Structural Stigma and the Health of Lesbian, Gay, and Bisexual Populations

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Continuing Medical Education Disclosure

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- **Disclosure**: No relevant financial relationships. Presentation does not include discussion of off-label products.

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Learning Objectives

By the end of this session, learners will be able to:
1. Define structural stigma and distinguish it from other forms of stigma
2. Describe the role of structural stigma as a determinant of LGB health and health disparities.
3. Discuss ways to integrate research on individual and structural forms of stigma into clinical settings to improve the health outcomes and access to care for LGB patients.
Sexual Orientation Health Disparities

The Health of Lesbian, Gay, Bisexual, and Transgender People
Building a Foundation for Better Understanding
What is Stigma?
(Link & Phelan, 2001, “Conceptualizing Stigma”)

- Stigma involves the co-occurrence of several overlapping components, including:
  - Distinguishing and labeling group differences
  - Associating differences with negative attributes (i.e., stereotyping)
  - Separating “us” from “them”
  - Status loss and discrimination
  - In a context of power
“Societal-level conditions, cultural norms, and institutional policies and practices that constrain the opportunities, resources, and wellbeing of the stigmatized” (Hatzenbuehler & Link, 2014, p. 1).

“The under-representation of [structural stigma] is a dramatic shortcoming in the literature on stigma, as the processes involved are likely major contributors to unequal outcomes” (Link et al., 2004, p. 515).
Multi-measure, multi-method approach to studying structural stigma and LGB health

- Measures of structural stigma:
  - Social policies (e.g., same-sex marriage laws)
  - Social attitudes
  - Social behaviors (e.g., LGBT assault hate crimes)

- Methods:
  - Observational designs (cross-sectional, longitudinal)
  - Quasi-experimental designs
  - Laboratory designs
Approach #1: Cross-Sectional, Country-Level
Are Health Problems Elevated among LGB Populations in High-Structural Stigma Countries?

Hidden from health: structural stigma, sexual orientation concealment, and HIV across 38 countries in the European MSM Internet Survey

AIDS 2015, 29:1239–1246
Country-Level Structural Stigma

Map showing the percentage of countries with certain levels of structural stigma.
European Men Who Have Sex with Men Internet Survey (EMIS)

- Linked ecologic data on structural stigma at the country level (N=38 European countries) to individual-level HIV risk outcomes among MSM living in these countries (n=174,209 MSM)

- Concealment: “Thinking about all the people who know you (including family, friends and work or study colleagues), what proportion know that you are attracted to men?”
  - Response options: all or almost all; more than half; less than half; few; none
  - Participants reporting “few” or “none” were classified as high concealment
### Structural Stigma Associated with HIV Risk Outcomes via Concealment

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>AOR (95% CI)</th>
<th>AOR (95% CI), controlling for concealment</th>
</tr>
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<tbody>
<tr>
<td>Inadequate HIV prevention reach</td>
<td>1.43 (1.27-1.62)****</td>
<td></td>
</tr>
<tr>
<td>Incorrect HIV transmission knowledge</td>
<td>1.16 (1.08-1.26)****</td>
<td></td>
</tr>
<tr>
<td>No HIV test result (12 mo.)</td>
<td>1.14 (1.05-1.24)**</td>
<td></td>
</tr>
<tr>
<td>No STI screen (12 mo.)</td>
<td>1.21 (1.07-1.36)**</td>
<td></td>
</tr>
<tr>
<td>Condoms never/seldom used</td>
<td>1.30 (1.10-1.54)**</td>
<td></td>
</tr>
<tr>
<td>No sex/MSM discussion when tested</td>
<td>1.52 (1.29-1.80)****</td>
<td></td>
</tr>
</tbody>
</table>

**Covariates:** Age, relationship status, employment status, education, settlement size, HIV status, Gini index. 
** p ≤ .01, *** p ≤ .001, + significant mediation via distribution-of-the-product method
Approach #1b: Cross-Sectional
Are Health Problems Elevated among LGB Populations in High-Structural Stigma States?

