

poor areas with a depleted social infrastructure suffered the city's highest mortality rates.⁸

Since individual, group, and neighborhood conditions determine who is living alone, policies for reducing social isolation should attend to each of these levels. I endorse the recommendation by Pantell et al. that clinicians assess whether their patients are isolated.² But what kinds of assistance can health care providers offer to those who are truly on their own? Here, again, it depends on the condition. For relatively healthy people at risk for isolation, such as widows and widowers, older single men, and older single lesbian, gay, bisexual, and transgender people who live alone, a warning about the danger of isolation and simple encouragement to be socially active may help promote social interaction. Those who suffer from isolation and loneliness are vulnerable to a vicious cycle that leads to social withdrawal, and they would likely

benefit from psychological care as well as social activity.

Certain people at risk for isolation need more support. People who are aging alone in impoverished areas with degraded social infrastructure would benefit from neighborhood revitalization, but that would require considerable investment from the public and private sectors, and there is little reason to think either will come through soon. Old, frail, and reclusive people who live alone may require home care and specialized services such as meal delivery or social visits. In these cases, care workers should understand that they likely serve as a vital source of interaction. They should be trained to recognize when an isolated person is in danger and no longer able to live alone, and how to connect that person to appropriate sources of support. Unfortunately, home services are expensive, and poor people living in poor communities often suffer from inadequate attention

and support. There are a handful of volunteer-based organizations attempting to fill the care gap (for instance, Little Brothers, Friends of the Elderly), but not enough to substantially reduce isolation at the national or international levels. As the population ages and the number of people aging alone grows, societies throughout the world will need to develop new supportive housing programs and new forms of elderly care. Few nations have recognized this challenge, and fewer still have made real investments in devising solutions.

At this point, most policy recommendations for reducing isolation are speculative only. We lack sound research on the effectiveness of proposed interventions for social isolation, in different contexts and with different populations. It's time for public health scholars to take on this important challenge. **AJPH**

Eric Klinenberg, PhD

The Continuing Development of Health Disparities Research on Lesbian, Gay, Bisexual, and Transgender Individuals

The publication of the article by Cochran et al.¹ realizes an important benchmark in the continued maturation of health disparities research on lesbian, gay, bisexual, and transgender (LGBT) populations by demonstrating that the numerous health disparities already documented among these populations also extend for sexual minority men and women to the ultimate biological outcome of mortality. LGBT health disparities research began by recruiting small-scale convenience samples that

analyzed self-report measures of psychosocial health problems such as depression or substance abuse.² With the advent of AIDS, research methods among men who have sex with men moved to larger-scale studies with biological outcomes that occasionally took household-based samples of neighborhoods that enjoyed relatively high densities of men who have sex with men. HIV/AIDS research documented important health disparities in terms of multiple psychosocial health problems and

in terms of AIDS itself. However, the samples that were taken could

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not be directly compared with the general population, the focus tended to be on morbidity, and sampling methods underemphasized the recruitment of racial minorities and, by design, omitted or underrepresented the important sexual and gender minority populations of lesbians, bisexuals, and transgender individuals. The contribution of Cochran et al.¹ is further

ABOUT THE AUTHORS

All of the authors are with the Center for LGBT Health Research, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA. Ron Stall, Suzanne Kinsky, James E. Egan, and Robert W. S. Coulter are also with the Department of Behavioral and Community Health Sciences, Graduate School of Public Health, University of Pittsburgh. Derrick D. Matthews and M. Reuel Friedman are also with the Department of Infectious Diseases and Microbiology, Graduate School of Public Health, University of Pittsburgh. John R. Blosnich is also with US Department of Veterans Affairs Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, Pittsburgh. Nina Markovic is also with the Department of Dental Public Health, School of Dental Medicine, University of Pittsburgh.

Correspondence should be sent to Ron Stall, Director of the Center for LGBT Health Research and Associate Chair for Science Department of Behavioral and Community Health Sciences, Graduate School of Public Health, University of Pittsburgh, 130 De Soto St, Pittsburgh, PA 15261 (e-mail: rstall@pitt.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

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distinguished by the fact that they analyzed data from the population-based National Health and Nutrition Examination Survey (NHANES) to document that both sexual minority men and women suffer excess mortality compared with heterosexuals. Thus, the publication of this article marks an important milestone in the continuing development of LGBT health research, which started with the initiation of pioneering, small-scale studies approximately four decades ago.

Although an important milestone, perhaps the greatest value of this article is the questions that it raises rather than the questions that it answers. As a means of discussing these unanswered questions, this editorial follows the schema presented by Kilbourne et al.,³ for the development of research on health disparities among minority populations, starting with detection, then understanding, and finally, reduction or elimination. Each of these different stages provides direct guidance for the continued development of research among LGBT populations.

