ABSTRACTS FROM THE 91ST TEXAS PUBLIC HEALTH EDUCATION CONFERENCE
February 23-25, 2015 in Austin Texas
Breakout Session Abstracts

Title/Author(s): Level of cognition and hospital admission, Reza Amini, MD, MPH; James Swan, PhD; Keith Turner, PhD; Soni Helmicki, MS

Abstract: Cognitive impairment known as one of the factors that increase health care consumption is one of the priority topics in the healthcare policy. However, we little know about the impact of cognitive impairment upon acute care, particularly hospital admission. This study aims to examine the effect of level of cognition on hospital admission among seniors. This study used data collected in the National Health and Aging Trend Study, in 2010 (N=6184). The zero-inflated negative binomial regression was the model employed in order to analyze the data. Almost 20% of the respondents had moderate to severe cognitive impairment. Each level decline in the level of cognitive impairment can increase the likelihood of hospital admission by 10% after controlling for major physical health factors, such as heart attack. The significant difference is between severe impairment and normal cognition where the likelihood of hospital admission among severely impaired group is 56% more than the normal one. However, there was no significant difference between normal and mild to moderate impairments. Cognition impairment has no significant effect on avoiding hospital admission. Hospital admission in a well-known factor that can increase the risk of cognitive impairment especially in long stays. Hence, hospital care is critically important among senior adults because it can be a trigger for a cascade process of frequent hospital admission and accordingly cognitive decline. The severity of cognitive impairment is one of the significant factors in rehospitalization; this is a new finding. Because cognitive impairment can increase mortality in hospital care, severely impaired group are not only consuming more care, but are at more risk of mortality in hospital. This cascade can enter seniors into a vicious cycle of rehospitalization and cognitive impairment. We can recommend further research on the quality of care controlling the cognitive status.

Objective: Understand how cognitive impairment can affect rehospitalization and which factors should be considered in policy making and future research.

Title/Author(s): Growing Pains: Delivering Women’s Health Services in Texas, Cate Campbell, MPH; Whitney Michael, MPH; Matthew P. Turner, PhD, MPH

Abstract: Texas’ population growth continues to outpace that of the nation and its other most populous states. Texas’ high growth rate is due in part to the state’s relatively high fertility rates, which engender a need for increasing numbers of well-qualified and trained providers of women’s health services. Yet from 2003 to 2013, the state’s obstetrician and gynecologist workforce failed to keep pace with the growth of Texas’ 15 to 44 year old female population. Further, there are relatively few certified nurse-midwives in the state. This paper uses multiple sources of data from across the Texas Center for Health Statistics to describe the demand for and availability of women’s health services throughout the state. Specifically, demographic, vital statistics, and hospital discharge data inform the analysis of need for women’s health services. Health professions licensure files and hospital survey data are used to indicate the health care system’s capacity to provide these services. These data are considered by the geographic distribution of the Texas population and its health care providers. This analysis describes trends in the growth of Texas’ population and an increasing need for women’s health services. Specifically, it identifies geographic disparities in the distribution of women’s health care providers and access to various women’s health services, such as screenings and prenatal care. In order to adequately provide for the medical needs of our growing population of 15 to 44 year old females, Texas must have an ample women’s health care workforce. Increased growth in key health professions and certain specialties is a necessity for meeting this goal.

Objective: To describe Texas’ women’s health needs and the capacity of health care providers to meet them.

Title/Author(s): Improving Public Participation with Texas Fracking Injection Wells: Policy Change & Advocacy, Lisa A. Campbell, DNP, RN, APHN-BC

Abstract: Communities in the Eagle Ford and Barnett Shale Play struggle with social and environmental issues. Researchers have described an array of environmental factors, population health risks, economic, and ecologic issues that are directly related to fracking. These factors include: water and air contamination, increased diesel truck traffic volume, constant noise elevation, occupational hazards, rural community stress from swelling drilling crews, increased demands on social health infrastructure, decreased property values, and 30% greater amount of methane gas escape (McDermott-Levy, Kaktins, & Sattler, 2013). Currently, there is little public notification of oil and gas disposal well permit applications. The application is only required to be mailed to the owner of the surface tract where the well is to be located, to the operators of wells within ½ mile, and to the county and or city clerk as appropriate. In addition, notice is published in a newspaper of general circulation in the County where the well is located (RRC, 2011). I have been working with a local county commissioner and concerned community members to advocate for policy change with the Texas Railroad Commission. We worked with the UT Environmental Law Clinic to develop a petition for rulemaking that will improve public participation in the petitioning of injection wells in Texas. I will describe our efforts and lessons learned to assist other public health professionals to meet the challenges of fracking in Texas.

Objective: Identify 3 key strategies for successful advocacy. Discuss effective engagement of community advocates.

