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President’s Message

Dr. Alexandra Garcia

Thank goodness for fall in Texas! With fall, we have begun a new academic year and look forward to cooler weather and a little rain, for growth and new experiences. For all of us, it’s a time of renewal and new opportunities.

For TPHA members there’s the opportunity to bring the public’s attention to the safety of all our students from the youngest on up. We can support efforts throughout the state to build sidewalks to school and to calm traffic. We can back efforts to outfit bicyclists with helmets and lights and encourage their use, and work to eliminate dangerous driving practices like texting and speeding.

Public health professionals can champion school-based programs that deliver health promotion messages to kids. For example, requiring ample physical education in schools is an evidence-based approach recommended by the CDC’s Guide to Community Preventive Services. And, we can encourage the important work to develop wholesome eating practices.

In the off-legislative year, TPHA members can contact legislators and their aids and work to empower community members to engage in policy debates at the local and state level. The 83rd Texas Legislative session passed bills that provide funding for physical fitness assessments, promotion of oral health education, and breakfast to kids who qualify for free lunches. We can celebrate these successes while we renew efforts for education and advocacy in anticipation of the 84th session.

This fall we want to highlight TPHA’s efforts to build an effective public health workforce starting with kids in elementary, middle, and high schools in the Corpus Christi Independent School District. In anticipation of TPHA’s 90th Annual Educational Conference to be held in Corpus Christi in March 2014, TPHA Fellows (selected members who have demonstrated distinguished service to TPHA and the residents of Texas for several years) are partnering with the Corpus Christi – Nueces County Public Health District and with CCISD in a project to encourage school kids to think and write about public health. All students who participate will be recognized, the top 5 finalists at each level will receive a certificate, and the winners will each receive a plaque and accolades at TPHA’s 2014 annual conference.

What’s more, TPHA welcomes undergraduate and graduate students in schools of public health and other health professions and encourages them to engage in TPHA activities. TPHA’s Student Section, chaired by Arianne Rhea, will reach out to public health students via a newsletter this November and another in March. The students are building a stronger web- and social media presence to enhance communication and networking. The Student Section will host a pre-conference session and a social gathering for public health students to introduce them to TPHA and the annual conference. TPHA members are encouraged to become active mentors to our student members to help them understand the breadth and extent of public health activities and to encourage their lifelong involvement in TPHA.

From the Editor: The high quality of articles and original research reports you read in our TPHJ would not be possible without a very dedicated group of volunteers who run things behind the scenes. The Texas Public Health Association wishes to extend our deep gratitude to these public health professionals. This year two of our board members chose to move on with other pursuits. We thank Drs. Linda Elting and Shawn Gibbs for their years of sharing expertise and their service to our board. Carolyn Medina, retired DSHS librarian, will begin serving as a volunteer consultant for us as we continue our quest to be indexed in Pubmed. Thank you Carolyn and congratulations on your retirement! However we hope you will get bored and submit some of your incredible public health history columns. We welcome Drs. Amol Karmarker and Kimberly Fulda to our editorial team. Dr. Karmarker is on the faculty at UTMB in Galveston and Dr. Fulda is a faculty member at UNT in Denton. Other board members are listed to the left. Please join me in extending our gratitude to our TPHJ editorial board, a truly fantastic (and smart) group.

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Pediatric Iron Ingestions: Are Potentially Serious Ingestions Increasing?

Mathias B. Forrester
Texas Department of State Health Services, Austin, Texas

Iron is used to treat anemia and as a prenatal and mineral supplement. It is marketed by itself and in combination with other vitamins and minerals. Iron-containing products are widely available and may be purchased over-the-counter. Because of this, the public may consider iron supplements to be safe. However, taking too much iron may result in vomiting and diarrhea, both of which may be bloody and severe. Severe iron overdoses may lead to coma, convulsions, liver and kidney failure, and respiratory distress syndrome.1

Potentially dangerous iron ingestions are common in young children and are a leading cause of fatal pediatric poisonings.1,2 In 2009, over 18,600 exposures to iron-containing products by children 5 years or younger were reported to poison centers nationally.3

Because of the potential hazard of iron poisoning, on January 15, 1997, the United States Food and Drug Administration (FDA) mandated unit-dose packaging of iron supplements containing 30 mg or more elemental iron per dosing unit, with the regulation to go into effect on July 15, 1997.4 Child-resistant packaging of medications has been shown to reduce accidental ingestions and deaths in young children.5,6 One study that examined the total number of iron ingestions and those resulting in death among children five years or younger reported to United States poison centers during 1988-2002 found that both declined after the regulation went into effect.7 However, there was some question as to what degree the change in iron packaging may have contributed to the decline in fatal pediatric iron ingestions.8,9

On October 17, 2003, the United States District Court struck down the requirement for unit-dose packaging of iron on the grounds that...
the FDA did not have the authority to regulate its packaging. An investigation that examined the annual number of iron pill or tablet exposures among children five years or younger reported to United States poison centers during 2000-2007 observed a small increase in the number of exposures after 2003, although the majority of these exposures were not serious.

Table 1 shows the annual number of iron ingestions by patients age 0-5 years reported to the Texas Poison Center Network. The total number of reported ingestions increased during the latter part of the time period. The number of ingestions resulting in potentially serious medical outcomes also increased during the second part of the time period, and the proportion of total ingestions that they represented doubled after 2003. This increase was statistically significant (rate ratio 2.09, 95% confidence interval 1.23-3.54). However, the increases in ingestions seemed to occur several years after unit-dose packaging was no longer required in 2003. Moreover, although the serious outcome rate doubled, serious outcomes still accounted for only a small proportion of the total reported ingestions. One limitation to trying to determine the impact of the court decision is that it is not known what proportion of iron supplement manufacturers changed their packaging after 2003. Some manufacturers might not have wanted to expend the funds to change their packaging.

For whatever reason, iron ingestions among young children reported to Texas poison centers appears to have increased. One way to prevent such ingestions is through education of healthcare providers and the public of the potential danger of pediatric iron ingestion. If iron ingestions do occur, the American Association of Poison Control Centers has published detailed guidelines on their management.

REFERENCES

Table 1. Annual iron ingestions by patients age 0-5 years reported to the Texas Poison Center Network

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Serious outcomes*</th>
<th>% serious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit-dose packaging required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>168</td>
<td>3</td>
<td>2</td>
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<tr>
<td>2001</td>
<td>184</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2002</td>
<td>171</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2003</td>
<td>180</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>703</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Unit-dose packaging no longer required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>170</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2005</td>
<td>173</td>
<td>9</td>
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<td>2008</td>
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<td>2012</td>
<td>200</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>1,789</td>
<td>85</td>
<td>5</td>
</tr>
</tbody>
</table>

Excludes products containing iron with other active ingredients, such as multivitamins
*Final medical outcome classified as moderate effect, major effect, death, or unable to follow but judged to be potentially toxic
This book is the latest in the series, International Perspectives on Aging; Series Editors Jason L. Powell and Shying Chen. Each volume in the series is a stand-alone publication; collectively these address the breadth of aging in society. This latest addition is promoted as an answer to issues of aging; safety, mobility, cognition, and continence. The offering is targeted toward nontechnical readers as a resource that will inform about technology that will enhance quality of life, independent living, and self-care.

The title and promotional material suggest that the focus would be on technology and its relations to aging rather than on history and research. The state of technology, maturity curve, and development challenges are critical issues to be understood by individuals involved in planning programs, communities, and policy. This book offers phenomenal insights into the historical development and forces that have driven the path of technology maturity. The book maintains a strong focus on Smart Environments and Remote Delivery which are necessary perspectives but it often fails to communicate the practical side of what is available and mature enough to meet the needs that aging individuals are facing.

The list of thirty-seven contributors is impressive in terms of credentials, global in terms of geography and culture, and representative of the disciplines necessary to contribute to a subject as broad as aging. The technical aspects are well represented from the perspective of domain expertise and supported by a cast of references in each chapter that cover both seminal works as well as emerging research.

The twelve chapters authored by the thirty-seven contributors more often than not represent a unique style rather than a consistent format expected in an edited volume targeted toward a topical discussion however, the chapters are capable of being digested individually. Reading the book as I did straight through in multiple sittings rather than as standalone chapters it becomes apparent and distracting that there is not a consistent theme/ template in the chapters. The reader will be pleased, however, with the overall coverage of aging and associated technology from the perspectives of disease, stages of health, ease of use, safety, social, and effectiveness.

The book is sparsely populated with graphs, charts, diagrams, and pictures/screen shots. The rendering of the illustrations could be improved, in particular bar graphs use shading rather than hashing which often required study rather than intuitive understanding. In addition the pictures/screen shots fall far short of the expected quality for a book in the target market.

The reader will quickly be inundated with acronyms, for individuals who work in each of the disciplines this won’t be a problem however, I have a broad interdisciplinary background and was challenged beyond my capability to comprehend and maintain them throughout the reading. Perhaps this is indicative of the way that I approached the text by reading straight through in a few settings. Perhaps contributing to my reflection is the expectation that the material was to be more focused on technology and its application rather than technology history, progress, and research maturity. One of the aspects of the book that was greatly appreciated was the focus that technology cannot and should not be developed without active involvement from those in the aging community.

While chapters one and two hit the mark of discussing the issues of Active Aging, chapters three and four were fraught with instances that the reader had to dig for the applicability to being active such as be active in understanding or active in being proactive in gathering information. Chapters five and six focused on aspects of safety and effectiveness while seven targeted Dementia, the only chapter to focus on a specific health issue. Eight and nine were structured to describe specific systems, one from the European Union sponsored SOPRANO project, the other from a Canadian project the Chinatown Economic Revitalization Action Plan. Chapters 10 – 11 focused on elders using social media tools. The remaining chapter is devoted to examining initiatives in the international environment.

Academia will find this book useful from two perspectives: the cross discipline/interdisciplinary perspectives and the potential to use it in the development of critical thinking. In the courses that target aging, it will help focus on the issues of technology. Information and Computer sciences could benefit since the material clearly demonstrates that the end user of technology is often presented with solutions rather than collaboratively developing them. The book has applicability to both undergraduate and graduate studies. For the undergraduate the book or individual chapters would be useful to encourage students to understand that there are critical aspects when developing solutions. For the graduate student the material provides a foundation that promotes a holistic perspective in the topics of aging and technology.

Hospital administrators, nursing home staff, providers of home care, and a host of others working with the aging population would find that the book stimulates their thinking on incorporating technology into their environments. The age of technological revolution is upon us in all phases of our lives. It provides insight into how the technological world is growing, a view beyond simply providing services. It would be engaging to boards of directors of institutions of health for the elderly and likely bring changes to both their strategic and tactical initiatives.

Consultants and developers who are engaged in assisting those serving the aging populations and the institutions serving them will understand alternatives to simple performance measurement and process changes. In particular software and gaming developers should eye the material as a field ripe for harvest. The senior executives who depend on publications focused toward aging would do well to put this book on their reading list it is clearly a departure from the standard fare of process and policies that often fail to promote technological changes proactively.

Finally the material both directly and intuitively presents information that should be understood by policy makers at all levels. Federal and State government policy makers and those who are paid to influence them would do well to understand where the benefits and shortcomings of technology reside. The material clearly provides a view of the trends the future will bring. The World Health Organization (WHO) has endeavored to promote the quality of life as we age, this book represents a dramatic departure from simple laws and statistics and starts to reach the heart of the problem – active aging must be planned and in a world of technology we have nothing but opportunity ahead of us.
Individuals with limited health-related literacy and numeracy skills are more likely to forgo preventive care, to postpone seeking care, and to have higher rates of preventable hospitalizations and use of emergency departments, which collectively costs the United States economy $106-238 billion annually. Impaired health literacy, inclusive of numeracy skills, is associated with poorer health status and greater risk for misunderstanding diagnoses, directions for self-care, and prescription and nutrition labels, as well as decreased management of chronic conditions. Over 80 million adults in the United States have low to marginal health literacy. About 65% of Hispanic adults have low to marginal health literacy, compared with only 28% of non-Hispanic white adults. The purpose of this pilot study was to qualitatively examine health literacy and numeracy in relation to conceptual understanding of health information in a sample of Hispanic adults residing in Northeast Texas. This is a component of a planned larger study that will explore these variables transculturally. Health literacy is “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.” Health numeracy, a component of health literacy, is the level of comprehension of health-related quantitative data, which includes arithmetic, sequencing, and the ability to understand graphs, charts, and labels, as well as the concepts of risk and probability. Relatively few studies have used qualitative methodology to examine health literacy and numeracy as they relate to conceptual understanding of health information. For the purpose of this pilot study, all adults living in Texas Health Service Region 4 who self-identified as Hispanic were eligible to participate. Only four attended the focus group session, all of whom were females over the age of 30. The discussion revealed gaps in their basic knowledge about health topics, including poor understanding of vernacular commonly used in the clinical setting, like “negative test result,” and a lack of understanding about health conditions like heart attacks, hypertension, and diabetes. The women in the study sample also seemed to have difficulty understanding medication instructions and the function and proper usage of antibiotics.

