		1.084
10-20 Bad Mental Health Days/Month		0.733
20-30 Bad Mental Health Days/Month		0.772
Asthma		1.132
High Blood Pressure		0.604**
Obese		1.165
Pseudo R^2	0.039	0.073

**Significant at p<0.01 *Significant at p<0.05

Appendix E: Promising Practices Methodology

Our study of promising practices consisted of a three-step process.

Step One: Identifying Key Barriers
First, we used our literature review and data analysis to isolate a few key barriers that contribute to LGBT health disparities. These barriers include:

- A lack of understanding of LGBT health issues within the LGBT community and health professionals
- A lack of access to LGBT health information for the LGBT community and health professionals
- A lack of comprehensive LGBT health data to help determine the presence of and size of the disparity
- The complexity of identity and the difficulty of capturing it in a survey
- The fracturing of approaches to address LGBT health concerns, rather than a comprehensive treatment of LGBT health

Step Two: Identify Promising Programs
Second, we conducted an environmental scan of the LGBT health programs. We identified promising initiatives led by government at the state, county, or municipal level. We created a list of 25 initiatives. We then evaluated the initiatives on the list based on a variety of factors, including:

- scope of the goals of the project
- innovative methods used to address disparity
- involvement of community partners
- longevity of program
- location/region of the country
- specific targeting a particular subsection of the LGBT community
- funding structure
- LGBT health concern addressed

In addition to these factors, we considered how these programs would fit into the Wisconsin context. We selected five programs to further study: the Seattle and King County LGBT website; the Kansas City, Missouri, Health Department PULSE and Check the PULSE surveys; the City of Chicago's Office of LGBT Health; the Massachusetts Department of Public Health; and the North Dakota Department of Health's Office for the Elimination of Health Disparities. After conducting the initial contact interviews, we determined that despite the content on its website, the North Dakota office does not conduct any programs dedicated to eliminating LGBT health disparities. We then dropped North Dakota from our analysis.

Step Three: In-Depth Interviews
Third, we conducted telephone and email interviews with initiative staff in the Seattle, Kansas City, Chicago, and Massachusetts offices.

Points of Contact
We identified a point of contact for each of the initiatives. In some instances, we chose this person specifically based on our previous research. In others, we inquired generally about the initiative and we were directed to her or him based on our requests. These people became our primary resources with regard to their initiatives. With their help, we conducted the interviews, received additional materials, and developed a greater understanding of each project.

Seattle: Jeff Ing, Senior Web Developer for the Seattle and King County Department of Health

- participated in an interview via email on March 31, 2009
- provided follow-up emails to answer outstanding questions

Kansas City: William D. Snook, Program Manager for Health and Social Marketing for the Kansas City, Missouri, Health Department

- participated in an interview via phone on April 1, 2009
- provided follow-up emails to answer outstanding questions
- sent additional materials, including copies of presentation slides from two conferences

Chicago: Simone Koehlinger, Director, Office of LGBT Health, Chicago Department of Public Health

- participated in an interview via phone on April 14, 2009
- provided follow-up emails to answer outstanding questions

Massachusetts: Stewart Landers, Senior Program Director, Massachusetts Department of Public Health

- participated in an interview via phone on April 8, 2009
- provided follow-up emails to answer outstanding questions

Interview Questions
In preparing for the interviews, we drafted a set of standard questions, described below:

1. Could you describe the initiative in a little more detail?
2. How is the initiative organized in terms of staff and division of tasks? What is your role in the initiative?
3. Was the initiative designed to specifically address LGBT health disparities?
4. How did you build support (political, community, etc) initially to launch this initiative? How did you show that there was a health disparity to address?

5. Was this initiative based on another existing program?
6. Is the initiative design based on any kind of research?
7. Do you have a strategic plan or annual benchmarks that you can send us?
8. What are the strengths and weaknesses of the initiative?
9. Do you feel that the initiative has been effective in reducing the LGBT health disparity?
10. How has the community received the initiative? Health providers? Other state agencies?
11. Is it effective at reaching/serving the transgender community? Do you employ different strategies to reach/serve this community?
12. Is there anything you would change about the structure of the initiative given unlimited resources?
13. Do you know of any other initiative that you think are effective at addressing LGBT health disparities?
14. Has there been any kind of formal evaluation of the initiative yet? If so, can you send us the report, evaluation design, etc?
15. Does your agency collect any data through surveys? If so, what questions do you use to identify LGBT individuals?
16. What are the costs of the initiative? Have they increased over time?
17. Where does the initiative's funding coming from?