Title/Author(s): Perceived Barriers and Facilitators for Physical Activity and Exercise among Adult Indian American Women in Central Texas, Peteria Chan
**Abstract:** Type 2 diabetes rates among Asian Americans, particularly Indian Americans, are highly prevalent and continue to increase. Engaging in regular physical activity and exercise has been found to promote health and prevent chronic diseases such as diabetes. However, national studies indicate that the majority of Asian American adult women do not perform physical activity at the recommended levels and spend much time in sedentary activity compared to other groups. This qualitative study explored perceived barriers and facilitators for initiating and maintaining physical activity and exercise among adult Indian American women living in central Texas. One-on-one interviews (n=13) and focus groups (n=2) were conducted in English with Indian American women over 35 years of age. All interviews and discussions were recorded and transcribed, and a content analysis was conducted to synthesize and identify major themes. Lack of time, lack of motivation, inadequate social support, and climate were major barriers to initiating and maintaining physical activity and exercise. Among elderly participants, lack of reliable transportation was also a barrier. In contrast, outcome expectations and perceived benefits, social norms and social support, and personal values for health and wellness were major facilitating factors. The degrees of influence for facilitators and barriers varied by age group and employment status. A combination of environmental, social/cultural, and individual factors can facilitate or prevent physical activity and exercise among Indian American women. For this population, opportunities and easy access to communal or group physical activity and exercise may be appealing, as social influences, such as norms, support and connectedness, as well as accessibility and convenience seem to be highly valued among this population.

**Title/Author(s):** MyHealthFinder: mHealth Apps for Locating Clinical and Non-Clinical Resources in Texas, Deborah Vollmer Dahlke, DrPH; Deborah Kellstedt, MPH; Armin Weinberg, PhD; Marcia Ory, PhD, MPH; Scott Horel, MS; Aya Yokishawa, PhD

**Abstract:** Healthcare professionals, navigators, CHWs and patients, including cancer survivors and those with chronic medical conditions, frequently need access to community-based services including transportation, housing, food, educational, legal, financial and insurance advice and referred clinical resources. It is difficult for healthcare professionals to find the time and maintain accurate information to support this type of patient education and access to resources. As a result, patient engagement may suffer and patients may not achieve optimal health outcomes. MyHealthFinder was developed and deployed as a multi-platform mHealth application (e.g. mobile web, iOS, and Android). The curated data for MyHealthFinder’s clinical and non-clinical resources including resource name, contact person, physical address, latitude, longitude, email and Facebook and Twitter accounts was loaded onto a database and integrated into Google Maps. MyHealthFinder allows users to rate and comment on existing resources and add new resource suggestions. Over 100 healthcare professions, navigators, CHWs, patients and caregivers in Montgomery County, Texas tested user accessibility and usability across the multiple platforms under and IRB protocol. Preliminary results indicate that MyHealthFinder was high utility value for the rage of users, and is easily accessible via web, mobile phone and table devices. Early user feedback suggests including an “open” category for resources that do not fit into existing resource categories. Users suggested new sources for additional curated individual data sets of community-specific resources. Additional analyses including qualitative and quantitative results of the evaluation of MyHealthFinder will be available in December 2014.

**Objective:** To design, build and test MyHealthFinder, a GIS-based, clinical and non-clinical resource locator for patients, caregivers, navigators, Community Health Workers (CHW) and healthcare providers and professionals (www.MyHealthFinder.org).

**Title/Author(s):** Leveraging Partnerships for Comprehensive Health Programs, Kevin Deramus, Licensed Paramedic; Elizabeth Barney, MS, Licensed Paramedic

**Abstract:** Leveraging partnerships to promote the highest quality health programs is the new standard of health operations. Kevin Deramus, Director, Washington County EMS, has built a model health system that incorporates the best of multiple areas of public health and medical care by building and sustaining partnerships. In this way, Washington County EMS is able to meet its mission to provide comprehensive services by: responding to its communities’ needs, preserving life, improving health, and respecting the stakeholders.

**Objective:** Learn how partnerships can be effectively leveraged to grow health programs more effectively

**Title/Author(s):** Harnessing the Power of Stakeholder Engagement to Advance Immunization Policy, Anna C. Dragsbaek, JD; Robin Correll Carlyle, MPH; Nidhi M. Nakra, MPH

**Abstract:** Over the past four years, The Immunization Partnership (TIP) has supported legislation to protect college students against meningococcal meningitis. In 2009, the Texas
Legislature passed a law requiring students living in college dorms to be vaccinated against meningitis, and in 2011, expanded the law to include all college students under age 30. In 2013, the law was revised to align state policy with national recommendations, ease implementation challenges, and modify the exemption process. Throughout the process, TIP drew on the critical knowledge and experience of stakeholders to improve strategies and inform decision-making. Using a series of stakeholder engagement methods, TIP twice facilitated efforts to streamline the legislation. Upon passage of the 2011 law, TIP hosted regular conference calls with key stakeholders to discuss challenges and share best practices. In addition, TIP distributed a survey to over 1,800 stakeholders statewide, encouraging feedback on the existing law and potential legislative modifications. The findings were published and distributed to stakeholders and legislators to help validate revisions to the law and guide legislative strategies. TIP’s commitment to work with diverse stakeholders ensured broad statewide support for the legislation and its revisions. More importantly, stakeholder engagement strategies were mutually beneficial. Stakeholders were provided with opportunities to better understand, comment on, and influence policy outcomes; simultaneously, TIP drew on feedback from stakeholders to improve legislative strategies and mobilize champions for action. Our unique partnership of stakeholders, with often varying perspectives, helped accomplish positive immunization policy that will increase immunization coverage and protect thousands of students against vaccine-preventable meningococcal meningitis.

**Objective:** Utilize two key strategies to advance immunization policy: 1) empower stakeholders to participate in the policy planning process through knowledge sharing and 2) engage stakeholders as advocacy champions.