The low response rate was a significant setback for this study; however, other researchers have highlighted similar difficulty in recruiting from this demographic, a problem the authors will work to address and overcome in future research. Despite its limitations, though, this pilot study yielded interesting results with possibly significant implications for public health. The findings confirm the need for the continued study of health literacy and numeracy in Hispanics, with an aim to better understand what this group comprehends conceptually about health and illness, and to develop effective, culturally appropriate educational interventions.

REFERENCES
ABSTRACT
An important theoretical mainstay in public health is the concept of the social determinants of health. The literature clearly states that inequities in health arise because of the circumstances in which people grow, live, work, and age, and the systems put in place to manage illness. Political, social, and economic forces in turn, shape the conditions in which people live and die. This theoretical construct provides an excellent conduit for teaching undergraduate social work students about social issues that affect their practice as social workers. PhotoVoice builds skills within disadvantaged and marginalized communities using innovative participatory photography and digital storytelling methods so that they have the opportunity to represent themselves and create tools for advocacy and communications to achieve positive social change.

Key Terms: social work, public health, PhotoVoice, photography, sociology, social issues

INTRODUCTION AND BACKGROUND
An important theoretical mainstay in public health is the concept of the social determinants of health. According to the Centers for Disease Control (CDC), “the social determinants of health are the circumstances in which people are born, grow up, live, work, and age, as well as the systems put in place to cope with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics” (“Social Determinants of Health”, 2013). In recognition of the importance of the social determinants of health, Healthy People 2020 (HP2020) has been updated to include the social determinants of health with the goal of creating social and physical environments that promote good health for all (“Social Determinants of Health”, 2013). As a part of the American Recovery and Reinvestment Act of 2009, the National Institute on Minority Health and Disparities (NIMHD) launched a Social Determinants of Health Initiative aimed at eliminated health disparities.

Citing the work of British epidemiologist Sir Michael Marmot’s groundbreaking research with the health status of British Civil Servants in the 1970s, the NIMHD states that there are clear research-based reasons to address the social determinants of health when tackling issues of health disparities (“Social Determinants of Health Initiative”, n.d.). According to the NIMHD, the literature clearly states that inequities in health arise because of the circumstances in which people grow, live, work, and age, and the systems put in place to manage illness. Political, social, and economic forces in turn, shape the conditions in which people live and die. It is important to note that social and economic policies have a determining impact on whether a child can grow and develop to its full potential and live a flourishing life, or whether its life will be blighted (“Social Determinants of Health Initiative”, n.d.).

The social work profession promotes social change, problem solving in human relationships and the empowerment and liberation of people to enhance well-being. Utilizing theories of human behavior and social systems, social work intervenes at the point where people interact with their environment. Principles of human rights and social justice are fundamental to social work (International Federation of Social Workers, 2013). Social workers are acutely aware of the issues that drive negative behaviors by people who are faced with harsh living conditions and chronic deprivation issues. These circumstances lead people to feel powerless, hopeless, and vulnerable.

Social workers have the knowledge, skills, and a professional obligation to address these issues of social injustice and try to level the playing field as well as facilitate sustainable cultural changes. Abramovitz (2007) states, “Given social work’s location between the client and society, we can either leave solving poverty to the economists or join the fight for economic justice. A growing consensus holds that exposure to economic hardship and adverse conditions often precede the rise of individual and social problems rather than the other way around, as previously presumed” (p. 24). Clearly there is an intersection between social work and public health that needs to be more fully developed to more effectively address social issues that affect both professional fields.

This theoretical construct provides an excellent conduit for teaching undergraduate social work students about social issues that affect their practice as social workers. In the spring of 2013, I was assigned to teach a Social Issues (SWK 311) course at Tarleton State University (TSU) – Southwest Metroplex campus. SWK 311 is a required course for the undergraduate program at TSU. According to the catalog description of the course, it utilizes major theoretical perspectives from Sociology to explore causes and consequences of contemporary social problems in American society such as alienation, family stresses, poverty, unemployment, and technological change. My goals for the class were for the students to have: (1) An increased awareness of contemporary social problems in the U.S.; (2) A greater knowledge and understanding of the interaction among various social problems; (3) The feeling that you are becoming a more confident, competent social worker; (4) A deeper and more meaningful understanding of who you are as a person; (5) Successful completion of a degree requirement.

In conducting research for this class, I came across several Sociology syllabi from other universities that reflected some interesting and out-of-the-box assignments to help students learn more in-depth about social problems. Since my teaching philosophy is deeply rooted in the Experiential Learning Cycle (ELC), I decided that having the students write a paper for this class would simply not be adequate to help them fully engage in learning about social issues. I decided that a semester project with a smaller written component would be more appropriate, so I began looking for ideas that would address this goal. Having been in non-profit youth services for much of my career, I remembered a program that had been implemented by a sister agency called PhotoVoice. I quickly did some research on the internet to find out whether or not it would be a good project for my students to implement. It turns out that it could not have been a more perfect project for my students to engage in.

PhotoVoice is a program that is described as participatory photography for social change. The mission of PhotoVoice is to build skills within disadvantaged and marginalized communities using innovative participatory photography and digital storytelling methods so that they have the opportunity to represent themselves and create tools for advocacy and communications to achieve positive social change. It is a process in which people – usually those with limited power due to poverty, language barriers, race, class, ethnicity, gender, culture, or other circumstances – use video and/or photo images capture aspects of their environment and experiences and share them with others. The pictures can then be used, usually with captions composed by the photographers, to bring the realities of the photographers’ lives home to the public and policy makers and to spur
The concept has existed for many years, but much of the theoretical background of current programs comes from the work of Caroline Wang. In 1992, Wang and Mary Ann Burris developed PhotoVoice based on a combination of Paulo Freire’s notion of “critical consciousness” (a deep understanding of the way the world works and how society, politics, and power relationships affect one’s own situation); feminist theory, which emphasizes the importance of voice; and documentary photography, which is often used to help bring about social change (“Implementing PhotoVoice in Your Community”, 2013). Wang and Burris gave cameras to a group of rural village women in Yunnan Province in China, who documented their lives and environment for an entire year. Groups of women gathered at regular intervals to view and discuss the pictures they took. At the end of the project, the group hosted an exhibition of their photographs, and used it to raise the consciousness of the general public and of policy makers about their needs. The women had gained a voice, greater self-respect, and a sense of increased control over their lives. Wang, now a professor at the University of Michigan, became a founding mother of PhotoVoice (“Implementing PhotoVoice in Your Community”, 2013).

After researching the possibilities for this process in the classroom setting, I decided to move forward with assigning it to my students for their semester project.

**POPULATION AND METHODS**

This project was created for twenty undergraduate social work students in the Social Issues (SWK311) course at Tarleton State University – Fort Worth Metroplex campus. The Social Work Program at Tarleton State University prepares its graduates for leadership and professional generalist practice by integrating social work values, skills and knowledge through an emphasis on excellence. Responsive to the needs of Central Texas and to the State of Texas, the Social Work Program delivers a broad-based liberal arts education that is sensitive to vulnerable, oppressed and at-risk populations. As an integral part of the College of Liberal and Fine Arts and the Department of Social Work, Sociology, and Criminal Justice at Tarleton State University, the Baccalaureate of Social Work enables students to achieve successful careers and become responsible citizens.

This project was assigned in lieu of a large research paper. During the third week of class, I divided the class into small groups who would work together for the entirety of the semester to complete the project. Initially, I arbitrarily chose the clip art pictures of five animals, determined how many pictures of each animal I would need to evenly divide up the students, and printed them out. The pictures were of a polar bear, cheetah, zebra, giraffe, and tiger. Due to some challenges with one of the groups, a sixth group was added at a later time in the semester. The pictures were put in a “hat” and the students drew an animal out of the hat. The way the students were divided up was intended to be pure fun, but the students embraced their animals over time and became Team Polar Bear, Team Cheetah, Team Zebra, Team Giraffe, Team Tiger and, later, Team M&M.

Once the teams were chosen, I talked with the students about how to choose a topic, the details of how to accomplish the actual project, and the details of the “Gallery Walk”, which was the culminating event for the project. I used a hybrid of materials to create our curricula, all of which came from PhotoVoice manuals I was able to locate on the internet (See Appendix A). The students spent approximately two to three weeks to finally decide on a topic. Once the topics were selected, the work began. Each team was responsible for taking photos of their designated topic and, eventually arranging them on a tri-fold board and captioning them. Each week I allowed the final thirty minutes of class to be used for group meetings as well as meetings with me for any additional questions the students had and any additional direction they might need to complete the project. The final component of the project was to write a five-page reflection paper on their experiences with the project.

Additionally, twice during the semester I asked the groups to present a “check-in” during the first part of class. The groups were to prepare a short PowerPoint presentation about their projects and to share information with me and the class such as their topic, how far along in the process they were, and any questions or concerns that they had about their projects. This discussion allowed other members of the class to help the groups solve any problems or address any areas where they felt “stuck”, as we termed it in class. Interestingly, the students were reluctant to give too many of the details of their project away during this check-in time because they were acutely aware of the fact that I had told them that there would be a prize for the best project on the evening of the Gallery Walk, so they were holding their playing cards close, as it were.

The Gallery Walk was held on the evening of April 24, 2013, during their class period from 6:00 – 8:50 PM. The purpose of the Gallery Walk was to have members of the community come to the Gallery Walk, look at and evaluate the projects, and give the groups points which would, in turn, comprise their final grade. Theoretically, the Gallery Walk can be used to invite influential community members (i.e., judges, police, county commissioners, state and local representatives, etc.) to come and be educated about problems and challenges in the community and to engage in meaningful conversation about these issues with a goal of eliciting help from the community members to facilitate change in the community. My particular goal, in addition to facilitating meaningful conversation between the students and the community, was to also teach the students how to network. So the guest list was mostly comprised of community members in my professional network, although some of the students also invited people in their networks as well.

Approximately fifty people were invited to the Gallery Walk event and the attendance on that evening was twenty. Since the event was set to begin during the dinner hour, a local deli brought in sandwich trays so that the participants and students could eat and visit with each other before the event actually began. After dinner I explained the purpose of the event and gave the community members an idea of what to expect during the evening. The community members were given a packet of information that included a list of questions prompts that they could use if the discussion seemed to be waning. They were also given enough score sheets to give each group a “grade”, as well as a voting form and information about the Tarleton Social Work program.

The twenty participants were divided up into six groups and were assigned to a student team to begin the process. Each student team had fifteen minutes to present and then answer questions from the community members. At the end of fifteen minutes, a signal was given to rotate to the next presentation. In total, each student team gave their presentation six times, once to each of the six community groups.

At the end of the presentations, all of the participants – students and community members alike – reconvened in the main classroom for a Town Hall-style meeting where I facilitated a discussion that allowed the community members to give feedback to the students concerning their projects and the students had a change to ask questions of the community members. At the end of the Gallery Walk, the points were tallied and a winner was declared.
According to the students’ comments in their own reflection papers, this project changed some of them on a very deep level. One student wrote, “Overall, this project will have a lasting effect on me. It changed me and challenged me, which is something I seek. I hope our work with this project will have a lasting impression with the community leaders and further the social work program at Tarleton State University”. Another wrote, “The Photovoice presentation was the culmination of extensive research, community meetings, street photo sessions and teamwork. It was so far from the easy project that we thought it was and was beyond anything that I had ever attempted to accomplish in my academic career. This assignment required me to be a journalist, a negotiator, a photographer, an activist and a public speaker, all of which are not my talents. Although it was challenging it was very rewarding. Just to be able to give insight on the theme of domestic violence and to spark real discussion about how to address the deficits in our local community; with people that I probably would have never, otherwise, crossed paths with exceeded every expectation that I had for this assignment. The project was such an enriching experience socially, personally and academically. I leave Tarleton more conscious of the needs in my community and of the innumerable opportunities there are to make a difference.” And, finally, this student’s thoughts: “This project’s most important selling point is change and education. By allowing the student to get out and educate themselves on the issues, it causes them to change. Without education there is no change. We have to know better to do better. If people do not make things personal, then it can turn into out of sight out of mind. The fact that this project puts social issues on the front line in an in your face kind of way, makes it more effective than listening to a lecture or reading a book. It challenges the student and the audience to see things differently in an unconventional manner.”