Conducting the Interview

For each interview, we tailored the questions to fit the specific context of the project. We conducted the interviews between March 30 and April 15, 2009. We used email and telephone conversations for any follow-up questions. We also received additional program materials, such as conference presentations and training videos, from these contacts.

Appendix F: Sample Patient Intake Form

This sample form is available from the Seattle and King County Public Health Department's LGBT Resource Page, http://www.kingcounty.gov/healthservices/health/personal/glbt/IntakeForm.aspx.

Note: This is not intended to be a complete patient intake instrument, but for incorporation into existing forms.

What is your gender?
- Male
- Female
- Transgendered (check one: MTF FTM)

What is your relationship status?
- Single
- Legally married
- Domestic partner relationship
- Widowed
- Other (please specify)

Gender of current sexual partner(s) (circle all that apply)
- Male
- Female
- Transgendered (check one: MTF FTM)
- Not currently sexually active with others

Gender of past sexual partner(s) (circle all the apply)
- Male
- Female
- Transgendered (check one: MTF FTM)
- Not currently sexually active with others

Are you in a relationship with another person right now?
- Yes
- No

If yes, is this relationship a good one for you?
- Yes
- No
- Not sure
- Not in a relationship right now

Do you need birth control?
- Yes
- No

Are you currently using birth control?
- Yes (please specify type)
- No

Do you have any questions about sex or sexuality?
- Yes (you may state your question here or we can talk in person)
- No

Do you or your partner(s) have any children?
- Yes
- No

Do any children live in your household?
- Yes
- No

Do you need to discuss any of the following with us? (check all that apply)
- Safety concerns now or a history of physical, sexual or emotional abuse
- Getting along with parents
- Getting along with friends
- Getting along with partner
- Privacy/confidentiality
- Loneliness, depression, anxiety or problems eating or sleeping
- Weight, bodybuilding or eating concerns
- Safer sex or sexually transmitted diseases
- Pregnancy test or options for starting, ending or continuing a pregnancy
- Other (please specify)

Appendix G: PULSE Survey Instruments

This section contains information regarding the PULSE and Check the PULSE survey instruments.

PULSE 2003: Survey Specifics

Kansas City, Missouri, Health Department published the summary report of findings from the PULSE 2003. The 2003 survey instrument can be found within this report. The report is available online at: http://www.kcmo.org/health/pdf/thePULSE.pdf.

This comprehensive survey of 1,143 people who identified LGB spanned more than 10 pages. In these pages, the survey asked participants demographic and health-related questions. They compared these results with survey results from control groups, including heterosexuals who reside within the metropolitan area and LGB individuals who reside outside Kansas City. They also surveyed trans-gender individuals, but could not produce reliable analysis due to a small sample size.

PULSE 2003: Promotion

To promote the survey, Kansas City HD employees implemented a variety of techniques. The print campaign contained images that reflected the lesbian, drag, and young gay male community. The posters used local LGBT celebrities to boost the credibility of the survey. Kansas City HD did not compensate respondents for their time beyond offering them a bottle of water with the label, H_2OMO, a play on the abbreviations for water and Missouri.

Poster from PULSE 2003 Promotional Campaign.

Label on Bottle of Water Given to PULSE 2003 Respondents.

Check the PULSE 2006: Survey Specifics

Check the PULSE received 1,060 responses, although Kansas City HD could only analyze 580 due to an error in the identification question. As in 2003, the analysis excluded transgender respondents due to small sample size. Check the PULSE contained five pages of questions and an additional page devoted to the department's upcoming syphilis campaign. The survey instrument can be found with the 2006 summary of the PULSE survey results, accessed online at http://www.kcmo.org/health/pdf/thePULSE2006.pdf.

Appendix H: Decision-Making Matrix

Goals	Impact Categories	Status Quo	Initiative 1	Initiative 2
Effectiveness at Increasing Awareness and Understanding of LGBT Health Disparities	Within DHS			
	With Health Professionals			
	With General Public			
	Within LGBT community			
Manageable and Sustainable Costs	Short-term			
	Long-term			
Administrative Feasibility	Short-term			
	Long-term			
Political Feasibility	Internal			
	External			

How to Use the Matrix

This matrix is designed to help score the various policy options DHS staff may explore. Any version of this matrix should include consideration of the status quo as one option. This inclusion not only helps DHS staff to think critically about current programs, but it also provides a baseline by which to evaluate alternatives.