**Title/Author(s):** Public Health and Continuity of Care under Healthcare Reform Or Connecting All the dots...., Gregory M. Eastin, MA; Sue Pickens, MEd, PCPMH-CCE

**Abstract:** Health care reform is often thought of as the changes in the insurance market, but a number of changes are also being implemented in medical practice and community health. Continuity of care is a major focus for all segments of the healthcare industry with more emphasis on what happens within communities and public health partnerships. Traditional medical practice has focused on the care of the patient while in the healthcare setting. But as medical care has increased in complexity the relationship between clinical settings and community organizations have become more important in patient outcomes. To improve continuity of care Parkland expanded community resources using Systematic Social Observation to address gaps in care beyond the hospital and its community clinics. The system expanded a list of resources into a comprehensive database of community organizations from a number of sources. These resources could be used to support the patient. Other systems providing similar information services were identified including for-profit healthcare agencies, 211 which catalogs not-for-profit services and developing systems such as the Parkland Center for Clinical Innovations information exchange portal (IEP) program. The process identified over 3,000 agencies that could address some component of the patient's welfare and medical recovery and highlighted some of the rapid changes taking place in the healthcare delivery system. As an example a review of sites providing primary care after-hours care showed an increased from 30 to 95 sites between 2010 and 2014, an increase of 225%. Data and information systems for coordinating continuity of care are just developing and will evolve rapidly over the next few years. These systems may eventually integrate public health systems such as the National Notifiable Diseases Surveillance System (NNDSS) and could potentially be used to track patterns of disease.

**Objective:** Identify services and organizations that affect patients and can benefit public health. Describe how public health and clinical practice are becoming more integrated. Understand where reform is changing healthcare.

**Title/Author(s):** Sentinel Site Monitoring of Anti-retroviral Resistance in Relation to Substance Abuse in Persons with HIV/AIDS, James Gomez, MPH; Jinhee Shim, MPH; Shaun Wang, MD; Salma Khuwaja, MD; Raouf Arafat, MD, MPH

**Abstract:** Prior studies have shown that persons with HIV that are diagnosed with substance abuse have a higher likelihood of developing anti-retroviral resistance. Therefore, monitoring community anti-retroviral resistance is important for maintaining effective drug regimens, which otherwise may lead to treatment failure and higher costs associated with resorting to prescribing second line drug regimens. Population-based surveillance data from July 2012 to August 2013 was utilized for examining genotype anti-retroviral resistance data and substance abuse test results in patients receiving care for HIV/AIDS in Houston/Harris County. We compared the demographic characteristics of patients with available genotype sequence data during a twelve month observation period. Of 1,159 who were tested for genotype resistance, 34% (361/1059) were found to have resistance to one more classes of anti-retrovirals. Forty-one percent (149/361) of those with resistance to anti-retrovirals were also found to have a history of substance abuse, with most cases (32%) in the 40-49 year age group. Those most likely to be positive for both substance abuse and anti-retroviral resistance were African Americans (74%) followed by Hispanics (12%). The number of African Americans with this dual condition was significantly more than expected (P < 0.001; OR= 1.9; 95% CI 1.31 – 2.75). These results suggest that African Americans in Houston/Harris County have a higher than expected rate of anti-retroviral resistance in association with substance abuse than other racial/ethnic groups. Education efforts are needed to contain this evolving pattern of HIV disease that may ultimately impact the overall effectiveness of HIV treatment.

**Objective:** To examine the association of anti-retroviral resistance and substance abuse in HIV/AIDS patients receiving care in three HIV sentinel sites in Houston Harris County over
Title/Author(s): Texas Pulse Oximetry Project to detect critical congenital heart disease in the apparently healthy newborn, Alice Gong, MD; Charleta Guillory, MD; Debra Freedenberg, MD, PhD; Rachael Farner, RN, CCRN; Maria Gutierrez, MSN, APRN, NNP-BC; Judith Livingston, MEd, MCHES; Liza Creel, MPH

Abstract: Critical congenital heart disease (CCHD) is the leading cause of death in infants younger than age one year in the United States. CCHD newborn screening (NBS) is recognized worldwide as a means of improving outcomes of asymptomatic newborns and is rapidly being adopted in the United States, with legislative mandates in a majority of states. With support from the Texas Department of State Health Services (TxDSHS), the Texas Pulse Oximetry Project, (TxPOP), a regional educational and quality improvement (QI) project involving nurse champions, was piloted. Using a mixed methods approach in 13 Texas hospitals in two regions, an educational program was presented and impact on knowledge of newborn nursery and mother-baby nurses was assessed using a pre/post-test instrument. Data were collected on hospital nurse champions’ perceived improvements in knowledge and skills and on the CCHD NBS results for the purposes of QI. Nurse champions were instrumental in development of bilingual, English-Spanish educational resources for health care professionals and families. The knowledge assessment average improved from 71% to 92.5% (p<0.0001). Twelve nurse champions (92%) reported improvement in screening knowledge and skills. Of 11,322 asymptomatic newborns screened after 24 hours of age (98.7%), 11 newborns were identified with a positive screen and one confirmed case of CCHD, a complex case involving hypoplastic right heart and other anomalies. A robust, comprehensive educational program and QI processes were standardized to implement CCHD NBS utilizing pulse oximetry and are applicable in a range of birthing facilities. The TxPOP tool kit is accessible from the TxDSHS newborn screening web site and will be useful to hospitals and other birthing facilities as they implement the Texas law mandating CCHD NBS.

Objective: Identify an appropriate implementation strategy for critical congenital heart disease newborn screening in anticipation of a legislative mandate in Texas.