CONCLUSION
As educators in the human services profession, whether that be social work or public health, our greatest challenge is to take the initiative to think out of the box ourselves before we ask our students to do the same. We must be the leaders who show our students that there are multitudes of ways to look at as well as solve problems. The PhotoVoice project for the students of SWK 311 proved to be an incredible learning process not only for them, but also for me as a professor. It is important to take your students out of their comfort zone and be willing to go with them. It is in doing so that current public health and social work professionals mold and shape the future of these two professions.

APPENDIX A

PhotoVoice Instruction Manuals

If you are interested in implementing a PhotoVoice project in your classroom, here are links to some implementation manuals that may be of assistance.

Prairie Women’s Health Center of Excellence:

University of South Carolina School of Social Work:

John Humphrey Center for Peace and Human Rights:

University of Michigan School of Social Work:
http://sw.umich.edu/public/currentprojects/goodneighborhoods/PhotovoiceManualREVISED.pdf

REFERENCES

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PHOTOS FROM THE GALLERY WALK EVENT
Trends in Occupation-Related Musculoskeletal Disorders in Texas and the United States (2003-2009)

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ABSTRACT

Objectives: To evaluate temporal trends in nonfatal occupational musculoskeletal disorders (MSDs) reported in Texas and the United States from 2003 to 2009.

Methods: We analyzed aggregate data from the 2003 to 2009 iterations of the U.S. Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses to assess trends in reported occupational MSDs over the study interval. We evaluated the number of reported events and proportional changes over time using descriptive statistics and linear regression.

Results: From 2003-2009, the number occupational MSDs decreased from 26,810 to 14,690 in Texas and from 435,180 to 283,800 in the U.S. The percentage of occupational MSDs reported in the U.S. that occurred in Texas decreased from 6.1% in 2003 to 5.2% in 2009. The percentage of occupational MSDs in Texas declined, on average, by 1.28% annually, compared to only 0.62% per year in the U.S. In 2009, MSDs accounted for 24.4% and 29.4% of all nonfatal occupational injuries and illnesses in Texas and the U.S., respectively.

Discussion: In the U.S. and Texas, total occupational MSDs have declined from 2003 to 2009. However, MSDs continue to represent a significant proportion of nonfatal occupational injuries and illnesses. Designing and implementing programs to reduce MSDs in the workplace should remain a high priority among occupational health researchers.

INTRODUCTION

Work-related musculoskeletal disorders (MSDs) are broadly defined as injuries or disorders relating to muscles, nerves, ligaments, tendons, joints, spinal discs, or supporting blood vessels resulting from work-related activities.1,2 Occupational MSDs can manifest in a variety of inflammatory or degenerative conditions including tenosynovitis, epispondylitis (“tennis elbow”), bursitis, carpal tunnel syndrome, sciatica, and osteoarthritis as well as generalized myalgia or regional pain of unknown origin. While occupational MSDs are most often described in the context of the lower back, shoulders, neck, and upper extremities, current research is attempting to shift focus to also include disorders of the lower extremities.2 Commonly identified workplace risk factors for MSDs include repetitive motions, heavy lifting (particularly of difficult or awkward loads), poor or awkward posture, and exposure to vibration or cold throughout all or part of the body.1,2 Differences in occupational MSD risks may vary by age, gender, ethnicity, and socioeconomic status.2

MSDs represent the largest group of reported work-related illnesses, with greater than 15% of the U.S. population estimated to have suffered from one or more chronic MSDs in 1990.1 Data on occupational injuries and illnesses of U.S. workers are routinely collected through the U.S. Bureau of Labor Statistics (BLS) Annual Survey of Occupational Injuries and Illnesses (SOII) from more than 230,000 private sector businesses.1 In 2000, the BLS estimated there were more than 577,000 occupation-related MSDs resulting in a national incidence of 629 MSDs per 100,000 full time equivalent (FTE) workers. This translated into an estimated $54 billion in direct and indirect costs such as compensation and lost productivity.4,5

The Centers for Disease Control and Prevention (CDC) and the Council of State and Territorial Epidemiologists (CSTE) conducted a pilot study using BLS to calculate the incidence of occupational MSDs for 13 states in 2000, which ranged from 400 to 1,322 per 100,000 FTE workers.6 However, this study did not include data for the state of Texas. Therefore, the purpose of this investigation is to provide trends in occupational MSDs for Texas and to compare these trends to the U.S. using the BLS SOII. Additionally, we will characterize the incidence of occupational MSDs in Texas by age, gender, body part affected, source of injury, occupation, and days of absenteeism resulting from injury.

METHODS

Web-Based Injury and Illness Statistics

The data from this study of Texas and the U.S. were abstracted from the BLS website (http://data.bls.gov/cgi-bin/dsrv?ch). Nonfatal cases involving days away from work were searched under “injury and illness cases” for the “private industry” from 2003 to 2009, categorized as “MSD Musculoskeletal disorders.”7 We used the BLS search tool for “Injury and Illness Cases.” We included data from the “Private Industry” and categorized under “MSD Musculoskeletal disorders” from 2003 through 2009. Occupational MSDs were defined as work-related “cases where the nature of the injury or illness is sprains, strains, tears; back pain, hurt back; soreness, pain, hurt, except the back; carpal tunnel syndrome; hernia; or musculoskeletal system and connective tissue diseases and disorders, when the event or exposure leading to the injury or illness is: bodily reaction/bending, climbing, crawling, reaching, twisting; overexertion; or repetition.”8

SOII is an annual survey performed by BLS collecting data from approximately 230,000 representative private industry establishments within the U.S. The “Nature of Condition” is categorized using the Occupational Injury and Illness Classification System (OIIICS), a system “developed by BLS to provide a consistent set of procedures for recording the characteristics associated with workplace injuries, illnesses, and fatalities.”9 Access to the underlying raw data is restricted to BLS personnel and select researchers with written permission from BLS. In addition, estimates are suppressed if the number of cases is less than 15.9 Therefore, the data summaries provided by BLS are statistical summaries of samples collected to represent all businesses or establishments within the U.S. Although we do not have access to the underlying raw data, the Central Limit Theorem allows us to assume that the sample means and confidence limits obtained from summaries of the underlying raw data are normally distributed, because the sample size is large.10 However, the amount of summary data available from the underlying raw data is sufficient to allow us to perform useful statistical analyses. Since these data are publically available for use on the BLS website, we did not seek approval from an Institutional Review Board to conduct this analysis.

Data Management

Trends from 2003 to 2009 were examined to determine the relative proportion of musculoskeletal disorders among nonfatal occupational injuries and illnesses (NOII) involving days away from work for the U.S. and Texas in the private industry. In addition, Texas data

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were stratified by age, gender, part of body, and occupation. Finally, linear regression models were constructed to evaluate trends in the percentage of all work-related incidents attributed to MSDs in Texas and the U.S. over time.

RESULTS

Employment Characteristics from 2003-2009
Characteristics of the U.S. and Texas labor force obtained from the 2003 and 2009 U.S. Census Bureau’s American Community Survey are presented in Table 1. In the U.S and Texas, the labor force increased modestly but the percentage of unemployed individuals decreased, more markedly in Texas. The number of individuals employed as private wage and salary workers increased. Other classes of workers remained stable across time. In the U.S and Texas, the distribution of individuals in different occupations remained similar. However, in the U.S., the number of construction, extraction, maintenance, production, transportation, and material moving occupations decreased slightly over time.

Number of Occupational Injuries: Musculoskeletal Disorders
Despite the increasing number of individuals entering the labor force between 2003 and 2009, the number of overall occupational injuries occurring in the U.S. decreased from 1,315,920 in 2003 to 964,990 in 2009 (a 26.7% decrease; see Table 2). The number of occupational MSDs also decreased over the same time period. In 2003, there were 435,180 occupational MSDs in the U.S. which decreased to 283,800

Table 1: Characteristics of the United States and Texas labor forces in 2003 and 2009

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>Texas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2003*</td>
<td>2009†</td>
</tr>
<tr>
<td>Total population over age 16</td>
<td>218,256,211</td>
<td>241,002,178</td>
</tr>
<tr>
<td>In labor force</td>
<td>144,022,380</td>
<td>157,334,979</td>
</tr>
<tr>
<td>Civilian</td>
<td>143,374,440</td>
<td>156,044,453</td>
</tr>
<tr>
<td>Employed</td>
<td>132,422,387</td>
<td>140,602,470</td>
</tr>
<tr>
<td>Unemployed</td>
<td>10,952,053</td>
<td>15,441,983</td>
</tr>
<tr>
<td>% Unemployed</td>
<td>7.6%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Armed Forces</td>
<td>647,940</td>
<td>1,290,526</td>
</tr>
<tr>
<td>Females over age 16</td>
<td>112,903,779</td>
<td>123,417,091</td>
</tr>
<tr>
<td>In labor force</td>
<td>66,625,293</td>
<td>73,833,619</td>
</tr>
<tr>
<td>Civilian</td>
<td>66,535,259</td>
<td>73,635,317</td>
</tr>
<tr>
<td>Employed</td>
<td>61,468,467</td>
<td>66,995,618</td>
</tr>
<tr>
<td>Unemployed</td>
<td>5,066,792</td>
<td>6,639,699</td>
</tr>
<tr>
<td>Class of worker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private wage and salary workers</td>
<td>102,579,670</td>
<td>110,526,139</td>
</tr>
<tr>
<td>Government workers</td>
<td>20,098,282</td>
<td>20,844,043</td>
</tr>
<tr>
<td>Self-employed workers in own not incorporated business</td>
<td>9,361,640</td>
<td>9,029,909</td>
</tr>
<tr>
<td>Unpaid family workers</td>
<td>382,795</td>
<td>202,379</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service occupations</td>
<td>21,351,389</td>
<td>25,066,647</td>
</tr>
<tr>
<td>Sales and office occupations</td>
<td>34,752,972</td>
<td>35,425,756</td>
</tr>
<tr>
<td>Farming, fishing, and forestry occupations</td>
<td>935,847</td>
<td>988,070</td>
</tr>
<tr>
<td>Construction, extraction, and maintenance occupations</td>
<td>12,612,711</td>
<td>12,273,897</td>
</tr>
<tr>
<td>Production, transportation, and material moving occupations</td>
<td>17,554,254</td>
<td>16,668,113</td>
</tr>
</tbody>
</table>

*US Census Bureau, 2003 American Community Survey; †US Census Bureau, 2009 American Community Survey
Similarly, the number of all types of total NOII and occupational MSDs decreased from 2003 through 2009 in Texas. During this time, NOII decreased by 26.6% from 82,110 in 2003 to 60,240 in 2009. Additionally, the number of occupational MSDs decreased by 14.2% from 26,810 to 14,690. While the number of occupational MSDs decreased steadily in the U.S. and Texas from 2003 to 2009, the number of occupational MSDs in Texas decreased proportionally more over this time period. In 2003, occupational MSDs in Texas accounted for 6.1% of the total number of occupational MSDs in the U.S. and for only 5.2% in 2009.

**Incidence of Occupational Injuries: Musculoskeletal Disorders**

In addition to the crude decline in the number of occupational MSDs from 2003 to 2009, the incidence of MSDs among all NOII also declined (see Table 3). In the U.S., the incidence of occupational MSDs decreased from 49.6 to 31.3 per 10,000 FTE from 2003 to 2009. Over the same time period, the rate of occupational MSDs in Texas decreased from 40.8 to 19.8 per 10,000 FTE.

Detailed analyses of the Texas-specific data from 2009 (see Table 4) indicate incidence was highest among workers employed in transportation and material moving occupations. However, median work days lost due to occupational MSD were highest among installation, maintenance, and repair workers, as well as office and administrative support personnel (19 days) and incidence was highest among 45-54 year-olds and male workers. Occupational MSDs were most often sustained to the trunk of the body.