State-Level Policies and Psychiatric Morbidity In Lesbian, Gay, and Bisexual Populations

Mark L. Hatzenbuehler, MS, MPhil, Katherine M. Keyes, MPH, and Deborah S. Hasin, PhD

Measure of Structural Stigma: State-Level Policies

Red = States with no protective policies
Blue = States with at least one protective policy

(1) Hate Crimes
(2) Employment Discrimination
National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)

- Wave 2 (N=34,653)
- Household and group residents
- Face-to-face interviews
- Response rate: 81%
- Oversampling of Blacks, Hispanics, young adults (18-24 yrs)
- DSM-IV diagnoses
- Sexual orientation (1.67% LGB-identified [1.86% men, 1.52% women])
Sexual orientation disparity in psychiatric morbidity is higher in states with structural stigma.

AOR

Protective Policies
No protective policies

Covariates: sex, age, race/ethnicity, SES, marital status, perceived discrimination.
Approach #2: Longitudinal
Does Structural Stigma Prospectively Predict Health Problems among LGB Populations?

Structural stigma and all-cause mortality in sexual minority populations

Mark L. Hatzenbuehler a, *, Anna Bellatorre b, Yeonjin Lee c, Brian K. Finch d, Peter Muennig e, Kevin Fiscella f
Data Sources: General Social Survey/National Death Index

- **General Social Survey (GSS)**
  - Primary source of social indicator data for social sciences since 1972
  - Repeated cross-sectional surveys (N=53,043 from 1972-2008)
  - Representative sample of the US non-institutionalized population
  - Measure of sexual behavior (N=914 sexual minorities; 4.5%)

- **National Death Index (NDI)**
  - Participants from 18 waves of GSS are linked prospectively to mortality data by cause of death, obtained from National Death Index
  - Linkage approach well-validated (e.g., NHANES, NHIS)
General Social Survey/National Death Index: Community-Level (N=170 PSUs) Prejudicial Attitudes as a Predictor of Mortality Risk among Sexual Minorities

San Francisco (n=75)
Prejudicial attitudes=0.9
20 sexual minorities
2 died

Shelby County (n=20)
Prejudicial attitudes=3.2
2 sexual minorities
1 died
Life expectancy difference = 12 yrs. (range: 4-20)

**p<0.01, ***p<0.001

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Hazard Ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Stigma</td>
<td>3.03</td>
<td>(1.50, 6.13)**</td>
</tr>
<tr>
<td>Sex (Female)</td>
<td>0.59</td>
<td>(0.39, 0.88)**</td>
</tr>
<tr>
<td>Race/Ethnicity (Black)</td>
<td>2.87</td>
<td>(1.76, 4.67)*****</td>
</tr>
<tr>
<td>Age at Interview</td>
<td>1.05</td>
<td>(1.04, 1.06)*****</td>
</tr>
<tr>
<td>Years of Education</td>
<td>0.99</td>
<td>(0.93, 1.05)</td>
</tr>
<tr>
<td>Household Income</td>
<td>1.04</td>
<td>(0.86, 1.86)</td>
</tr>
<tr>
<td>Self-Rated Health (Poor/Fair)</td>
<td>1.04</td>
<td>(0.61, 1.19)</td>
</tr>
<tr>
<td>Community-Level Income</td>
<td>1.70</td>
<td>(0.56, 5.17)</td>
</tr>
<tr>
<td>Community-Level Education</td>
<td>0.86</td>
<td>(0.61, 1.19)</td>
</tr>
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Survival Time by Community-Level Structural Stigma

![Graph showing survival time by community-level structural stigma. The graph compares survival rates between low and high structural stigma conditions over time (1 to 22 years). The survival rate decreases from 100% to 70% for both conditions, with the line for low structural stigma remaining above the line for high structural stigma throughout the years.]
Additional Results

- Descriptive analyses of specific causes of death by ICD-9 code:
  - Results were not due to HIV-related causes (only 5 deaths)
  - Suicide, homicide/violence, and cardiovascular diseases were substantially elevated among sexual minorities in high-structural stigma communities
  - Sexual minorities in high-stigma communities died by suicide at age 37.5 vs. 55.7 among those in low-stigma communities (18-year difference)

- Testing alternative explanations
  - Geographic mobility since age 16 is not associated with:
    - Self-rated health: $r=0.02$, $p=.16$
    - Mortality risk: HR=$1.17$ (95% CI: 0.76, 1.78)
  - Results are robust to selection effects regarding mobility
Approach #3a: Quasi-Experimental
Do Health Problems among LGB Populations Increase Following Increases in Structural Stigma?