Title/Author(s): The Importance of Early Health Education, Robin Herskowitz, BA

Abstract: Studies show that health-related interventions during the formative ages have the largest impact on a child’s long-term health and wellness. Taste preferences, self-regulatory behaviors and health habits are largely formed by the age of six. Research also shows kids can influence more than 50% of grocery purchases and that parents want to model healthy behaviors for their young children. Development and distribution of a targeted, science-based curriculum designed for caregivers and teachers with a wide-range of educational backgrounds in a variety of settings who teach or care for children, 3-6 years of age. HealthStart employs a train-the-teacher model so that caregivers, educators, and parents can confidently meet curriculum goals and objectives. Pre-post student assessments show positive changes in children’s knowledge related to body function, good nutrition and fitness. Teacher surveys demonstrate child engagement with materials. Video testimonials are used to capture stories about behavior change. Twenty-four of 28 teachers who completed post-training evaluations stated they were confident about teaching the curriculum. The sixteen paired pre/post assessments demonstrate improvement in the children’s working knowledge of their brains, circulatory, skeletal and muscular systems. Of the 7 of 10 teacher surveys returned indicated that the pre-school students were interested or very interested in the lessons. Research shows that curricula like HealthStart’s should help children learn self-regulatory behaviors, develop healthy dietary preferences and take a more active approach to their own health. At this time HealthStart has been able to show that teachers find the curriculum easy to use and student’s interest is high and health-related knowledge improves. Teachers report anecdotally students’ have influenced family food purchases. Further evaluation is needed to demonstrate changes in health behaviors.

Objective: Demonstrate the importance of early health education. Explain the role of the young child as health change agents in creating healthy families.

Title/Author(s): Analysis of Foodborne Illness Complaint Data to Identify Trends in Food Safety in Williamson County, Elise Huebner, MS-HSR; Justin Price, MPH-CPH; Virginia L. Headley, PhD

Abstract: WCCHD Disease Control and Prevention (WCCHD DCP) investigates establishment complaints regarding foodborne illness complaints (FBICs). WCCHD EHS routinely inspects establishments for TFER compliance. When illness has been alleged against an establishment, WCCHD EHS performs a separate inspection focusing on common foods, potential pathogens, and TFER compliance. In ordnance with FDA-VS5, WCCHD integrates these reports to provide surveillance, response, and review of potential next steps for improved health outcomes. Records of suspect FBIC reported between September 1, 2013-August 31, 2014 were analyzed by WCCHD DCP for five symptoms (nausea, vomiting, diarrhea, cramping, and fever). Associated inspection reports were analyzed for TFER violations. Establishments were classified by 15 service types. The resulting frequencies of overlap between establishment type, geographic location, symptom, and TFER demerits were analyzed and interpreted according to strength of association. Results suggest (1) that the majority of FBICs were alleged against establishments in urban areas; (2) common TFER violations included cooking temperature, holding temperatures, and hand washing; and (3) fast-food and stand-alone table service establishments were most frequently inspected for FBICs. Based on geographic locations of establishments, types of TFER violations, and
symptoms alleged, WCCHD EHS can use this information to better inform their policies to improve food handling, education for establishment managers and owners, and understand patterns and risks in Williamson County regarding FBICs.

Objective: To examine possible associations between foodborne illness complaints, violations of Texas Food Establishment Rules (TFER), retail food establishment (“establishment”) type, and location of the establishment; to inform Williamson County and Cities Health District Environmental Health Services (WCCHD EHS) of trends that could inform policies and education regarding environmental health; and to fulfill the requirements of the FDA Voluntary National Retail Food Regulatory Program Standard 5 – Foodborne Illness and Food Defense Preparedness and Response (FDA-VS5).

Title/Author(s): Likelihood of Engaging in Cervical Cancer Screening among Women Seeking Substance Abuse Treatment, Opeyemi Jegede, BS, CPH; Raquel Qualls-Hampton, PhD, MS; Martha J. Felini, DC, MPH, PhD; Saritha Bangara, MPH; Oluwatosin Igenoza, MBBS

Abstract: Female offenders are known to engage in sexual risky behaviors, are exposed to sexual trauma and report less access to preventative health care more often than the general population. These behaviors increase their exposure to HPV and risks of cervical cancer. Little is known about women who choose substance use treatment over jail besides similar behaviors are also experienced. Our funded study provides trauma-sensitive health education to women currently seeking substance use treatment in preparation for cervical screening opportunity. Study participants completed a 36-item questionnaire that measured attitudes and perceptions of cervical cancer screening prior to engaging in a women’s health educational seminar. Screening likelihood score was computed for each participant. One-way ANOVA was used to assess differences by age, race/ethnicity, history of substance use and exposure to trauma. Nearly 200 participants consented to and participated in education (97%). The average age is 33 years old and most were non-Hispanic white (71%). The average likelihood score for all participants was 13.0 with a range of 2 to 15; the highest score represents greatest likelihood of engaging in future screening. Non-Hispanic Black participants demonstrated a lower average (11.4) likelihood of engaging in future health screenings compared with non-Hispanic whites (13.4) and Hispanics (12.4). Despite trauma-sensitive cervical cancer education, non-Hispanic Black women were less likely to engage in future health screening behaviors compared to non-Hispanic Whites and Hispanics; conversely they reported experiencing more trauma, longer substance use histories and less access to preventative care than their counterparts. Integration of physical health services while receiving behavioral health services is crucial for this subpopulation.