**Percentage of Occupational Injuries Attributed to Musculoskeletal Disorders**

From 2003 to 2009, occupational MSDs have accounted for a considerable proportion of the total number of NOII in the U.S. and Texas. In 2003, occupational MSDs accounted for 33.1% of all NOII in the U.S., decreasing to 29.4% in 2009. In Texas, MSDs accounted for 32.6% of all NOII in 2003 compared to 24.4% in 2009. The results indicate a linear decline in the incidence ratio of occupational MSDs to all NOII with a more rapid decrease in Texas compared to the U.S. The percentage of occupational MSDs in Texas declined, on average, by a rate of 1.28 per year (p<0.0001). In the U.S., the percentage decreased by only 0.62 per year (p=0.01).

**DISCUSSION**

The descriptive results indicate that the incidence of occupational MSDs have declined in the U.S. and Texas from 2003 to 2009. Such decline may be attributed to the creation of ergonomic guidelines in distinct work industries or job tasks. However, the definition of MSDs involving days away from work has changed over time, and the definition may vary by state. The distribution of occupational MSDs by demographic and work-related characteristics in Texas is similar to other studies. However, the population affected by occupational MSDs in Texas is slightly older compared to the U.S. Our analysis of Texas-specific data indicated that 35-54 year-olds had the highest proportion of occupational MSD injuries and illnesses involving days away from work. Over recent years, the average retirement age for individuals born after 1959 has gradually risen to age 67. As this group ages and continues to work, MSDs, including disabling MSDs, may rise again, highlighting the significance of monitoring work-related MSDs.

Prevention is essential to reducing the incidence and the burden of occupational MSDs. Low-cost work improvements, such as reducing physical workload through the use of hand carts, have been shown to reduce the risk of occupational MSDs, even simply moving objects to more accessible spaces. The Occupational Safety and Health Administration (OSHA) has created voluntary ergonomic guidelines to help reduce the incidence of occupational MSDs for shipyards, poultry processing, retail grocery stores, nursing homes, and meatpacking plants. Many employers outside these industries have implemented workplace ergonomic programs, as well.

Cost associated with occupational MSDs is significant. In 2008, 28% of total direct workers compensation cost associated with injuries or illnesses in the private industry was attributable to occupational MSDs, accounting for $15.2 billion nationwide, with an average direct cost estimated to be over $8,000 per case. Texas is the only state that does not require employers to have workers’ compensation for all employees, and nearly one out of three employers (32%) in the state do not carry workers’ compensation insurance. Consequently, approximately half of adult Texans who were injured at work did not receive a workers’ compensation payment in 2007. Lenient workers’ compensation requirements in Texas may negatively affect reporting practices for MSDs. Additionally, a previ-
Table 4: Number and incidence* of nonfatal occupational injuries and illnesses and median days away from work† from occupational musculoskeletal disorders involving days away from work by selected characteristics (private industry, Texas, 2009)

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>Incidence*</th>
<th>Median Days†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>14,690</td>
<td>19.8</td>
<td>9</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-19</td>
<td>220</td>
<td>10.5</td>
<td>4</td>
</tr>
<tr>
<td>20-24</td>
<td>1,160</td>
<td>16.9</td>
<td>4</td>
</tr>
<tr>
<td>25-34</td>
<td>3,530</td>
<td>18.3</td>
<td>8</td>
</tr>
<tr>
<td>35-44</td>
<td>4,120</td>
<td>22.1</td>
<td>10</td>
</tr>
<tr>
<td>45-54</td>
<td>3,880</td>
<td>24.3</td>
<td>10</td>
</tr>
<tr>
<td>55-64</td>
<td>1,570</td>
<td>17.2</td>
<td>22</td>
</tr>
<tr>
<td>65+</td>
<td>210</td>
<td>9.7</td>
<td>15</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9,230</td>
<td>20.4</td>
<td>10</td>
</tr>
<tr>
<td>Female</td>
<td>5,430</td>
<td>18.9</td>
<td>8</td>
</tr>
<tr>
<td><strong>Body Part Affected</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neck</td>
<td>100</td>
<td>0.1</td>
<td>3</td>
</tr>
<tr>
<td>Trunk</td>
<td>10,570</td>
<td>14.3</td>
<td>9</td>
</tr>
<tr>
<td>Upper Extremities</td>
<td>1,850</td>
<td>2.5</td>
<td>12</td>
</tr>
<tr>
<td>Lower Extremities</td>
<td>1,260</td>
<td>1.7</td>
<td>13</td>
</tr>
<tr>
<td>Multiple Body Parts</td>
<td>910</td>
<td>1.2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Detailed Occupation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>3,390</td>
<td>56.7</td>
<td>10</td>
</tr>
<tr>
<td>Healthcare Support</td>
<td>1,180</td>
<td>54.1</td>
<td>5</td>
</tr>
<tr>
<td>Building and Ground Cleaning and Maintenance</td>
<td>820</td>
<td>45.1</td>
<td>6</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair</td>
<td>1,280</td>
<td>35.3</td>
<td>19</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>200</td>
<td>32.9</td>
<td>3</td>
</tr>
<tr>
<td>Production</td>
<td>1,540</td>
<td>25.3</td>
<td>11</td>
</tr>
<tr>
<td>Healthcare Practitioners and Technical</td>
<td>920</td>
<td>24.8</td>
<td>5</td>
</tr>
<tr>
<td>Protective Service</td>
<td>160</td>
<td>21.4</td>
<td>3</td>
</tr>
<tr>
<td>Construction and Extraction</td>
<td>940</td>
<td>19.5</td>
<td>10</td>
</tr>
<tr>
<td>Food Preparation and Serving Related</td>
<td>970</td>
<td>16.1</td>
<td>8</td>
</tr>
<tr>
<td>Farming, Fishing, and Forestry</td>
<td>100</td>
<td>14.0</td>
<td>5</td>
</tr>
<tr>
<td>Personal Care and Service</td>
<td>240</td>
<td>13.0</td>
<td>4</td>
</tr>
<tr>
<td>Sales and Related</td>
<td>1,110</td>
<td>11.8</td>
<td>9</td>
</tr>
<tr>
<td>Office and Administrative Support</td>
<td>1,400</td>
<td>11.0</td>
<td>19</td>
</tr>
<tr>
<td>Management</td>
<td>250</td>
<td>6.0</td>
<td>4</td>
</tr>
<tr>
<td>Arts, Design, Entertainment, Sports, and Media</td>
<td>40</td>
<td>5.6</td>
<td>3</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>70</td>
<td>2.1</td>
<td>12</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>40</td>
<td>1.7</td>
<td>17</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>20</td>
<td>1.2</td>
<td>12</td>
</tr>
<tr>
<td><strong>Source of Injury or Illness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Containers</td>
<td>4,820</td>
<td>6.5</td>
<td>10</td>
</tr>
<tr>
<td>Persons, Plants, Animals, and Minerals</td>
<td>4,720</td>
<td>6.4</td>
<td>6</td>
</tr>
<tr>
<td>Parts and Materials</td>
<td>1,910</td>
<td>2.6</td>
<td>12</td>
</tr>
<tr>
<td>Vehicles</td>
<td>960</td>
<td>1.3</td>
<td>15</td>
</tr>
<tr>
<td>Tools, Instruments, and Equipment</td>
<td>890</td>
<td>1.2</td>
<td>7</td>
</tr>
<tr>
<td>Furniture and Fixtures</td>
<td>610</td>
<td>0.8</td>
<td>7</td>
</tr>
<tr>
<td>Machinery</td>
<td>440</td>
<td>0.6</td>
<td>13</td>
</tr>
<tr>
<td>Structures and Surfaces</td>
<td>180</td>
<td>0.2</td>
<td>12</td>
</tr>
<tr>
<td>Other Sources</td>
<td>140</td>
<td>0.2</td>
<td>12</td>
</tr>
</tbody>
</table>

* per 10,000 full-time workers.
† Median days away from work is the measure used to summarize the varying lengths of absences from work among the cases with days away from work. Half the cases involved more days and half involved less days than a specified median. Median days away from work are represented in actual values.
ous capture-recapture study conducted in Connecticut indicated that MSDs were underreported to the BLS. The authors found significantly higher rates of MSDs than those reported by the BLS. While the steady decrease in reported occupational MSDs across time in Texas is likely accurate, several factors may affect the reliability of the number of cases reported to the BLS.

Several limitations should be considered when interpreting these results. First, the data were retrieved from a publicly accessible query system within the BLS and could not be manipulated outside the scope of the query system. Second, these data came from separate samples of businesses in the private industry in the U.S. and Texas, which may limit the generalizability of the results. Third, businesses are contacted by year before data collection occurs. This allows ample time for establishments that are not required to maintain injury and illness logs to begin to do so. Currently, these logs do not have a separate column for MSDs, but OSHA has proposed a new rule in which they have requested to restore this MSD-specific column to the OSHA log. Lastly, confounders, such as length of current employment and work strain, could not be examined in this analysis.

Despite these limitations, the findings of this study indicate that the incidence of MSDs among workers is declining. This study is a first for the state of Texas and highlights occupational sectors and demographic groups in which occupational MSDs still can be improved in Texas. Public health professionals should continue to promote prevention of occupational MSDs to reduce injury and associated cost to employers.

ACKNOWLEDGEMENTS

Funding for this project was partially provided by the Southwest Center for Occupational and Environmental Health (SWCOEH), a National Institute for Occupational Safety and Health (NIOSH) Education and Research Center, and awardee of Grant No. 5T42OH008421 from the National Institute for Occupational and Environmental Health (NIOSH)/Centers for Disease Control and Prevention.

REFERENCES

2010 Census, it accounted for 32% of the West Nile virus cases in affected. Although Texas comprised 8% of the US population in the TPCN agents during August were identi
to the aerial spraying. All West Nile virus-related calls handled by in August was determined and examined for any trends in relation to the West Nile virus outbreak affected the pattern of calls the TPCN received. The TPCN also activated it s interactive voice response (IVR) system during August 15-27 to provide messages about West Nile virus and the aerial spraying. Objective: This investigation was to determine whether the West Nile virus outbreak af

Discussion: The 2012 West Nile virus outbreak resulted in a surge in calls to the TPCN on August 16. The IVR system was utilized to answer a number of calls. Most of the West Nile virus-related calls handled by TPCN agents were about the aerial spraying, were requests for information, and came from Dallas County.

INTRODUCTION

West Nile virus is a potentially serious mosquito-transmitted disease that can infect birds, humans, horses, and other mammals. Approximately eighty percent of people infected with the virus will be asymptomatic. However, a proportion of infected individuals develop symptoms such as headache, myalgia, arthralgia, gastrointestinal problems, and rash. Less than 1% develop neuroinvasive disease which involves encephalitis, meningitis, or acute flaccid paralysis. Deaths have been reported in relation to West Nile virus infection.1

West Nile virus was first documented in the US in New York City in 1999.2 Migrating birds then transported the disease across the country. West Nile virus was first found in Texas in June 2002.3

Confirmed West Nile virus cases had been reported in Texas in 2012 since at least early June. However, public health officials became particularly concerned about the elevated number of cases, especially in North Texas, in late July-early August. Because of the severity of the outbreak in North Texas, on August 9, Dallas County’s top official declared a public health emergency, stating that the spread of the West Nile virus had become epidemic.5 On August 15, the mayor of Dallas declared the city’s recent West Nile virus outbreak to be a state of emergency and authorized the first aerial spraying of insecticide in the city in more than 45 years.4 The aerial spray was Duet® Dual-Action Adulticide (Clarke Mosquito Control Products, Inc., Roselle, Illinois; Environmental Protection Agency Registration Number 1021-1795-8329), which contains the active ingredients prallethrin (a pyrethroid), sumithrin (a pyrethroid), and piperonyl butoxide. The aerial spraying in Dallas County occurred during August 16-23.6,7,9-12 Aerial spraying also was conducted in late August-early September in Denton County immediately to the north of Dallas County.13 State health officials reported the spraying to be safe.9,14 However, the public expressed concerns about the safety of the spraying.7,15 One investigation of pyrethroid and piperonyl butoxide insecticide spraying by truck in New York City to control West Nile virus did not find an increase in emergency department visits for asthma.16 Another study of pyrethrins and piperonyl butoxide insecticide exposures reported to US poison centers over a three-year period found that adverse clinical effects most commonly affected the gastrointestinal, ocular, dermal, respiratory, and neurological organ systems. Some of the more frequently reported specific adverse clinical effects included ocular irritation, coughing or choking, vomiting, dermal irritation, and headache.17