The Impact of Institutional Discrimination on Psychiatric Disorders in Lesbian, Gay, and Bisexual Populations: A Prospective Study

Mark L. Hatzenbuehler, MS, MPhil, Katie A. McLaughlin, PhD, Katherine M. Keyes, MPH, and Deborah S. Hasin, PhD

American Journal of Public Health | March 2010, Vol 100, No. 3
Constitutional Amendments Banning Same-Sex Marriage (2004)

Red = States passing constitutional amendments
Blue = States not passing constitutional amendments

NESARC (2001-2005)
LGB Adults Living in States that Banned Same-Sex Marriage Experienced Increase in Mood Disorders

- Gay Marriage Ban (N=135) Wave 1: AOR = 1.67 (95% C.I. 1.01, 2.77)
- Gay Marriage Ban (N=135) Wave 2: 36.6% increase
- No Marriage Ban (N=442) Wave 1: 23.6% decrease

Covariates: sex, age, race/ethnicity, SES, marital status
Effect of Marriage Bans Specific to LGB Adults

- LGB (N=135)
  - AOR = 1.67 (95% C.I. 1.01, 2.77)
  - 36.6% increase

- Heterosexual (N=9,963)
  - AOR = 1.03 (95% C.I. 0.93, 1.15)
  - 2.6% increase

Covariates: sex, age, race/ethnicity, SES, marital status
Approach #3b: Quasi-Experimental
Do Health Problems among LGB Adults Decrease Following Reductions in Structural Stigma?

Effect of Same-Sex Marriage Laws on Health Care Use and Expenditures in Sexual Minority Men: A Quasi-Natural Experiment

Mark L. Hatzenbuehler, PhD, Conall O’Cleirigh, PhD, Chris Grasso, MPH, Kenneth Mayer, MD, Steven Safren, PhD, and Judith Bradford, PhD

February 2012, Vol 102, No. 2 | American Journal of Public Health
Methods

- In 2003, Massachusetts became the first state to legalize same-sex marriage (Goodridge vs. Department of Public Health)
- Community-based health clinic (N=1,211 gay and bisexual men)
- Extracted health information in outpatient billing records from 2002-2004
- Examined changes in medical and mental health care utilization and expenditures in the 12 months before and after same-sex marriage legalized
Reduction in Mental Health Care Utilization in the 12 Months Following Same-Sex Marriage

![Bar Chart]

- Pre-Marriage Law: # of Visits
  - 25
  - 24.5
  - 24
  - 23.5
  - 23
  - 22.5
  - 22
  - 21.5
  - 21
  - 20.5

- Post-Marriage Law: # of Visits
  - 22
  - 21
  - 20.5

Statistical Analysis:

- F(1, 147) = 4.60, p = 0.03
- Cohen’s d = 0.35
Reduction in Mental Health Care Costs in the 12 Months Following Same-Sex Marriage

![Bar chart showing reduction in costs before and after marriage law]

- Pre-Marriage Law: $2450
- Post-Marriage Law: $2000

Statistical analysis:

\[ F(1, 147) = 6.32, \quad p < 0.01, \quad \text{Cohen’s } d = 0.41 \]
Reduction in Health Problems in 12 Months Following Same-Sex Marriage
(by International Classification of Diseases-9 codes)

- Instituted comprehensive health care reform law
  - But this occurred in 2006, well outside the study period

- Trends in health care costs among Massachusetts residents increased during study period (CMS, 2007)
  - But we find evidence for decreased expenditures

- Cuts to MassHealth insurance program (disabilities, poverty) in 2004
  - But only 3% of our sample had MassHealth; removing them doesn’t change direction or magnitude of the results
Approach #4: Laboratory paradigms to test mechanisms
Does Structural Stigma Alter HPA Axis Functioning?

Structural Stigma and Hypothalamic–Pituitary–Adrenocortical Axis Reactivity in Lesbian, Gay, and Bisexual Young Adults

Mark L. Hatzenbuehler, Ph.D. • Katie A. McLaughlin, Ph.D.