Objective: Using the health belief model (HBM) framework, to assess the likelihood of engaging in cervical cancer screening behaviors among women seeking substance use treatment. Identify demographic differences in the likelihood of engaging in these behaviors.

Title/Author(s): Community Connectivity and Public Health, Shannon Jones, MPA

Abstract: During this oral presentation, the participant will hear about lessons learned from the changing landscape of public health on local, state, and national levels and how we, no matter at what stage in our careers, may advance through continuous engagement with community leaders, officials, and partners. In this session, participants will: 1) learn the significance and role that public health agencies play in engaging and connecting diverse industries and agencies; 2) Identify methods to engage diverse community members and stakeholders in strategic public health planning; and 3) Explain how community engagement is critical to help drive Assessment, Policy Development, and Assurance. Using Austin/
Travis County Community Health Improvement Planning as an example, participants will understand how the health improvement process that began in 2011, established a foundation for community members, the health and human services department, non-profit hospitals, social service agencies, and non-traditional partners to improve community health by developing, aligning, and implementing collaborative strategies across public and private sectors. With certain neighborhoods and locales lacking basic services such as full service grocery stores and access to healthcare facilities, it is essential that the local public health system work together to address these disparities. The concept of "place matters", central to public health improvement planning and implementation, is illustrated through education and visual geographic disparities so that community residents can see what is occurs next door or in their very own community. Sample strategies involving outreach and education to residents via faith-based institutions, community centers, schools, radio shows, partnerships, and word-of-mouth are highlighted and related to elected official engagement.

Objective: Understand the significance and role that public health agencies play in engaging and connecting diverse industries and agencies. Identify methods to engage diverse community members and stakeholders in strategic public health planning. Explain how community engagement is critical to help drive Assessment, Policy Development, and Assurance.

Title/Author(s): Radon and Birth Defects, Peter H Langlois, PhD; MinJae Lee, PhD; Philip J. Lupo, PhD; Mohammad H. Rahbar, PhD

Abstract: Maternal exposure to ionizing radiation from other sources has been associated with chromosomal anomalies in offspring, as well as with oral clefts, limb reduction defects, and polydactyly. However, to our knowledge, there have been no assessments of the association between radon and birth defects. The 1994 Texas Indoor Radon Survey in 1991 yielded data on residential radon across the state. We obtained birth defect data for all anomalies with at least 500 cases from the statewide Texas Birth Defects Registry for the period 1999-2009. Poisson regression models were used to evaluate the association between regional mean radon level and each birth defect, where multivariable models adjusted for maternal age and race/ethnicity. For this analysis, radon was examined as a continuous variable. Multi-level modeling was applied to account for region-level exposure (radon) and individual level outcome and covariates. The mean residential radon level in Texas homes was 1.0 picocuries/liter (pCi/l); 3.6% had values >= 4.0, the US EPA threshold of concern. There were 101 birth defects with at least 500 cases. Of those, 12 exhibited statistically significant associations with radon. Treating radon as a continuous variable, the adjusted birth prevalence ratio (aPR) for cleft lip with/without cleft palate and radon was 1.16 (95% confidence interval [CI] 1.07-1.25) per pCi/l radon. An association with Down syndrome was suggested (aPR = 1.08, 95% CI = 0.99-1.18), as were reduction defects of the upper limb (aPR = 1.15, 95% CI = 0.96-1.37) and lower (aPR = 1.30, 95% CI = 1.07-1.57). Other skeletal and brain defects also exhibited significant associations. Residential radon appears to be associated with cleft lip w/wo cleft palate, and may be associated with Down syndrome and some skeletal and brain defects.

Objective: Investigate whether residential radon levels are associated with birth defects.

Title/Author(s): Clearing the Air: Implementing Smoke-Free Multi-Unit Housing, Ashley LeMaistre, MPH

Abstract: A 2010 survey indicated that 75% of Travis County renters prefer to live in tobacco-free housing, but supply didn’t meet demand. Austin/Travis County Health & Human Services Department (ATCHHSD) educated both market rate and affordable housing providers of benefits of smoke-free multi-unit housing, as well as walking them through the implementation process. Their current project, working with the Housing Authority of the City of Austin which operates 18 housing properties, has presented many hurdles. ATCHHSD sent several mailings, including postcards, educating property management staff on issues regarding smoke-free multi-unit housing. They provided educational forums to multi-unit housing providers, informing participants of the dangers of secondhand smoke, the cost savings, the implementation process, and touched on the legal issues. Follow-up for these forums led to 1-on-1 meetings with decision-makers and in-depth technical assistance throughout the process. Meanwhile, discussion with the City of Austin’s Neighborhood Housing and Community Development Department indicated an opportunity to include smoke-free housing implementation resources in the application used by affordable housing providers applying for funding through the department. The application provides background information, a link to the Smoke-Free Housing Policies guidebook, created by the Smoke-free Housing Implementation Program team within ATCHHSD, and contact information for technical assistance. To date, ATCHHSD has hosted half dozen forums to a variety of housing providers, and has assisted over 9,000 individuals have access to smoke-free housing. ATCHHSD will continue to offer the 101 forums in the coming year, including follow-up technical assistance to those reached in the forums and to the Housing Authority of the City of Austin, as they work to transition their properties by September of 2015.

Objective: Gain insight into the implementation process of smoke-free multi-unit housing in both market rate and affordable housing; understand the challenges of working with the varying housing providers.