Poison centers might receive calls in the event of public health emergencies such as hurricanes, other storms, power outages, chemical releases, foodborne outbreaks, and other disease outbreaks.18-27 As a result, efforts are being made to integrate poison centers into the response of health departments to public health emergencies.28-30

The Texas Poison Center Network (TPCN) consists of six poison centers that together service the entire state of Texas, a population of over 25 million. The six centers use a common database to collect demographic and clinical information on all calls handled by the poison centers’ agents. The data fields and allowable field options were standardized by the American Association of Poison Control Centers (AAPCC). Each Texas poison center is primarily responsible for a separate geographic region inside the state. Every call first goes to the poison center responsible for the geographic area from which the call originated. However, the six centers share a common telecommunications system so that, if there are no agents available at the poison center that should receive a call, the call is immediately directed to any other poison center where an agent is available. This is to ensure that all calls are answered as quickly as possible or when one of the six poison centers has a planned or unplanned shut-down. It also can be useful during sudden increases (surges) in call volume, which might occur during public health emergencies.31 In addition, the telecommunications system has an interactive voice response (IVR) system that allows for automated messages in both English and Spanish. These IVR messages can be created and quickly activated and can be utilized during public health emergencies to provide information to the public without tying up human resources.32 If the...
The TPCN and DSHS work closely to coordinate their responses to public health events. This is to ensure that both organizations provide the same information to healthcare providers and the public to avoid confusion. Moreover, during certain events where it is anticipated that a large number of the public may have questions, the DSHS may provide the TPCN's 1-800 number to the public so that the TPCN can assist the DSHS with answering calls from the public. Also, the TPCN may collect information on calls related to a public health event that the DSHS might find useful for evaluating the number and type of exposures to the event as well as the degree of public concern about the event and what these concerns are. The TPCN and DSHS have drafted written procedures outlining points of contact and the flow of information between the two organizations as well as how the TPCN will document calls related to a given event (what information will be collected, how they will be coded, etc.). In addition, during 2012, the DSHS provided some funding from a CDC public health emergency preparedness grant to the TPCN. Among the requirements for the funding was that the TPCN would assist the DSHS in their response to public health events upon request.

On August 14, the North Texas Poison Center in Dallas issued a press release and gave multiple interviews to the media (newspaper, television, radio) indicating that the public could call the TPCN if they have questions about West Nile virus or the aerial spraying. On August 14 and August 15, TPCN and state-level DSHS staff decided how West Nile virus and aerial spraying calls should be documented in the TPCN database and provided these instructions to the managing directors of the six poison centers. Previously, the TPCN and DSHS had created a code to indicate public health emergencies or events in a field labeled "Free Area 1." The agents were to use the public health emergency code with all West Nile virus-related calls. In the substance coding fields, the agents were to assign the Micromedex code for West Nile virus if the call was about West Nile virus itself and assign the Micromedex code for pyrethroid if the call was about the aerial insecticide spraying, since no code was available for the particular insecticide to be used. In the Notes field, the agents were to mention that the call was about West Nile virus or the spraying. Also, state-level DSHS provided to the TPCN information on West Nile virus (method of transmission, prevention, symptoms, what to do if someone suspected they had the virus, etc.) and the aerial spraying (what pesticide was being used, its safety, where information on the dates and location of the spraying could be obtained, etc.) that the poison centers' agents could use to answer callers' questions. The DSHS did not provide a protocol, guideline, or script, just general information. This was to ensure that the DSHS and TPCN were providing consistent information to the public. No changes in staffing were made by the Texas poison centers during the aerial spraying.

On August 15, the TPCN initiated IVR recordings in English and Spanish that provided information on West Nile virus and the aerial spraying. Due to a decline in the number of callers accessing the IVR recordings, the recordings were discontinued on August 27, 2012. During August 15-September 28, the North Texas Poison Center created reports summarizing IVR and TPCN database West Nile virus-related calls and sent them to the state-level DSHS.

The DSHS regional office that covers Dallas operated a telephone bank to answer West Nile virus questions from the public during office hours on August 16-24, during which the bank received 212 calls. Although the regional office did not suggest that the public contact the TPCN when the telephone bank was not in operation, it did suggest that people who suspected they were having adverse reactions to the aerial spraying should contact the TPCN. Public service announcements (PSAs) also were made by the DSHS.

The intent of this investigation was to describe the pattern of calls the TPCN received during the peak of the West Nile virus outbreak.

METHODS

Data for this investigation were obtained from two sources. The first data source was the TPCN's electronic database used to collect information from the callers who spoke to TPCN agents. The second data source was the TPCN IVR system. The only data available from the system were when the IVR recording was accessed by a caller and the language of the recording that was accessed (English or Spanish). No information, such as the caller's location, was obtained from the callers accessing the IVR recording.

Since most West Nile virus-related calls were received in August and the IVR system was only active during August 15-27, the analysis was limited to data collected during that month. The daily number of total calls and the two major subgroups of human exposure and information calls was determined and examined for any trends in relation to the West Nile virus announcements and the aerial spraying. All West Nile virus-related calls in the TPCN database were identified, and the daily number and language of these records and IVR system records also were calculated and compared. In order to identify the calls of interest in the TPCN database, all records created during August 2012 were searched to identify those where the Free Area 1 code for public health emergency and/or substance codes for West Nile virus or pyrethroid were used. Also, the Notes field was searched for the terms “West Nile,” “WNV,” “spray,” the name of the insecticide “Duet,” or “pyrethroid.” The records then were reviewed to verify those that appeared to be related to West Nile virus or the spraying.

The West Nile virus-related records in the TPCN database were sorted into those that were related to West Nile virus itself and those related to the aerial spraying. The distribution of the records in these two groups was determined by whether the calls were strictly requests for information or were potential exposures. Greater details of the calls, such as exactly what question(s) each caller asked, were not documented in a consistent manner and thus were not analyzed. The distribution of West Nile virus-related records by poison center and caller county was determined.

A detailed analysis of potential exposures to the aerial spraying insecticide is provided in a separate investigation.

The Department of State Health Services institutional review board considers this investigation exempt from review as it involves existing data, documents, and records and the subjects cannot be identified, directly or through identifiers linked to the subjects.

RESULTS

Figure 1 provides the daily number of all calls (West Nile virus-related and otherwise) handled by TPCN agents during August 2012. The total number of calls fluctuated from day to day but remained relatively steady before increasing greatly on August 16 (the first day of the aerial spraying in Dallas) then returning to its former level the next day. The number of total calls on August 16 (1,256) was the highest daily number of calls received in 2012, being 29% higher than the number of calls received on the next highest day (970 on April 30) and 58% higher than the mean daily number of calls during the year (795). The incomplete call rate for August 16 was 3%, con-
Table 1. Distribution of West Nile virus-related calls received by the Texas Poison Center Network during August 2012 by poison center

<table>
<thead>
<tr>
<th>Poison center (city)</th>
<th>Area call originated from</th>
<th>Handled call</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>North Texas Poison Center (Dallas)</td>
<td>886</td>
<td>93.1</td>
</tr>
<tr>
<td>Southeast Texas Poison Center (Galveston)</td>
<td>23</td>
<td>2.4</td>
</tr>
<tr>
<td>Central Texas Poison Center (Temple)</td>
<td>17</td>
<td>1.8</td>
</tr>
<tr>
<td>South Texas Poison Center (San Antonio)</td>
<td>12</td>
<td>1.3</td>
</tr>
<tr>
<td>West Texas Regional Poison Center (El Paso)</td>
<td>8</td>
<td>0.8</td>
</tr>
<tr>
<td>Texas Panhandle Poison Center (Amarillo)</td>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>952*</td>
<td></td>
</tr>
</tbody>
</table>

Includes calls about West Nile virus and aerial spraying of insecticide.

*1 call was from outside of the state and 35 were from unknown counties.

Figure 1. Daily calls received by the Texas Poison Center Network, August 2012

Figure 2. Daily West Nile virus-related calls received by the Texas Poison Center Network, August 2012

Includes calls about West Nile virus, aerial spraying, etc.
The West Nile virus outbreak had a major impact on the TPCN’s daily call volume. The number of calls, particularly information calls, surged on August 16, the first day of the aerial spraying and two days after the TPCN issued a news release that the public could contact the poison centers if they had questions about the disease or the aerial spraying. More calls were received that day than any other day during 2012; the number of calls that day was almost 30% higher than the next highest daily call volume and almost 60% higher than the mean daily number for the year. This suggests that it is important for poison centers to have a plan in place to deal with a surge in calls that may occur with little warning. TPCN having six poison centers and a common telecommunications system allows for the TPCN to effectively deal with sudden surges in the number of calls. Poison centers in other states have been addressing the same issue.\textsuperscript{35,56}

The majority of West Nile virus-related calls handled by the TPCN agents were about the aerial spraying rather than about West Nile virus itself, and most of the calls were requests for information and not about potential exposures to either the virus or the insecticide. This may be because West Nile virus had been present in Texas since at least 2002.\textsuperscript{3} It may be that the public is more familiar with the disease or less concerned about it. However, this was the first time aerial spraying had been conducted in Dallas County in over 45 years.\textsuperscript{6,8}

There were reports of public concerns about the safety of the spraying in the media.\textsuperscript{7,15}

The preponderance of West Nile virus-related calls originated in Dallas County with the counties reporting the next highest, if much lower, number of calls being those counties adjacent to Dallas County. According to the DSHS, Dallas County had the highest number of reported West Nile cases followed by the surrounding counties. Moreover, the aerial spraying occurred in Dallas County and neighboring Denton County. Furthermore, it was the North Texas Poison Center in Dallas that released the press release notifying the public that they could contact poison centers if they had questions. Thus, the majority of calls coming from Dallas County and the surrounding area might be expected.

Although most of the calls originated from an area covered by the North Texas Poison Center, the majority of calls were handled by the other five poison centers. As mentioned previously, the TPCN telecommunications system was designed so that, if all of the agents at one poison center were busy, the other five poison centers can assist in handling the calls, thus ensuring that the calls are answered. During the West Nile virus outbreak, the system worked as expected with the overflow of calls going to other poison centers.

Approximately 1,500 callers accessed the TPCN’s IVR messages with over 700 accessing the messages on a single day. Although an unknown portion of these callers went on to speak with poison center agents, the IVR system was able to provide information to the public while allowing the agents to handle other calls. This demonstrates that IVR systems can be useful to poison centers during public health emergencies and other times of high call volume. The TPCN’s IVR system was similarly of use during the H1N1 influenza outbreak in 2009.\textsuperscript{12}

This study is subject to various limitations. Although the poison center staff had been instructed how to code West Nile virus-related calls, all of the calls were not coded according to these instructions. As a result, an unknown number of West Nile virus-related calls may have been handled by poison center agents but not coded in such a way that they could be identified as such. Moreover, as mentioned in the methodology, details of these calls, such as exactly what questions the callers asked, were not recorded in a consistent manner and thus were not analyzed.

**IMPORTANT INFORMATION TO TAKE FROM THIS INVESTIGATION**

- Poison centers may expect to receive calls about and can assist health departments during West Nile virus or similar disease outbreaks. Poison centers can serve as an addition point of public access for information and can assist health departments in addressing public concerns about the outbreak.
- It is important for health departments and poison centers to coordinate their activities so that consistent information is provided to the public.
the public during an outbreak.

• If such an event should occur, poison centers might experience a sudden increase (surge) in calls. The poison centers should have a plan in place for handling such call surges. An automated interactive voice response (IVR) system can prove useful for managing calls received by poison centers during a public health emergency event. It also is helpful if calls to a poison center can be redirected to another poison center when no staff are available to answer the call.

• It is important for poison centers to completely and consistently document these calls so that they can be identified and utilized when evaluating the effectiveness of poison centers in a public health emergency event.

CONCLUSION

The West Nile virus outbreak in 2012 and aerial spraying of insecticide used to manage the outbreak resulted in a surge in calls to Texas poison centers. The poison centers’ IVR was utilized to answer a number of calls. Most of the calls handled by Texas poison center agents were about the aerial spraying, were requests for information as opposed to potential exposures, and came from Dallas County and the surrounding area although all six poison centers handled the calls. Both IVR calls and calls handled by Texas poison center agents peaked on the first day of the aerial spraying.