For each impact category, DHS staff would give a score of one through five, with one being the lowest score and five being the highest (for explanation of scoring, see Musso, Biller, & Myrtle, 2000). Once DHS completes the scoring for all goals and impact categories, staff can then sum the total for that alternative. With this scoring system, the highest score signals the policy option that best accomplishes these goals.

The matrix can be adapted for particular goals or impact categories that may be more influential at that time. For example, if manageable and sustainable costs are the primary driver of this policy choice, DHS can give that goal's score twice the value of all others. Similarly, DHS staff can deemphasize certain goals. For example, if DHS considers administrative feasibility a minor factor, staff can multiply these scores by one-half to reduce their impact.

For more information on goals matrices as a tool for policy analysis, see Weimer and Vining (2004) *Policy Analysis: Concepts and Practice 4th Edition*, 2004.

References

Aaron, D. J. et al. (2001). Behavioral Risk Factors for Disease and Preventive Health Practices Among Lesbians. *American Journal of Public Health 91*(6): 972-975.

Boehmer, U. (2002). Twenty Years of Public Health Research: Inclusion of Lesbian, Gay, Bisexual, and Transgender Populations. *American Journal of Public Health 92*(7): 1125-1130.

Boehmer, U., Bowen, D. J. & Bauer, G. R. (2007). Overweight and Obesity in Sexual Minority Women: Evidence from Population-Based Data. *American Journal of Public Health 97*(6): 1134-1140.

Bontempo, D. E. & D'Augelli, A. R. (2002). Effects of At-School Victimization and Sexual Orientation on Lesbian, Gay, or Bisexual Youths' Health Risk Behavior. *Journal of Adolescent Health 30*(5): 364-374.

Centers for Disease Control and Prevention. (2007). 2007 National YRBS High School Codebook Introduction. Atlanta: Centers for Disease Control and Prevention.

Centers for Disease Control and Prevention. (2008). 2007 BRFS Weighting Documentation. Atlanta: Centers for Disease Control and Prevention.

Conron, K. J., Mimiaga, M. J. & Landers, S. J. (2008). *A Health Profile of Massachusetts Adults by Sexual Orientation Identity: Results from the 2001-2006 Behavioral Risk Factor Surveillance System Surveys.* Boston: Massachusetts Department of Public Health**.**

Dean L. et al. (2000). Lesbian, Gay, Bisexual, and Transgender Health: Findings and Concerns. *Journal of Gay Lesbian Medical Association 4*: 102-151.

Espelage, D. L., Aragon, S. R., Birkett, M. & Koenig, B. W. (2008). Homophobic Teasing, Psychological Outcomes, and Sexual Orientation Among High School Students: What Influence Do Parents and Schools Have? *School Psychology Review 37*(2): 202-216.

Garofalo, R. et al. (1998). The Association Between Health Risk Behaviors and Sexual Orientation Among a School-Based Sample of Adolescents. *Pediatrics 101*(5): 895-902.

Gay and Lesbian Medical Association. (2001). *Healthy People 2010 Companion Document for Lesbian, Gay, Bisexual, and Transgender (LGBT) Health.* San Francisco: Gay and Lesbian Medical Association.

Gruskin, E., Greenwood, G., Matevia, M., Pollack, L. & Bye, L. (2007). Disparities in Smoking Between the Lesbian, Gay, and Bisexual Population and the General Population in California. *American Journal of Public Health 97*(8): 1496-1502.

Harcourt, J. (2006). Current Issues in Lesbian, Gay, Bisexual, and Transgender (LGBT) Health. *Journal of Homosexuality* 51(1): 1-11.

Johnson, C., Mimiaga, M. & Bradford, J. (2008). Health Care Issues Among Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) Populations in the United States: Introduction. *Journal of Homosexuality 54*(3): 213-224.

Kansas City, Missouri, Health Department. (2003, April). The PULSE: A Health Assessment of the Lesbian, Gay, Bisexual, & Transgendered (LGBT) Community in the Kansas City, Missouri, Bi-State Metropolitan Area. Kansas City. Retrieved March 12, 2009, from http://www.kcmo.org/health/pdf/thePULSE.pdf.