Title/Author(s): Partnering with Multiple Community-Based Organizations to Decrease Barriers to Breast Cancer Screening, Kim Linnear, MPA; Karin Petties, BA; Camile Lafayette, BA; Angela Williams, RN; Erika Martinez, BA; Catherine McMains, MPH; Kathryn Cardarelli, PhD; Dallas Cancer Disparities Community Coalition
Abstract: The Dallas Cancer Disparities Community Coalition provides breast cancer prevention services to high-risk women in Dallas County. The purpose of the Comprehensive Breast Cancer Prevention Education Program is to remove barriers related to increase the uptake of mammography screening and to provide education to promote early detection. Data collected from the Texas Cancer Registry shows Dallas County has higher age-adjusted breast cancer mortality rates compared to U.S. rates for African American and Hispanic women, as well as for all races/ethnicities combined. This comprehensive program offers breast cancer education and mammograms in five-week sessions. A total of 21 sessions have been held between 2011 and 2014. Women from the community called community liaisons are used to recruit women into the program and partner closely with the Dallas Cancer Disparities Community Coalition and other community-based organizations throughout Dallas County. These organizations include Dallas Housing Authority, YMCA, community recreation centers, housing sites not affiliated with Dallas Housing Authority, and faith-based sites, navigating women through multiple healthcare systems. Working with Dallas Housing Authority, YMCA, and other community-based organizations, we were able to recruit 607 women into the program and retain 66% of those women to complete the full five-week program. Over 1,000 women have received mammograms as a result of this project. By implementing a systems integration approach to recruitment, the program has demonstrated that collaborations with community-based organizations can decrease barriers to breast cancer education and screening among high-risk women.

Objective: To expand an evidence-based breast cancer primary prevention program targeting high-risk women in Dallas County. To increase screening mammography uptake among high-risk women in Dallas County. To enhance sustainability of these efforts through increasing community capacity for prevention and ensuring behavior maintenance.

Title/Author(s): Collaborating with Community-Based Organizations to Increase Health Literacy by Working with Librarians in Tarrant County, Linnear, MPA; Erin Carlson, DrPH; Anissa Carbajal-Diaz, MPH; Teresa Wagner, MS, RD/LD; Catherine McMains, MPH; Kathryn Cardarelli, PhD

Abstract: Health literacy is broadly defined as “the capacity to understand basic health information and make appropriate health decisions.” According to the Institute of Medicine, individuals with low levels of health literacy face challenges to making informed choices about the best options for themselves and their families. In order to enhance the capacity of local public librarians, the health literacy team trained local public library staff on strategies to engage patrons in accessing, obtaining and understanding health information and resources that are accurate, trustworthy and up-to-date. There were 11 “Building the Bridge to Health” training sessions that captured each respondent’s knowledge, practices and intentions relating to health literacy. Attendees were taught to identify and address health information questions, access and use reliable health websites, and refer patrons to local healthcare resources. Pre- and post-surveys were provided during the training. At the end of the training, libraries were left with a training resources related to plain language and MEDSpeak brochures. The training of librarians and library staff spanned 12 months. In that time, health literacy staff distributed and collected follow-up surveys from participating library partners at all library training sites. Among the 89 library trainees, 97% increased knowledge, practices and intentions of health literacy. Four of the library training sites (40%) had health-related circulation statistics at 3% or higher. Increases in knowledge, practices and intentions provide a better-equipped library staff in Tarrant County to serve the health literacy needs of their library patrons.

Objective: To promote a systems approach to health literacy by building and strengthening networks with community organizations. To train Librarians in Tarrant County to engage patrons in accessing, obtaining and understanding health information and resources.

Title/Author(s): Identifying Gaps to Improve Clinical Referral Policy to Address Obesity Related Health Disparities in Underserved Populations, Janhavi Mallaiah, MD, MPH; Devynn Taylor, MPA, MSOD; Rachael Waverka, MPH; Dawn Nguyen, MPH; Heather Kitzman-Ulrich, PhD; Doug Fox, BS

Abstract: Preventable chronic disease has become a significant public health concern with dramatic increases in obesity, diabetes, and cardiovascular risk factors. Clinics and community-based organizations (CBO) often provide programs and resources for treatment and prevention of chronic diseases. However, coordination of screening and referrals between clinic and community organizations are often lacking, particularly in underserved (e.g., low-income, ethnic minority) populations. Assessment interviews were conducted with nineteen clinic and community organizations (Clinics=11; CBO=5; School-Based Organizations=3). Four individuals were trained to administer surveys that assessed (1) access to healthcare facilities & preventative screenings (2) referral systems, and (3) chronic disease education and counseling. Scores for each component were averaged per site, along with calculating summary scores. 68% of clinics reported screening for chronic disease, and 67% of clinics reported providing chronic disease education/counseling. However, these same clinics reported a lower percentage (59%) for referring patients for more intensive chronic disease management. While the average scores for these clinics suggest that there was a moderate association between chronic disease screening and referrals for chronic disease management, 82% (9 out of 11) of the clinics interviewed provided either a high percentage of chronic disease screening and education/counseling with low referrals for service (6 out of 11 clinics), or low chronic disease screening, and high referral for service (3 out of 11 clinics). CBOs and school-based organizations had very low levels of
Objective: The objective of this project was to identify gaps in the screening and referral policies of chronic diseases between clinics and community organizations.