Participants

- 74 LGB young adults from 24 states
- Age: M=23.68, SD=4.12
- 54% female
- 57% lesbian/gay
- 60% non-White
- Told purpose of study was to “understand connections between daily experiences, your bodily activity, and health”
Structural Stigma Measure

- Density of same-sex partner households (Census)
- Proportion of GSAs in public high schools (GLSEN)
- 5 state-level policies (e.g., hate crimes, ENDA, same-sex marriage)
- Composite index of attitudes from 41 national opinion polls (Lax & Phillips, 2009)
- Factor Analysis (loadings range from .79 to .97)

- Lower scores (lighter blue) indicate higher structural stigma
- Ranges from low of -4.46 (Mississippi) to 7.90 (Massachusetts)
Methods

- Procedure:
  - Trier Social Stress Test (Kirschbaum et al., 1993)
    - 5-minute speech (identity-relevant topic) in front of 2 evaluators (confederates), followed by 5-minute math task
    - Collect neuroendocrine samples (cortisol) before, during, and after speech and math tasks
Structural stigma associated with blunted cortisol reactivity to Trier Social Stress Test

Cortisol Area Under Curve (AUC) for low structural stigma: adjusted $M=124.68$
Cortisol AUC for high structural stigma: adjusted $M=62.68$
Structural stigma associated with HPA axis reactivity independent of perceived stigma

<table>
<thead>
<tr>
<th>Parameters</th>
<th>F-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Stigma</td>
<td>4.45</td>
<td>0.039</td>
</tr>
<tr>
<td>Sex</td>
<td>7.83</td>
<td>0.007</td>
</tr>
<tr>
<td>Age</td>
<td>2.01</td>
<td>0.161</td>
</tr>
<tr>
<td>Waking Time</td>
<td>4.46</td>
<td>0.039</td>
</tr>
<tr>
<td>Smoking</td>
<td>0.96</td>
<td>0.331</td>
</tr>
<tr>
<td>Exercise</td>
<td>1.12</td>
<td>0.294</td>
</tr>
<tr>
<td>Race</td>
<td>0.66</td>
<td>0.418</td>
</tr>
<tr>
<td>Caffeine Use</td>
<td>0.02</td>
<td>0.882</td>
</tr>
<tr>
<td>Individual-Level Stigma</td>
<td>3.39</td>
<td>0.071</td>
</tr>
</tbody>
</table>
Interpretations

- Blunted cortisol response also observed in:
  - Youths exposed to extreme life stressors (e.g., childhood maltreatment; Carpenter et al., 2007)
  - Individuals with PTSD and other forms of severe trauma (e.g., Yehuda et al., 2000)
  - Females who were randomly assigned to an ostracism condition (Zwolinski, 2012)
- The stress of growing up in high-stigma environments may exert biological effects that are similar to other chronic life stressors
Conclusion: Structural Stigma as a Risk Indicator for Poor Health
Future Directions for Structural Stigma and LGB Health Research

- Evaluate relationships between different forms of stigma across different levels of analysis
  - Mediation: Structural $\rightarrow$ Individual $\rightarrow$ Health

Hidden from health: structural stigma, sexual orientation concealment, and HIV across 38 countries in the European MSM Internet Survey

John E. Pachankis$^a$, Mark L. Hatzenbuehler$^b$, Ford Hickson$^c$, Peter Weatherburn$^c$, Rigmor C. Berg$^d$, Ulrich Marcus$^e$
and Axel J. Schmidt$^{c,f}$
Recommendations

- Develop greater awareness of stigma as an etiologic factor that contributes to the health of LGB populations, which is necessary for provision of appropriate care
- Develop multi-component interventions that address stigma at each level
  - **Individual level**: Cognitive-Behavioral Therapy to reduce negative mental health consequences of stigma (e.g., Pachankis et al., 2015)
  - **Interpersonal level**: reduce stigma in interpersonal interactions (e.g., mental health counselors; Rutter et al., 2008)
  - **Structural level**: Addressing the broad social context (e.g., laws, social norms) in which LGB individuals are embedded (Hatzenbuehler, 2014)
Acknowledgments

Funders
- National Institute on Drug Abuse (K01 DA032558)
- National Institute of Mental Health (F31 MH834012)
- American Public Health Association (Walter J. Lear Award, Kenneth Lutterman Award)
- American Psychological Association (Maylon-Smith Dissertation Award)
- Williams Institute at UCLA School of Law (small research grant)
- Robert Wood Johnson Foundation
- Center for Population Research In LGBT Health

Collaborators
- Bruce Link, Jo Phelan, Katherine Keyes, Deborah Hasin (Columbia)
- Kate McLaughlin (University of Washington)
- Jack Dovidio, Susan Nolen-Hoeksema (Yale)
- Steve Safren, Ken Mayer, Judy Bradford, Conall O’Cleirigh (Fenway)