

Rural-urban difference in acute myocardial infarction mortality: Evidence from Nebraska (Soumitra Bhuyan, 2013)

Background: Acute myocardial infarction (AMI) remains a major cause of death and disability in the United States and worldwide. Despite the importance of surveillance and secondary prevention, the incidence of and mortality from MI are not continuously monitored, and little is known about survival outcomes after 30 days of MI hospitalization or associated risk factors, especially in the rural areas. The current study examines rural-urban differences in both in-and out-hospital survival outcomes for AMI patients.

Methods: We performed a retrospective analysis using 5 years of hospital discharge data in Nebraska from January 2005 to December 2009 and Nebraska death certificate records through October 2011. Both datasets were linked by a probabilistic linkage technique using patient name, date of birth, sex, and residence ZIP code. Multivariate logistic regression was used to estimate the rural-urban difference in 30-day mortality. A Cox proportional hazard model was used to predict overall survival rate. The control variables in the study included patient age, sex, and comorbidities.

Results: From 2005 to 2009, 12,783 patients were hospitalized for AMI in Nebraska. In the 30-day mortality model, after controlling for age, comorbidities, and rehabilitation, patients in rural areas were 37% more likely to die than patients from urban areas. In the overall survival model, patients in urban areas had a lower hazard of AMI death (HR: 0.85, $p < .0001$) than patients in rural areas. Patients with previous history of heart failure had a significantly higher likelihood of 30-day mortality, while atrial fibrillation, heart failure, and chronic kidney disease were associated with higher overall mortality. Patients who attended at least one previous cardiac rehabilitation session had significantly lower 30-day and overall mortality ($p < .0001$).

Conclusions: The results from this study not only support previous findings on rural-urban disparity in 30-day mortality, but also extend them to after 30 days of AMI hospitalization. Cardiac rehabilitation is also associated with reduced mortality, a finding which has never been reported at the population level. Further efforts are needed to develop systems in rural hospitals and communities to ensure that AMI patients receive recommended care.

Learning Areas:

Administration, management, leadership
Basic medical science applied in public health
Public health or related public policy

Learning Objectives:

Evaluate rural-urban differences in both in-and out-hospital survival outcomes for patients with acute myocardial infarction.

Keywords: Health Disparities, Heart Disease

Presenting author's disclosure statement:

Qualified on the content I am responsible for because: I serve as a research assistant for this project and I am responsible for analyzing the data.

Any relevant financial relationships? No

I agree to comply with the American Public Health Association Conflict of Interest and Commercial Support Guidelines, and to disclose to the participants any off-label or experimental uses of a commercial product or service discussed in my presentation.

Abstract # 268700 Bacterial diversity in bioaerosols from two petting zoos (2012)

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Background: There have been reports of disease outbreaks among visitors of animal exhibits associated with close contact to animals. However, limited studies have described the diversity of bacterial aerosols in petting zoos. We described the bacterial diversity of these aerosols using molecular techniques.

Methodology: This cross-sectional pilot study used convenience sampling across two petting zoos (one indoor and one outdoor) within 15-miles of Omaha, Nebraska, during fall 2011. Each petting zoo involved a test and control location. We performed fixed-site bioaerosol sampling using impingement at a constant flow rate of 12.5 liters per minute, for 60 minutes. The samples were analyzed by universal 16s rDNA PCR-based Denaturing Gradient Gel Electrophoresis (PCR-DGGE). Temperature and relative humidity were recorded at each sampling location. Information on feeding and cleaning practices, number and types of animals were documented. Fisher's exact test was applied to compare the bacterial diversity.

Results: The predominant organisms identified by PCR-DGGE were *Bacteroides* spp., *Staphylococcus* spp., *Streptococcus* spp., *Enterococcus* spp., *Escherichia coli*, *Clostridium* spp., and *Bifidobacterium* spp. While *Staphylococcus aureus* band was relatively intense in all samples, *C. difficile* was mainly traced in the outdoor setting. Further, *C. difficile* specific multiplex PCR revealed presence of (Tcd-B) toxin-B gene/s. A total of 20-26 DGGE bands displayed diversity of known and unknown bacterial species. However, the variation in bacterial profiles overall was not statistically significant. The mean temperature (and relative humidity) for the indoor and outdoor sites were 27°C (27%) and 12 °C (16.5%), respectively.