REFERENCES

Collaborative Care Delivery Requires an Understanding of Organizational Differences

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ABSTRACT

Care-providing organizations must understand and appreciate fundamental differences between themselves in order to deliver quality care to clients. This study using a mixed methods approach explores differences between government agencies and nonprofit organizations during the startup of Aging and Disability Resource Centers (ADRCs) intended to help the aged and disabled find available services. Results indicate differences that may create barriers to their efforts. Public Health is involved with care and services to vulnerable populations, among these are organizations such as ADRCs.

Key Terms: Nonprofit, Government, Collaboration, Operational Differences, Community Services, Care Delivery

INTRODUCTION

Aging and Disability Resources Centers (ADRCs) provide a unique environment to study the concepts associated with collaborative care. A series of initiatives was established through a cooperative effort of several agencies at the federal level providing grants nationwide through state initiatives to establish referral services quantified referred to as “one stop shops.” The one stop shops provide information to the aging and disabled about services available to them. Collaborative care is a part of the everyday functional arrangement of government and nonprofit organizations working together to overcome different mandates and rule sets. In addition the collaboration requires cooperation to span operating differences between government and nonprofits as well as management styles.

Medina highlights the efforts by the Texas Legislature to assist the elderly beginning in the 1950s.1 These efforts resulted in eight ADRCs being established in Texas by 2008 to assist the elderly and disabled in locating available services. These centers bring together government and nonprofit providers with the goal of a “one stop shop” for elderly and disabled services.

This research focuses on the experience forming the most recent ADRCs established in Texas. Efforts to form collaborations between and among government agencies and also nonprofit services across the state and nation have been an ongoing process. Nonprofit and government collaboration is not new. For example, the Free Library Company of Philadelphia and the Philadelphia Hospital during the time of Benjamin Franklin were independent, nonprofit organizations but received subsidies from the municipal government.2 In essence, this was a collaboration to provide citizens with needed services. Abel’s recent research draws the conclusion that market influences are often the basis for the formation of these types of alliances.3 The research further highlights the public expectations of integrated environments between public, private, and nonprofit organizations. The critical issue is establishing a sustaining coalition during the embryonic and operational stages of cooperative efforts between government and nonprofit. Collaborative interventions to enhance both information and access have strong implications for public health practice, whether or not such collaborations include traditional public health agencies, such as health departments.

Abel indicates that there is a challenge facing the establishment of collaborative relationships between government agencies and nonprofits organizations: “The historical system used by local government has not integrated the multitude of private and public organizations into a unified and coordinated service delivery system …”4 Accepting this as the basis for our research, we can approach the question of “why not?” by examining similarities and differences in public and nonprofit organizations.

METHODS

A mixed methods approach was used to study the formation of two urban and one rural ADRCs using a study design approved by the University of North Texas (UNT) Institutional Review Board. The two urban ADRCs were focused geographically on individual counties while the rural ADRC comprised two adjacent counties.

A census was conducted of the three steering committees and the leadership involved in the startup of the three ADRCs. Qualitative interviews were conducted with 24 persons spanning the three ADRCs, which included the personnel involved with the ADRCs from the state agency overseeing the formation of the three ADRCs and representatives from each of the four counties which would ultimately comprise the three ADRCs. There were eight interviews with government agency representatives and 16 with representatives of nonprofit organizations. During the interviews, persons were encouraged to tell their story of participation on the steering committee. On each county steering committee, there was at least one nonprofit organization and two to three governmental agencies.

In addition to qualitatively analyzing the transcripts, key words and phrases on aspects of organizational structure were identified in the transcripts using Atlas.ti data analysis software and coded for quantitative analysis in SPSS.

RESULTS

Table 1 examines a comparison of words and phrases on organizational structure used in the interviews by persons from government agencies compared to nonprofit organizations. Focusing on the columns in the table and the total percentage of phrases used most often by the respondents, four aspects of comparison differ. Easy Information Passage is mentioned most often (23% of the time) by government agency respondents during the interviews compared to 18% by nonprofit respondents. Social Legitimacy is mentioned most often (22% of the time) by representatives of nonprofit organizations during the interviews compared to 18% of the time by representatives of government agencies. On Marketing, the government agency respondents mentioned this 12% of the time compared to 8% of the time for nonprofit organization representatives. Sustainability was mentioned more often as a concern by government organization representatives than nonprofit organization representatives (8%).

On three of the comparisons of key words and phrases, we find identical or almost identical responses. Both government agency respondents and nonprofit respondents mentioned inter-organizational buy-in 16% of the time, and for intra-organizational buy-in they are separated by 2% with government agency respondents mentioning this 18% of the time compared to 16% of the time for nonprofit organization respondents. Streamlining Services is mentioned 6% of the time by government agency representatives compared to 8% of the time by nonprofit organization representatives.

DISCUSSION

In spite of the common interest of both government agencies and nonprofit organizations to provide services to the aged and disabled, there are differences and similarities resulting from operational and
orientation differences between the two sectors. The formation of collaborative environments require particular attention to those areas illustrated in Table 1 and perhaps to others beyond the scope of this research.

The pattern of keywords or phrases used by the steering committee representatives regarding Ease of Information Passage is related to the traditional organizational structure dimension known as formalization. Within the context of the ADRC mission, it refers to government and nonprofit providers achieving the goal of a “one stop shop” for elderly and disabled services. On this difference, the government agencies used the phrase more and probably indicate more of a willingness to explore ways to ensure easier flow of information that would streamline services.

Differences also existed in Table 1 on marketing, with nonprofit organization representatives mentioning marketing words or phrases more often than government agency representatives. One explanation is that the nonprofit organizations were more concerned with disseminating information about availability of ADRC services to the public than were the government organizations. Another explanation is that marketing resources are often a challenge for nonprofit organizations, and the collaborative opportunity of the ADRC was a marketing source on which nonprofits wanted to capitalize. In this regard, perhaps it is not surprising that social legitimacy words and phrases were mentioned most often by the nonprofit organizations who mentioned them 5% more often than government agencies. Although, it should be noted that the use of social legitimacy words and phrases ranked second in Table 1 as the most often used words and phrases by government agencies.

When it came to sustained involvement of the ADRC, the representatives of government agencies expressed more concern about sustaining the collaboration than the nonprofit organizations, perhaps because they wondered where the resources would come from to sustain the partnership in light of government budget reductions in recent years and the pending federal budget sequester, which has implications for state agencies and especially their federally funded programs. Nonprofits have also experienced unsettled funding since the economic downturn of 2006. What is known from the qualitative interviews is that no single organization stepped forward to ensure continuation of the ADRC collaborations; yet it is evident from the intra- and inter-organizational buy-in responses of both government agency respondents and nonprofit organization respondents that there is a strong commitment to the ADRC “one stop shop” philosophy.

To date, the ADRCs studied remain grass roots organizations, lacking incorporation or even formal by-laws and documents. Lacking formal procedures, the steering committees continue to meet and discuss the provision of services and occasionally schedule training/information sessions for providers in their counties. The initial funding organization has provided continuation funding, although it’s been extremely limited at times. Technical assistance, critical to the ongoing operation, has been made available by the funding organization. What will the ADRC collaborations take to sustain themselves? The investigators are unsure. Insight might be gained from the Collaboration Factors Inventory available from the Fieldstone Alliance and developed by the Amherst Wilder Foundation since it examines a series of 20 factors that have historically been attributed to the success or failure of collaborations. As a result of the aforementioned structural, cultural, and orientation differences, we suspect that focusing on specific issues, clearly defining goals, including representatives of stakeholders at each phase of the process, allocating appropriate time and resources for effective support planning, and frequent

| Table 1. Comparison of Key Words and Phrases Comparing Government Agencies and Nonprofit Organizations |
|-----------------|-------------|-------------|-------------|
| Key words and phrases | Gov n | % | Non-Profit n | % |
| Easy Information Passage (No Wrong Door / One Stop Shop / increase access / information) | 13 | 23% | 16 | 18% |
| Streamlining Services (decrease time / improve referral process / streamline operations) | 6 | 11% | 8 | 9% |
| Social Legitimacy (client & community buy-in / community awareness / community relationship building) | 10 | 18% | 19 | 22% |
| Marketing (newspaper ads, bus ads, advertising, marketing) | 2 | 4% | 9 | 10% |
| Sustainability (grant continuation / budgetary concerns / financial feasibility / keeping financial commitments distinct) | 7 | 12% | 7 | 8% |
| Inter-Organizational Buy-in (roundtables / workshops / organizational networking capabilities / organizational relationship building / 211 [as hurdle to this specific phenomenon]) | 9 | 16% | 14 | 16% |
| Intra-Organizational Buy-in (training staff / increasing staff morale / distinguishing staff roles) | 10 | 18% | 14 | 16% |
| Total | 57 | 100% | 87 | 100% |
Information and access are important functions for public health, particularly with regard to vulnerable populations such as the aged and disabled. Interventions to enhance both information and access have strong implications and can be structured around collaboration whether or not such collaborations include traditional public health agencies such as health departments. A further concern is the need to include public health departments in programs focused on specific populations such as the aged and the disabled. Consideration of public health collaboration with such organizations as ADRCs is thus of concern.

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Description of Injuries and Illnesses in the Transportation and Warehouse Sector in Texas and the United States, 2005-2009

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ABSTRACT

Objectives
The purpose of this paper is to describe recent trends of occupational non-fatal injury in the Transportation and Warehouse private industry sector of Texas as compared to that of the U.S.

Methods
We conducted a descriptive examination of occupational injuries for the Transportation and Warehousing sector of the State of Texas and the United States using data obtained from the United States Bureau of Labor Statistics (BLS) Workplace Injuries Database for 2005-2009. We stratified data by age, race/ethnicity, gender, type of exposure and occupation.

Results
In the U.S. and in Texas, injuries and illnesses among workers in the Transportation and Warehousing sector were predominately distributed among White workers ages 35-44 and 45-54. In Texas, Hispanics dominated the majority of injuries and illnesses. In the U.S. and in Texas, bodily reaction and exertion was the major exposure associated with injuries and illness. During 2005-2009, workers in the Transportation and Warehousing sector experienced a decrease from 33,440 to 24,000 injuries and illnesses in the US and from 3,390 to 2,490 during the same time period in Texas.

Conclusions
Data obtained through the BLS revealed there were no substantial differences for injuries between Texas and the U.S. in distributions or total rates based on age, race/ethnicity, gender or exposure stratum within the Transportation and Warehousing industry. The severity of injuries and illnesses in this industry continue to remain an issue as demonstrated by the increasing rates for greater number of days missed from work within Texas. Future areas of examination include comparing economic employment trends with the presented injury and illness case information for the Transportation and Warehousing industry in Texas. Exploration of prevention and reduction programs should also be addressed.

INTRODUCTION

The Transportation and Warehousing sector of the North American Industry Classification System includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation.1,2 Occupational injury in this sector has been a concern in the United States because of its large volume of employment and high injury incidence and fatality rates. The U.S. has more than four million workers, and about 800 fatalities occur each year in this sector—accounting for 16% of all occupational fatalities.2,3 Injuries from transportation incidents have been a lead- ing cause of fatality in this sector for more than 15 years.4 The fatalities include deaths of workers struck by a vehicle on highway, public roadway, air, water, and train. Of note, highway accidents among truck drivers account for more than half of the fatalities.