UNDETECTED HEALTH ISSUES

This editorial furthers an ongoing agenda to use random samples of the general population to compare health indices between LGBT populations and the general public.² That said, it is possible that certain health problems still remain undetected in sexual and gender minority populations, and this is especially likely among lesbian, bisexual, and transgender populations because of longstanding underinvestment in health research for these populations. Important

questions still remain unanswered regarding the documentation of which distinct health disparities exist within specific LGBT populations and racial/ethnic minorities within these populations (e.g., Hispanic lesbians).⁴ Perhaps even more important will be the question of documenting which health disparities are the causes of the greatest burden of disease and mortality among specific sexual and gender minority populations, a question that will be crucial in the decision to identify which health disparities should be targeted first in terms of intervention development.

UNDERSTANDING HEALTH DISPARITIES

Theoretical relationships that explain drivers of health disparities within populations are the basis for sound intervention design. This is why identifying the mechanisms that drive LGBT health disparities and codifying these variables into overarching theoretical statements is an essential next phase in the development of health disparities research. Although theoretical advances to explain the existence of health disparities among LGBT populations have already begun,^{5,6} gaps remain in our ability to explain the complex and multilayered causal processes that underlie specific health disparities within particular LGBT populations.

REDUCING HEALTH DISPARITIES

Intervention development will draw directly on the advances made to identify the epidemics that contribute the

greatest burden of disease and the drivers of these epidemics. Drivers are likely to be identified at the biological, behavioral, interpersonal, community and structural levels. Once interventions are designed on the basis of theoretical and empirical advances, they can be subjected to randomized trials to test for efficacy, and finally evaluated for effectiveness as part of ongoing public health practice. This final stage will then produce the practical public health tools that we require to resolve health disparities among LGBT populations.

This is an ambitious agenda, but one that we must undertake if the profession of public health is to meet our charge of resolving health disparities and so furthering the cause of social justice. Although each of these research stages were described as “phases” perhaps a more apt term is “generations,” in view of the length of time that this agenda will require to resolve even the most dangerous health disparities among LGBT populations. Hence, increased attention to support and training of junior researchers interested in the health of LGBT populations will be essential to resolving health disparities in sexual and gender minority populations.⁷

In closing, the ability of Cochran et al.¹ to reach this important research milestone in the development of sexual minority research depended on the willingness of NHANES to include questions regarding sexual behavior and identity. This willingness came as the result of many long years of advocacy and basic research to show that the inclusion of such measures was not only possible, but necessary if we are to meet the charge of raising the nation’s health. The call by Cochran et al.¹ to better

identify the specific mechanisms that underlie greater mortality among LGBT populations could be enhanced by expanded inclusion of sexual and gender minority measures in all major epidemiological sentinel surveys. While the National Institutes of Health (NIH) is encouraging extramural and intramural research studies to measure LGBT status, many relevant, federally funded, population-based surveys are outside the purview of NIH (e.g., National Crime Victimization Survey; for a review, see the GenIUSS report⁸); these studies should also be encouraged to include items assessing LGBT status. It is likely that major health disparities still remain uncharacterized among LGBT populations. For example, although we now have nearly 30 years of data to show that gay men and lesbian women report higher rates of smoking than the general population, we have only begun the process of documenting higher levels of lung cancer, emphysema, asthma, and cardiovascular disease among LGBT populations.⁹ Thus, the inclusion of measures of sexual orientation, identity, and behavior as well as gender identity in all major sentinel health survey studies is likely to yield important findings regarding health disparities in LGBT populations, even in instances where investigators might assume that documentation of such disparities would be unlikely. In addition to improving survey data, which has considerable time lags for mortality analyses, we could expedite research through concomitant efforts to incorporate LGBT information in US annual mortality data.

This is an exciting time to conduct research in LGBT populations, and even with the important advance provided by the

article by Cochran et al.,¹ our work to resolve health disparities in LGBT populations has barely begun. The continuation of this ambitious research agenda will not only provide the necessary tools for the resolution of health disparities for LGBT populations, but may also provide important guidance about how best to address health disparities among other populations that suffer health effects attributable to stigma and social marginalization. **AJPH**

Ron Stall, PhD, MPH

Derrick D. Matthews, PhD, MPH

M. Reuel Friedman, PhD, MPH

Suzanne Kinsky, PhD, MPH

James E. Egan, PhD, MPH

Robert W. S. Coulter, MPH

John R. Blosnich, PhD, MPH

Nina Markovic, PhD

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CONTRIBUTORS

All authors contributed equally to this editorial.

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