Conclusion: Our results suggest that a mixed diversity of pathogenic and non-pathogenic bacteria may be present at animal exhibits. Petting zoo visitors may be at a potential risk of exposure to pathogens. Identification of pathogens such as *S. aureus* and toxigenic strains of *C. difficile* in animal exhibits is a public health concern and demands further research.

Learning Areas:

Environmental health sciences
Epidemiology
Occupational health and safety
Protection of the public in relation to communicable diseases including prevention or control
Public health biology

Learning Objectives:

Describe the diversity of bacterial aerosols using molecular techniques. Assessment of potential exposure to bacterial aerosols to visitors and workers in petting zoos/animal exhibits.

Keywords: Environmental Exposures, Pathogens

Presenting author's disclosure statement:

Qualified on the content I am responsible for because: This study is a student project in the Department of Environmental, Agricultural and Occupational Health at UNMC College of Public Health. My research interests include environmental and occupational health, molecular epidemiology of infectious diseases, child health.

Self-Acceptance and the Health of LGBT Midlanders

(2011, Poster)

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Background: Previous research conducted in the Midwest shows that self-acceptance of sexual/gender identity (i.e. internalized homophobia) has a significant impact on the mental and physical health of Lesbian, Gay, Bisexual, and Transgender (LGBT) individuals. This research has taken place in large urban areas; little is known about how self-acceptance affects the health of LGBT individuals living in predominantly rural and socially conservative settings. Using STD diagnosis history and work absenteeism due to mental health reasons as proxies for physical and mental well-being, this study explored how self-acceptance is related to the health of a non-clinical sample of LGBT Nebraskans.

Methods: A community-based participatory research approach was utilized to develop an anonymous survey. Participants (N=789) were recruited via advertisements and press releases in local media, fliers at LGBT-friendly venues and events, and via e-mail. Chi-square and Mann-Whitney tests were run in SPSS 19.0.

Results: Participants who had a high degree of self-acceptance of their sexual/gender identity were less likely to have been diagnosed with an STD than those with a low degree of self-acceptance, $\chi^2(1,789)=4.689, p<.05$. Those with a high degree of self-acceptance were also less likely to have missed work in the last 30 days due to mental health reasons ($p<.01$).

Conclusions: Health practitioners and public health professionals who serve LGBT communities in rural, socially conservative areas may need to address self-acceptance as part of a comprehensive STD treatment and prevention program. Policy changes may also need to be considered to promote social norms supportive of LGBT self-acceptance.

#287900 IMPACT of infant mortality awareness on the health behaviors of African American Men in Memphis, Tennessee

(2013)

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INTRODUCTION: Research suggests that a father's presence before, during, and after pregnancy has a major impact on infant mortality within the first year of life. Data also indicate that even after adjusting for socioeconomic risk factors, poor birth outcomes and infant deaths were highest for African American babies with absent fathers. The purpose of this student project was to inform African-American men in an urban community in Memphis, TN about infant mortality and their role in increasing a baby's chance of surviving its first year of life.

METHODS: Barbershop patrons were asked to complete a questionnaire to ascertain if they knew their role as a father could impact the baby's first year of life. A Pre/Post survey was administered to determine their level of knowledge on infant mortality, prenatal care, as well as family planning. Additionally, patrons received a brief education session on infant mortality health-related topics.

RESULTS: More than 50% of the men surveyed did not have a high level of knowledge about prenatal care, nor did they understand the importance of their paternal role both before and after the birth. Post-tests showed significant knowledge gained in ways to prevent infant mortality, how to help expectant mothers with prenatal care, and the importance of family planning.

DISCUSSION: Increasing the role of the father in a baby's first year of life, as well as during pregnancy could play a major role in decrease the rates of infant mortality, particularly among African Americans.

Learning Areas:

Assessment of individual and community needs for health education

Implementation of health education strategies, interventions and programs

Public health or related education

Social and behavioral sciences

Learning Objectives:

Explain the role of fathers in the prevention of infant mortality.

Keywords: Infant Mortality, African American

Presenting author's disclosure statement:

Qualified on the content I am responsible for because: I am a Student Health Ambassador in the LeMoyne-College/Meharry Medical College HBCU Wellness Program.

277709

Preliminary needs assessment of mobile technology use for healthcare among homeless veterans (2013)

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OBJECTIVES: We explored homeless persons' access to and use of information technologies (IT), and their attitudes toward using technologies to communicate with health care providers.

METHODS: Semi-structured qualitative interviews were conducted with 30 homeless veterans. Topics included life priorities, health concerns, use of mobile phones and computers, and perceptions of health-related uses of mobile phones and other IT.