The Transportation and Warehousing sector also has a higher incidence rate of nonfatal occupational injuries and illnesses (NOII) compared to other sectors. According to the United States Bureau of Labor Statistics’ (BLS) report in 2010, the incidence rate of NOII for this sector is 5.2 per 100 full-time workers, which is the third highest incidence rate among all industry sectors.5 Moreover, the incidence rate for NOII cases involving days away from work is 2.3 per 100 full-time workers—almost double the rate of all industries in 2009.5

The national rate of occupational injuries and illness showed a decline in 2008-2009 for most sectors; the Transportation and Warehousing sector, as a whole, experienced a similar decline.6 It is not clear, based on Texas fatal occupational injuries data from 1992 to 20097 if workers in the Texas Transportation and Warehousing sector are expected to have a similar pattern of decrease in non-fatal injuries and illnesses. In Texas, there are 370,000 Transportation and Warehousing sector workers, accounting for approximately 9% of all Texas employment with an average of 75 fatalities each year, accounting for 18% of all Texas occupational injuries.3,5

NOII result in an increased number of days away from work, job transfer or restriction, and may affect the quality of life for the injured worker. This also leads to a significant financial burden for the worker as well as the employer. Despite high incidence and fatality rates and significant financial implications, little research directly focuses on the injuries and illnesses of the Transportation and Warehousing sector at the national level. Similarly, analysis of existing data for work-related injury and illness from the BLS or Consumer Product Safety Commission has not been conducted in Texas. Thus, there is not enough information to ascertain potential correlations between demographics, event/type of exposure, work condition, or personal factors, which could highlight underlying risk factors and ultimately inform preventive initiatives. The purpose of this paper is to assess the recent trends of occupational non-fatal injury rates in the Transportation and Warehouse private industry sector of Texas as compared to that of the U.S., and to provide guidance for prevention strategies.

METHODS

We conducted a descriptive examination of NOII for the Transportation and Warehousing industrial sector for Texas and the U.S. using 2005-2009 data from the BLS Workplace Injuries Database based on the Annual Survey of Occupational Injuries and Illnesses (SOII). Specific subsectors and associated North American Industry Classification Codes (NAICS) codes for this analysis of the transportation and warehousing sector include: Air Transportation (481), Rail Transportation (482), Water Transportation (483), Truck Transportation (484), Transit and Ground Passenger Transportation (485), Pipeline Transportation (486), Scenic and Sightseeing Transportation (487), Support Activities for Transportation (488); Postal Service (491), Couriers and Messengers (492), and Warehousing and Storage (493). We examined the distribution of NOII cases for each year that resulted in days away from work in the private industry in this sector—stratifying by age, race/ethnicity, gender, type of exposure and occupation. The SOII excludes the self-employed; small farms (fewer than 11 employees); private households; Federal Government workers; and for national estimates, employees in state and local government agencies (until 2008).

RESULTS

We obtained all statistics in this paper from injury data published on the website of the BLS. NOII from 2005-2009 were examined for

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comparison between Texas and the U.S. within several subcategories including age, race/ethnicity, gender, types of exposures, and type of occupations, respectively.

The overall rate of injuries and illness within the Transportation and Warehousing sector in Texas is slightly higher than the rate in the U.S. during 2005 to 2009, especially in 2006 and in 2008 (Chart 1). From Charts 1(a) and 1(b), the number of injuries and illnesses in the Transportation and Warehousing sector was mostly distributed among workers ages 35-44 and 45-54. Similar trends could be observed in the U.S. and Texas. For example, the injured workers in the U.S. among ages 35-44, decreased from 33,440 in 2005 to 24,000 in 2009 (28.2% decrease). Texas had corresponding reductions, from 3,390 to 2,490 (26.5% decrease), during the same period. However, injuries among ages 20-24 in the U.S. remained stable (average 7,552 cases per year) in the first four years (2005-2008). The number fell to 5,530 cases (26.8% decrease) only in 2009, which is not consistent with the trend related to the same age group in Texas.

From Charts 2(a) and 2(b), the distribution of injuries and illnesses among different race/ethnicities showed some discrepancies. For U.S. injuries and illnesses, non-Hispanic White workers showed much higher numbers (around 30,000 cases per year) than other races (less than 10,000 cases per year). In Texas, however, both non-Hispanic Whites and Hispanics, reflecting the population composition in Texas, dominated the majority of injuries and illnesses, and there did not appear to be a general decline in the number across years. Moreover, there was not much difference in the number of injuries and illnesses between Hispanic and Black/African American workers in the U.S. The pattern was different in Texas where the case number increased to 1,730 among Hispanics in 2007 and declined to 280 among Black/African Americans in 2008.

From Charts 3(a) and 3(b), not much variation of injuries and illnesses each year could be observed between the U.S. and Texas, for males or for females. The number of injuries and illnesses declined for males in the U.S.; but remained level from 2005 to 2008 for females in the U.S. and both genders in Texas, decreasing slightly in 2009.

For Charts 4(a) and 4(b), exposures are categorized as follows:
1) Contact with objects and equipment
2) Falls
3) Bodily reaction and exertion
4) Exposure to harmful substances or environments
5) Transportation accidents

Charts 4(a) and 4(b) show bodily reaction and exertion as the major exposure associated with the injuries and illnesses in the Transportation and Warehousing sector. Few differences in case numbers per year were reported in the U.S. for each specific exposure. However, in Texas, an acute peak (1,960 cases) was observed in 2008, specifically related to transportation accidents. Likewise, cases based on contact with objects and equipment increased (36.3% increase) in 2009 in Texas.

For Charts 5(a) and 5(b), injuries by occupations in the US are categorized as follows:
1) Motor vehicle operators
2) Material moving workers
3) Sales and office occupations
4) Natural resources, construction, and maintenance occupations
5) Transportation attendants
6) Flight attendants.

The number of injuries and illnesses for motor vehicle operators were much higher than the ones from other subcategories of occupations within the Transportation and Warehousing sector in the U.S. during 2005 and 2009. In contrast, sales and office occupations was one of the major subcategories contributing to a large number of injuries.
and illnesses in Texas, besides motor vehicle operators. For example, the injured cases of the sales and office occupations reached a peak value (2,670 cases) in 2007.

**DISCUSSION**

The BLS rates were consistent between Texas and the U.S. as it pertains to Transportation and Warehouse private sector occupational injuries and illnesses. Predominately represented are White males, ages 35 to 54 that work as motor vehicle operators and suffer illness or injury as a result of bodily reaction and/or exertion.

**Ethnicity**

In Texas, we found that a substantially higher proportion of work-related injuries in this sector affect Hispanics. This may be directly proportional to the number of Hispanics in the workforce, in line with the Texas demographic composition that reflects a heavily weighted Hispanic population (35.9%), versus that of the US (15.1%) during the same time period. In 2009 alone, Transportation and Warehousing sector reported injuries and illness reflect 15% Hispanics in Texas versus 7% in the U.S. Further studies are recommended to ascertain whether this finding is truly a result of demographic composition, if and why the Transportation and Warehousing sector itself employs a higher proportion of Hispanics, or if there are causal factors stemming from ethnicity, culture, language, etc.

**Days Missed from Work**

In 2009, median days lost from work for Transportation and Warehousing sector workers ages 35-44 were 8 for Texas and 17 for the U.S. Conversely, for those ages 44-54, the median days lost from work were reported at 27 for Texas and 21 for the U.S. Occupational injuries and illnesses result in an increased number of days away from work, job transfer or restriction, have significant direct and indirect financial implications for the employee and employer, and may affect the quantity for life for injured individuals. Information regarding the industry’s utilization of contract workers who may have fewer training opportunities and/or requirements, the availability of and employee participation with group health insurance, and workers’ compensation coverage, may assist in further ascertaining the financial implications resulting from workplace injuries and illness in the Transportation and Warehousing sector. Information on existing training opportunities/requirements standardized across the industry as well as regulatory compliance practices and patterns are also suggested for further study.

**Occupation**

We found that the highest frequency of injuries and illnesses for Texas and the U.S. are in motor vehicle operator occupations. This has significant implications for Texas, as it is the second largest state in America, the largest in the contiguous United States, spanning a geographical area of 268,820 square miles. Texas’ reliance on ground transportation stems from its heavy concentration of manufacturing sectors including: computer and electronics, chemicals, petroleum products, fabricated metal, processed food, non-metal minerals, motor vehicles and parts, and plastics and rubber. According to the National Association of Manufacturers, Texas manufacturers employ 838,000 people. This brought $1.59 billion (13%) to the Texas economy in 2009. The continued trend of higher motor vehicle operator illness and injury numbers could ultimately result in workforce shortages, higher insurance premiums borne by both employee and employer, higher costs for manufactured goods, and a significant, yet negative, financial impact on the Texas economy overall.

**Limitations**

A significant limitation noted in this descriptive study stems from the availability of data in established BLS categories, both for health outcomes and for employment data that are needed to calculate rates. For purposes of this study, we selected the Transportation and Warehousing sector category because it most closely represented the target industry, transportation. However, the inclusion of warehousing occupations may have resulted in skewed results, as each industry has distinct occupations, risks and rates for occupational injury. Additionally, BLS data is compiled in a manner such that it may underestimate rates in selective geographic locations based upon employer size and other factors that affect reporting, particularly for non-fatal injuries. Further, we noted exclusions to the BLS data that may further underestimate injury rates, such as among the self-employed, small farms, and the government sector. It was not until 2008 that the BLS started to routinely collect government sector data, and reports indicate that overall injury and illness rates among local and state government workers overall are considerably higher than for private industry. This study is a comparative analysis focused on the distribution of injury and illness in Texas as compared to the U.S., stratified by age, race/ethnicity, gender, occupation, and type of exposure. Our hope is that studies such as these will trigger additional analysis and research of the Transportation and Warehousing private industry sector, as there are significant costs associated with and derived from injuries and illnesses in this sector. We recommend future studies be conducted specific to the types of exposure by occupation, which could serve to better ascertain risks and root causes that would ultimately inform preventive measures and/or initiatives for this industry.

**CONCLUSION**

We conducted an examination of injury and illness cases involving days away from work in the Transportation and Warehousing industry across Texas with comparisons made to the U.S. from 2005 through 2009. Data obtained through the BLS revealed there were no substantial differences between Texas and the U.S. in distributions based on age, race/ethnicity, gender or exposure. Actual case counts have remained steady during this timeframe with no observable trends. The severity of injuries and illnesses in this industry continue to remain an issue as demonstrated by the increasing rates for greater number of days missed within Texas. While fatalities in Texas are equally alarming, their occurrence again remains in-line with the U.S. as a whole.

These findings demonstrate the extent of injury and illness within this industry. Future areas of potential examination include comparing employment trends with the presented injury and illness case information for the Transportation and Warehousing industry in Texas. Other sources of data should also be explored. For example, in 2012, nearly 8,000 claims for workers’ compensation were filed in Texas for the Transportation and Warehousing Industry. Exploration of prevention and reduction programs should also be addressed consistent with national efforts by the National Institute for Occupational Health and Safety in this sector.

**ACKNOWLEDGEMENT**

Funding for this project was partially provided by the Southwest Center for Occupational and Environmental Health (SWCOEH), a NIOSH Education and Research Center, and awardee of Grant No. 5T42OH008421 from the National Institute for Occupational and Environmental Health (NIOSH)/Centers for Disease Control and Prevention.

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A Speed Mentoring Experience for University Students in Public Health Education

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ABSTRACT
This exploratory study investigates the utility of speed mentoring as a professional development tool for public health educators. In the Fall of 2012, the Texas Society for Public Health Education sponsored its inaugural speed mentoring event as a pre-conference session targeting public health or health education undergraduate or master level students and early career professionals (< 5 years).

INTRODUCTION
The development of a robust mentoring program can help to attract mentors and mentees to the public health arena, we suggest that professional organizations could develop and evaluate a speed mentoring program for public health educators. This exploratory study investigates the utility of speed mentoring as a professional development tool for public health educators. In preparation for these short dyads, mentees bring prepared questions to the event that can vary from inquiries about job openings to specific, topic-driven items. As a professional development tool, speed mentoring can provide a platform for mentees to market their talents and seek career advice.

While speed mentoring is a relatively new phenomenon, there is scant evidence demonstrating its use with public health educators. Given the utility of speed mentoring to connect novices and experienced professionals, this strategy was included as a pre-conference event for the annual meeting of the Texas Society for Public Health Education (TSOPHE). The purpose of this exploratory study was to develop and evaluate a speed mentoring program for public health professionals. An ancillary objective was to share the story of how we implemented this creative method to support novice public health educators who are either entering the field or aspiring for career growth.

Population and Methods
A post-test evaluation design assessed mentees’ experiences participating in the speed mentoring event. Participation was voluntary, anonymous, and confidential. Our evaluation sought to assess the following event objectives:

- Answer the mentees’ career-related questions;
- Expand the mentees’ professional network; and
- Provide the mentees with useful career-related information.