Kansas City, Missouri, Health Department. (2006, November). The PULSE 2006: A Health Assessment of the Lesbian, Gay, Bisexual, & Transgendered (LGBT) Community in the Kansas City, Missouri, Bi-State Metropolitan Area. Kansas City. Retrieved March 12, 2009, from http://www.kcmo.org/health/pdf/thePULSE2006.pdf.

Kinsey, A. C., Pomeroy, W. B., Martin, C. E. & Gebhard, P. H. (1948). *Sexual Behavior in the Human Male*. Philadelphia: Saunders.

Laumann, E. O., Gagnon, J. H., Michael, R. T. & Michaels, S. (1994). *The Social Organization of Sexuality: Sexual Practices in the United States*. Chicago: University of Chicago Press.

Mays, V. M, Yancey, A. K., Cochran, S. D., Weber, M. & Feilding, J. E. (2002). Heterogeneity of Health Disparities Among African American, Hispanic, and Asian American Women: Unrecognized Influences of Sexual Orientation. *American Journal of Public Health 92(*4): 632-639.

McGarry, K., Clarke, J., Landau, C. & Cyr, M. (2008). Caring for Vulnerable Populations: Curricula in U.S. Internal Medicine Residencies. *Journal of Homosexuality 54*(3): 225-232.

McNair, R. P. (2003). Lesbian Health Inequalities: A Cultural Minority Issue for Health Professionals. *The Medical Journal of Australia 178*(12): 643-645.

Meyer, I. (2001). Why Lesbian, Gay, Bisexual, and Transgender Public Health? *American Journal of Public Health 91*(6): 856-859.

Meyer, I. (2003). Prejudice, Social Stress, and Mental Health in Lesbian, Gay, and Bisexual Populations: Conceptual Issues and Research Evidence. *Psychological Bulletin 129*(5): 674-697.

Meyer, I. H. & Northridge, M. E. Eds. (2007). *The Health of Sexual Minorities*. New York, NY: Springer.

Musso, J., Biller, R. & Myrtle, R. (2000). Tradecraft: Professional Writing as Problem Solving. *Journal of Policy Analysis and Management. 19*(4): 636-646.

Robin, L. et al. (2002). Associations Between Health Risk Behaviors and Opposite-, Same-, and Both-Sex Sexual Partners in Representative Samples of Vermont and Massachusetts High School Students. *Archives of Pediatrics and Adolescent Medicine 156*(4): 349-355.

Ryan, C., Huebner, D., Diaz, R. M. & Sanchez, J. (2009). Family Rejection as a Predictor of Negative Health Outcomes in White and Latino Lesbian, Gay, and Bisexual Young Adults. *Pediatrics 123*(1): 346-352.

Seattle and King County Department of Health. (n.d.). Gay, Lesbian, Bisexual, and Transgender Health. Retrieved March 20, 2009, from http://www.kingcounty.gov/healthServices/health/personal/glbt.aspx.

Seattle and King County Department of Health. (n.d.). Sample Culturally Competent Intake Form. Retrieved March 20, 2009, from http://www.kingcounty.gov/healthservices/health/personal/glbt/IntakeForm.aspx.

Sell, R. (1997). Defining and Measuring Sexual Orientation: a Review. *Archives of Sexual Behavior 26*(6): 643-658.

Skinner, W. (1994). The Prevalence and Demographic Predictors of Illicit and Licit Drug Use Among Lesbians and Gay Men. *American Journal of Public Health 84*(8): 1307-1307.

Stein, G. L. & Bonuck, K. A. (2001). Physician-Patient Relationships Among the Lesbian and Gay Community. *Journal of the Gay and Lesbian Medical Association 5*(3): 87-93.

Tang, H. et al. (2004). Cigarette Smoking Among Lesbians, Gays, and Bisexuals: How Serious a Problem? *Cancer Causes and Control 15*(8): 797-803.

U.S. Department of Health and Human Services. (2000). *Healthy People 2010*. Washington D.C.: U.S. Department of Health and Human Services.

Ungvarski, P. J. & Grossman, A. H. (1999). Health Problems of Gay and Bisexual Men. *Nursing Clinics of North America, 34*(2), 313-331.

Valanis, B. G. et al. (2000). Sexual Orientation and Health - Comparisons in the Women's Health Initiative Sample. *Archives of Family Medicine 9*(9): 843-853.

Weimer, D. & Vining, A. (2004). *Policy Analysis: Concepts and Practice*. Upper Saddle River, NJ: Pearson.