RESULTS: Most participants had a mobile phone (90%), used the Internet (70%), and had an email address (72%). Common uses included connecting with family and friends, looking for work, and finding a place to stay. Attitudes toward IT for health-related communication were positive. Participants felt mobile-phone calls or text messages could be used to remind patients of medical appointments, prescription refills, medication taking, and returning for laboratory test results. Participants valued electronic reminders because their lives were disorganized and they had many competing life priorities. They also supported mobile phone "caring outreach" text messages or calls, i.e. communication from health providers asking how a person is doing.

CONCLUSIONS: Most homeless veterans use IT and would be willing to use it for health care. They approve of health clinics communicating with patients via mobile phone, including text messaging. Because homeless persons have many pressing life challenges, even relatively serious health issues may be neglected until a crisis emerges. Mobile technology-assisted outreach from health providers may help prioritize health among this population and lead to improved engagement in care. This could improve overall health and reduce repeated episodes of homelessness common in the population.

Learning Areas:

Chronic disease management and prevention

Communication and informatics

Learning Objectives:

Describe homeless persons' access to and use of information technologies. Discuss homeless persons' attitudes toward using information technologies to communicate with health care providers. Explain barriers to homeless persons' use of information technologies. Assess whether mobile phones and other technologies are appropriate tools for linking and engaging homeless persons in health care.

Keywords: Information Technology, Homeless Health Care

Presenting author's disclosure statement:

Qualified on the content I am responsible for because: I am a research investigator with federally funded grants focusing on access to care for homeless persons, with an emphasis on using information technologies to improve linkage to care for homeless veterans.

Needlestick injuries in Mexico City sanitation workers: An undocumented occupational problem?

(2004, poster)

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INTRODUCTION Needlestick injuries (NSI) among healthcare workers are common. We examined the frequency of NSI in Mexico City among another occupational group at potential risk: sanitation workers.

METHODS In July and August 2003, a convenience sample of 69 sanitation workers was selected from 13 of 16 Mexico City districts. Workers were interviewed to determine the frequency of finding syringes in the trash, frequency of sustaining NSI at work, vaccination status and health care seeking practices. Sanitation workers were interviewed during their daily rounds, while working or while on break.

RESULTS Fifty of 69 workers (82%) are municipal employees (some households pay independent workers directly). The median number of years on the job was 12. Sixty-six of 69 (96%) workers had seen syringes in trash, and 38 (55%) had been stuck at least once while working. A total of 14 NSI were reported in the prior month by 7 (18%) of the workers (including some with multiple NSI), while 22 NSI occurred in the prior year among 13 (34%) workers. Six of 31 (19%) respondents reported seeking medical care after NSI. Only 3 (5%) reported vaccination against hepatitis B. Syringes were most frequently seen in residential areas, the location stated by fifty-six workers (85% of those who have seen syringes).

CONCLUSIONS This preliminary study suggests sanitation workers in Mexico City experience a high frequency of NSIs. Their low hepatitis B vaccination rate and poor medical care after NSI puts this occupational group at potentially high risk of acquiring bloodborne diseases.

Learning Objectives: After viewing this poster, attendees will be able to

- Identify occupational risk of needlesticks among sanitation workers in Mexico City.
- Describe the aspects of this particular job and social environment which places these workers at risk.
- Discuss possible interventions and/or future research that could direct appropriate interventions.

Presenting author's disclosure statement:

I do not have any significant financial interest/arrangement or affiliation with any organization/institution whose products or services are being discussed in this session.

Abstract Review Criteria and Rating Scale, for the Epidemiology Section

Abstract Rating

9 or 10 = Definitely accept; Highest Priority

6, 7 or 8 = Definitely Accept; Satisfactory Quality

4 or 5 = Borderline Accept; Lowest Priority

1,2 or 3 = Not Acceptable; Reject Abstract

N/A = leave as N/A if this criterion doesn't apply to a given abstract

Each abstract review criteria is scored on 1-10 scale for each of the following **criteria**

1. Public Health Significance and significance to the contributing field (eg. Epi, MCH, Health promotion, HSRA etc.)
2. Originality/Innovation (What is novel about your study?)
3. Is the study design appropriate to study the research question of interest?
4. Are the methods (study population, site & duration; sampling technique; specific survey or data collection method; data linkage or other data sources; statistical methods) explained in brief?
5. Are the results interpreted and data presented appropriate?
6. Are the Conclusions/Recommendations or future research directions reasonable?

The final score is the average of scores for all criteria listed above.