Title/Author(s): The Violence is Preventable (VIP) Model Program: An Estimated Cost Analysis, S. Mantravadi, CPH, CHES, MS, HCM, MPH; Beatriz Sosa-Prao, MS

Background: Youth violence is preventable. More recently, it has become a public health concern that calls out for attention in its prevention and intervention. Research has showed a link between poor social problem-solving skills and youth violence (Pepler and Slaby 1994; Baranowski et al. 1997). Children that are unprepared emotionally, cognitively and socially may react to social situations aggressively or violently. By investing in teaching assertiveness skills, self-awareness and conflict management skills to children, they can learn to interpret situation, understand their own behavior and thoughts and improve relationships with others. We propose an experimental study/intervention to teach these skills to 5th grade boys in a school district wide program, to promote self-efficacy in living a non-violent life and make sound decisions while improving family relationships. The objective of this study is to formulate a model theory based violence prevention program for children, the Violence is Preventable (VIP) program, and perform a cost analysis of this model program. The violence prevention program was based upon the Social Cognitive Theory, and the Community level theories. The methodology used to perform the cost analysis is microcosting. Such a Microcosting approach was used to estimate costs from the payer perspective (school district). The estimated cost analysis will be performed for 120 children in two elementary schools. The results of the cost analysis indicates that the direct cost for the program will be approximately $ 451,062.50, per year, excluding subcontracts with the district. This research will aid in helping decision makers weigh the costs and budget impact of implementing similar school health programs.

Title/Author(s): DSRIP Results: Clinical and Operational Benefits of Video Directly Observed Therapy (VDOT) in Outpatient Treatment of Tuberculosis (TB) in a Large Patient Population, Gerald E. Miller, AAE; Brian Aranare, MD, MBA, MPH; Jannell Pesquera, MHA, RN

Abstract: Traditional TB DOT treatment requires caseworkers to be physically present, observing patients taking medications to document adherence and regimen completion. This places significant burden on both the patient and health worker. Patients must schedule times to meet workers (usually in the patient’s home or place of business) to take their medications. Scheduling constraints, travel restrictions and stigma are barriers for some patients. Additionally, cost and logistics for health workers to cover widespread geographic areas create burdens for public health organizations (Harris County covers 1,700 square miles). A method of providing DOT that does not require a health worker to be physically present with a patient, yet is HIPAA compliant and meets all therapy requirements, could reduce cost and overhead, increase patient privacy and satisfaction and would likely enhance regimen adherence. Harris County Public Health & Environmental Services (HCPHES) partnered with emocha (company whose technology was incubated in the Johns Hopkins Center for Clinical Global Health Education) to investigate the first large-scale implementation of Video Directly Observed Therapy (VDOT) for TB. Phase One of this project entailed treating at least 30 patients using a VDOT platform that included a patient-held smartphone app and clinician-viewed, web-based portal. At this writing (09-30-14), HCPHES is treating 30+ patients using VDOT to supplement traditional DOT. Preliminary results show caseworkers can successfully treat TB patients utilizing remote, mobile phone technology to supplement in-person visits, and that such technology can support careful side effect monitoring and appropriate dose adjustment when needed. Phase One results warrant implementing Phase Two of this multi-year DSRIP project, in which patient volume will expand to over 100 and operational cost benefits will be determined.

Objective: Conduct a DSRIP project evaluating implications of using patient-recorded videos to supplement traditional (in-person) Directly Observed Therapy (DOT) for large numbers of tuberculosis patients.

Title/Author(s): A collaborative investigation of a Salmonella Ohio outbreak linked to a restaurant in Brazos County, Leslie Platz-Kirkland, MPH, CHES; Bonnie Feldt, MPH; Casandra Jones, BA; Julia Butler, MPH, RS; Julie Anderson, RN; Don Plitt, RS

Abstract: Between fall 2013 and spring 2014, the Texas Department of State Health Services (DSHS) detected an ongoing cluster of laboratory-confirmed Salmonella Ohio cases with an indistinguishable pulsed-field gel electrophoresis (PFGE) pattern. Cases reported exposure to a restaurant in Brazos County, Texas. A multi-agency public health response and environmental investigation were implemented to control the outbreak. The DSHS Region 7 Epidemiology Program, in collaboration with the DSHS Infectious Disease Control Unit (ICDU) and Brazos County Health Department (BCHD), attempted interviews for laboratory-confirmed cases using a standardized and supplemental questionnaire. DSHS developed a methodology for collecting employee stool specimens and environmental samples. Both sets of samples were confirmed via culture and molecular testing at the DSHS Laboratory. Control measures were implemented based on results. BCHD sanitarians provided food safety and hand hygiene education. DSHS identified 34 laboratory-confirmed and 5 probable cases associated with the cluster. Of the 34 cases, 5 were restaurant employees. 44 out of 53 employees submit-
Objective: To share best practices from a collaborative multi-agency restaurant associated outbreak investigation.