Participants
Participation in the speed mentoring event was open to TSOPHE members and non-members who were public health college students or early career professionals with less than five years’ experience. Due to limitations in room capacity, time, and number of mentors, we capped the number of mentees at 16. The event was promoted as part of the marketing campaign for the TSOPHE 2012 annual meeting. Promotion activities began five months prior to the event. List serves for public health educators, periodic email blasts to TSOPHE membership, board members circulating information to their connec-
Mentees were paired with two mentors. Seven mentors were selected as an icebreaker or conversation starter for the mentoring sessions. Mentees were provided a brief biosketch of the mentors, which aided mentees in framing their questions. The prepared questions also served to match each mentor and mentee based on their area of public health education. The application was used to recruit mentors, email invitations were sent to TSOPHE members who were asked to circulate this information to their contacts. Mentors' participation was voluntary.

**Intervention**

The lead researcher conducted a review of literature to develop the speed mentoring program.26-27 This event used the general format of speed dating, with the exception of modifying the length of the mentoring session (15 minutes) and matching mentor-mentee dyads before the event. We planned a 1:4 mentor-mentee ratio to accommodate mentoring each mentee for two rotations in approximately a two-hour period. Appendix A describes the six-step process to plan and implement the event, which involved 6-months of preparation.

One week before the activity, the mentor and mentee were emailed the speed mentoring schedule. At that time, mentee questions were provided to the mentor. During the speed mentoring event, 6-foot tables were arranged in a large room for dyads to meet. The pairs were seated one per table, with the exception of one where two groups were placed at each end. Mentors were assigned a number that was placed on table signage. Each mentoring session was approximately 15 minutes. On average, two of the mentee’s questions were answered in the mentoring session. A time monitor was responsible for calling a 5- and 1-minute warning and announcing the session’s ending. To alert the groups that the time had expired, the monitor rang a bell. Mentees completing their two rotations exited the room. The event was approximately 2 hours.

**Instrument**

A 17-item online survey was developed that included five demographic questions, nine 4-point Likert scale items (0 = Strongly Disagree to 4 = Strongly Agree) that rated the mentors’ performance and usefulness of the speed mentoring activity, and three open-ended items soliciting feedback about the event. Table 1 details the instrument. The three qualitative questions sought participants’ input about what they liked most and least about the event and one item to provide any additional comments they would like to share. The researcher and a team of TSOPHE board members reviewed the tool for face validity.

**ANALYSIS**

Quantitative data were analyzed using descriptive statistics, and written comments were examined for emergent themes. Analyses were conducted using STATA 12.

### RESULTS

Seven participants completed the survey. A total of 15 mentees participated in the speed mentoring event. One mentee dropped out the day of the event. The age range of the participants was between 27 and 38 years, with the majority (71%, n=5) being African American. About 71% of the participants (n=5) reported having an advanced degree beyond a 4-year college degree. The lowest level of education completed by the participants was a 4-year college degree (28%, n=2). The participants represented four different Texas institutions: University of Texas School of Public Health in Houston, Lamar University, Texas A&M University, and Texas Woman’s University.

Overall, the majority (M = 3.8 ±SD 0.3; n = 7) of participants strongly agreed that their speed mentoring experience was helpful in providing them with career advice. Almost all (M = 3.8 ±SD 0.3; n = 7) viewed speed mentoring as a useful resource for students or early career public health educators. Similarly, respondents’ experiences with their mentors were positive. On a scale where 1 = strongly disagree to 4 = strongly agree, mentees perceived their mentors as approachable and taking interest in them (M = 3.8 ±SD 0.3; n = 7), and they viewed the information provided as relevant to their career interests (M = 3.7 ±SD 0.4; n = 5). Mentees also reported that their mentors satisfactorily responded to their questions (M = 3.7 ±SD 0.4; n = 7). Feedback about speed mentoring was likewise positive, with most agreeing that their experience met their expectations (M = 3.7 ±SD 0.5; n = 7) and that they would recommend speed mentoring to others (M = 3.5 ±SD 0.4; n = 7). (See Table 1.)

**Table 1: Speed Mentoring Survey**

| 1. | Speed mentoring was helpful in providing me with career advice. |
| 2. | My speed mentors were approachable and took interest in me. |
| 3. | Speed mentoring is a useful resource for students or early career professionals in health education. |
| 4. | Speed Mentors provided me information that is relevant to my career interests. |
| 5. | The mentors satisfactorily responded to my questions. |
| 6. | Overall, my speed mentoring experience met my expectations. |
| 7. | I would recommend speed mentoring to others. |
| 8. | The Speed Mentors provided information useful for my academic studies. |
| 9. | The Speed Mentor provided information useful as a practicing health educator. |
| 10. | What did you like the most about your speed mentoring experience? |
| 11. | What did you like least about your speed mentoring experience? |
| 12. | Please provide any additional comments that you would like to share about the TSOPE Speed Mentoring event. |

°Four-point Likert Scale: 1=Strongly Disagree, 4=Strongly Agree
Qualitative feedback revealed that mentees appreciated meeting successful health professionals and receiving advice that was on a personal level. The only negative comment was that the session length was too short. The following quotes capture what mentees liked most about their speed mentoring experiences:

“The ability to meet leading professionals in the field.”
“I appreciated that the mentors were willing to stay in touch and answer any future questions or concerns that I may have.”
“They gave me answers based on their experiences.”

### DISCUSSION

Overall, the speed mentoring objectives were achieved, and mentees’ perceptions about the event were very positive. Most reported that participating in speed mentoring was beneficial and valuable as a professional development opportunity. Our findings agree with Cook and colleagues’ results that found speed mentoring provided mentees with useful information; their key questions were answered, and they would recommend the event to others. Confirming another research group’s observations, mentees indicated that speed mentoring was a way to meet new colleagues. Despite our small sample size, we were able to provide evidence that speed mentoring has merit as a professional development resource. Of importance, participants’ feedback revealed that the event provided an avenue for mentees to obtain leads for employment and seek input on how to refine their resumes to increase their marketability.

From this inaugural event, we learned some valuable lessons: have one or two back-up mentors in case of a mentor no-show; assign one central person who is responsible for scheduling and handling last-minute changes to reduce the possibility of double-booking sessions; start and end mentoring sessions on time to ensure smooth delivery; and be well-organized to handle unanticipated issues. Coordinating back-to-back appointments for the mentees’ two rotations was the single scheduling challenge we encountered. Because of this issue, a few mentees waited up to an hour for their second session. One mentee’s cancellation and a mentor and mentee no-show were problems encountered the day of the event. Despite these minor glitches, the mentees’ overwhelming positive feedback confirmed that this program was a valuable experience. (See Figure 1.)

Speed mentoring was a low-budget operation. Cost for office supplies, printing handouts, and producing table signage were the only expenses required to conduct the activity. Mentors volunteered their time. The greatest investment is the time commitment to plan, market, and implement.

Feedback from mentors was similarly positive. Most indicated they were energized by their mentees’ enthusiasm about the public health field and confidence about their abilities to contribute to their profession. All noted that they would mentor for a second year.

### Limitations

This exploratory study is limited by the small sample, lack of a control group, and self-reported outcome measures. While our findings are preliminary, speed mentoring shows promise both for public health professionals and those in other disciplines. Future studies with larger samples are needed to demonstrate its effectiveness, especially as a matching procedure. We propose further study to examine mentors’ experiences and a prospective study to follow-up on mentees post speed mentoring.

### Implications

This study has several implications for health education practice specific to academia and public health professional organizations. Universities can implement speed mentoring as part of a career fair for public health employment opportunities or, for those in post-graduate studies, the event can pair mentee and mentor for scholarship collaborations. For professional organizations, speed mentoring can be an outreach activity to support public health educators entering the workforce or seeking direction for career advancement. Building capacity in public health begins by producing and promoting qualified, well-trained professionals. Sponsoring a simple, innovative approach like speed mentoring is a low-cost method that can reap positive dividends for public health educators and the profession.

### Special acknowledgement

The authors would like to acknowledge the 2012 Texas Society for Public Health Education and the following board members for their support in this project: Jasmine Opusunju (president); Melissa Shelton (president-elect); Cassandra Harris (treasurer); Esther Heimbach (secretary); Barbara Hernandez (national delegate); Linda Forys (continuing education chair); Bridget Chapital (board member); Josefa Peña (board member); Chesley Cheatham (board member); Vera Akinkuang (graduate student board member); and Melody Yee (undergraduate board member).

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**Table 2: Speed Mentoring Evaluation by Mentees**

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<td>Speed mentoring is a useful resource for students or early career professionals in health education.</td>
<td>3.8(0.3), 4</td>
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<td>Speed mentors provided me information that is relevant to my career interests.</td>
<td>3.7(0.4), 4</td>
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<td>The mentors satisfactorily responded to my questions.</td>
<td>3.7(0.4), 4</td>
</tr>
<tr>
<td>Overall, my speed mentoring experience met my expectations.</td>
<td>3.5(0.5), 4</td>
</tr>
<tr>
<td>I would recommend speed mentoring to others.</td>
<td>3.7(0.4), 4</td>
</tr>
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*Four-point Likert Scale: 1=Strongly Disagree, 4=Strongly Agree*
Appendix A: Six Steps to Planning a Speed Mentoring Event

Step 1: Pre-planning (at least 6 months before the event)
- Identify a venue that provides enough space to accommodate the mentor/mentee dyads. Arrange the seating in a manner that provides adequate distance so conversations can occur with privacy and without distraction. Suggestions: Use 6-foot long tables with stations on opposite ends to seat a mentor facing a mentee, or use small tables for each pair.
- Create a speed mentoring registration form that includes having the registrant provide a select number of questions that will be posed to their mentors.
- Develop an evaluation tool, and identify the method of administration (pen and pencil or online).
- Schedule a closing date to receive applications to set the speed mentoring schedule. Note: When setting the schedule, the mentees are matched to a specific mentor, which may require a wait time between sessions for the mentee.

Step 2: Invite mentors and recruit mentees (at least four months before the event)
- Invite mentors, at least half the number of number of mentees. Schedule two back-up mentors who can be on call with 24-hour notice.
- Develop a marketing campaign to recruit mentees (e.g., universities and public health list serves).
- Email or provide an online option for potential mentees to access the speed mentoring application. Be sure there is a deadline to receive the applications. Note: In the application, provide general information about speed mentoring, specifics about the event, and expected outcomes.
- For the mentors, develop and email prior to the event a brief information sheet on preparing for the event and possible suggestions on how to conduct the mentoring session, including ideas for creating a welcoming, warm, and comfortable conversation environment.

Step 3: Event preparation (one week before event)
- Develop the mentoring schedule as either a Microsoft Word table or Excel spreadsheet. Note: Plan on last-minute changes or no shows on the day of the event – it will likely happen! Also, it is likely that not all mentees will have their sessions back-to-back.
- Email the schedule to mentees and mentors. For the mentors, also send the questions from their assigned mentees.
- Print name badges for both mentees and mentors.
- Collect supplies for the event: stop watch, bell, pencils, writing tablets, copies of the schedule, water for mentors, signage for mentoring tables (e.g., a table tent with a numbers assigned to each mentoring station), and a camera to document the event (optional).

Step 4: Conducting the speed mentoring event (THE BIG DAY!)
- Set up the room, including the numbered tables with supplies placed on the tables.
- Arrange for a registration table and chairs outside of the room for mentees to get their name tags and schedules. It will be the waiting area for mentees.
- Assign at least two persons to staff the registration table, with one to explain the speed mentoring process or answer questions.
- The speed mentoring coordinator(s) will handle possible mentor or mentee no shows.
- At least 3 to 5 minutes before the first mentoring session, announce to the first cohort of mentees to go to their assigned mentor’s table.
- At the start time, tell the mentee-mentors to begin their 15-minute session, and set the stop watch.
- Give a 1-minute and 5-minute warning to wrap-up, and ring the bell when the 15-minute session has ended. Continue this process until all sessions are completed.

Step 5: Evaluate the event (post-event)
- After mentees complete their mentoring sessions, have them complete their evaluations. If conducting online evaluations, email the weblink to mentees to complete the survey.
- Solicit feedback from mentors on their experience in either a debriefing session or by sending an email request for their thoughts about the event. If desired, conduct a separate evaluation for mentors.
- Analyze the data, and formulate a report of findings.

Step 6: Follow-up tasks
- Send a thank-you message to mentors and mentees for their participation.
- Disseminate evaluation results to the sponsoring professional organization’s membership and other stakeholders.
- Document possible modifications to future speed mentoring activities.
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TPHA HONORARY LIFE MEMBERS

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