Title/Author(s): How Often Parents Make Decisions with their Children is Predictive of Adolescent Obesity, Adrita Rahman, CPH; Kimberly Fulda, DrPH; Susan Franks, PhD; Michelle Lee, MS; Nusrath Habiba, MD

Abstract: Health disparities are evident between Hispanic and non-Hispanic populations in the area of childhood and adolescent obesity. Evidence supports that better parental involvement and communication are related to reduced obesity in children. Authoritative parenting style is associated with lower BMI among children while permissive, authoritarian, and rejecting parenting styles are associated with overweight children. However, little is known about associations between parenting style and obesity among Hispanic youth. Data from two studies focused on risk for type II diabetes were analyzed. A total of 298 adolescents 10-14 years of age and their parent/legal guardian were included. Parents completed questionnaires related to psychosocial, family functioning, and environmental factors. Multiple logistic regression was used to determine the association between obesity (≥ 95th percentile for age and gender), the dependent variable, and how often the parent felt they made decisions together with their child (rarely/never, sometimes, usually/always), the primary independent variable. Covariates included gender, age, ethnicity, total family income, and days participated in a physical activity for at least 20 minutes. ORs and 95% CIs were calculated. Adolescent participants were predominantly Hispanic n=233 (78.2%), and approximately half n=150 (50.3%) were female. In multivariate analyses, adolescents who rarely/never made decisions together with their family had significantly higher odds (OR = 2.721; 95% CI [1.013 - 7.307]) of being obese than those who usually/always did. Parents and children making decisions together, an essential aspect of parent-child communication, is associated with lower childhood obesity. The results of our study contribute to evidence of parental involvement in decision-making as an important determinant of adolescent health. Further studies should explore temporal relationships between parenting or communication style and obesity.

Objective: The purpose of this analysis was to determine the relationship between parent-child decision-making and obesity in Hispanic and non-Hispanic adolescents.

Title/Author(s): Adapting and implementing cancer education to increase screenings and vaccinations in refugee families, Amy Raines-Milenkov, DrPH, MPH; Lucy Smith, MPH, CPH; Raquel Y. Qualls-Hampton, PhD, MS

Abstract: Refugees face health problems that originate from the conditions of their home country, develop during their migration experience, or emerge after resettlement in the United States. Cancer prevention education and screening among refugees are not standard services provided by resettlement agencies. Services exist that could address the health of refugees, but complex barriers exist that prevent their use. Building Bridges Initiative (BBI) is a program that provides breast, cervical and liver cancer education to refugee women and links them into appropriate health services. Refugee community leaders/community experts provided consultation during the adaptation of the research tested intervention programs (RTIPs). This process included reviewing and discussing existing materials, incorporating cultural beliefs and norms, and discussing with community experts best approaches for presenting the information. Community experts also reviewed translated materials for accuracy. The result of this process was the development of two culturally and linguistically appropriate cervical and breast cancer education materials. RTIPs are effective in increasing cervical and breast cancer screening. Adapting these educational interventions for other populations, including recently arriving refugee populations, expands the ability to reach underserved populations. The process of partnering with community leaders and experts from the community conveys respect for their culture, increases the ability to reach the target population and increases support for the intervention.

Objective: Describe individual and group education adapted for Bhutanese, Burmese (Karen ethnic group), Somalian-Bantu, and Congolese refugees. Highlight different approaches used for each group

Title/Author(s): Engaging refugee community leaders to create a preventive health promotion program for women and families, Amy Raines-Milenkov, DrPH, MPH; Lucy Smith, MPH, CPH; Raquel Y. Qualls-Hampton, PhD, MS

Abstract: Refugee community leaders (RCLs) have in-depth knowledge and influence essential to guide targeted and successful programs. Building Bridges Initiative (BBI) is a program that provides preventive cancer education screenings for refugee women from four primary refugee groups: Burma (Karen ethnic group), Bhutan, Somalia-Bantu, and the Democratic Republic of Congo. Using snowball recruitment methods, RCLs were identified through existing relationships. RCLs assist in adapting educational material, encouraging women to participate in BBI, and keeping women engaged in
BBI. They also assist project staff in creating and delivering education workshops to program and clinical staff on cultural beliefs, norms, and behaviors of each group. Identification of RCLs began in February 2014. Monthly meetings will be established during program start-up phase to guide development of program materials, identify and hire lay health workers and assist in the recruitment of participants. Community leaders will lead educational workshops at medical grand round sessions and education conferences. The purpose of engaging RCLs is to improve program effectiveness, reach, and access into ethnic communities. Program materials must be adapted to fit the needs of each refugee group because they each have distinct cultures, norms, and beliefs. Because of their unique positions within their communities, RCLs are the only ones that can guide this process.

Objective: Describe how RCLs are identified and involved, while highlighting the different approaches recommended by the leaders for engaging participants in the program.

Title/Author(s): Utilizing the LHW model to increase breast and cervical screening among refugee (Burmese, Bhutanese, Somali-Bantu and Congolese) women. Amy Raines-Milenkov, DrPH, MPH; Lucy Smith, MPH, CPH; Raquel Y. Qualls-Hampton, PhD, MS

Abstract: Approximately 25% of newly resettled refugee women have an identified reproductive health problem. Community resources exist that could address these problems, but multiple, complex barriers such as fear of the healthcare system and obstacles in enrolling into discounted health programs prevent their use. The lay health worker (LHW) model has proven to provide effective education and successfully link refugee families to health services. Extensive engagement with refugee communities will yield the selection of four LHWs representative of their corresponding countries. LHWs recruit participants through outreach and culturally and linguistically-appropriate education in apartment complexes with high concentrations of refugees. Participants attend group and/or individual educational sessions and are connected to screening services. Selection and training of LHWs is on-going with BBI recruitment to begin in April 2014. Within Year 1 LHWs will reach out to 150 refugee women with education, preventative health screenings and follow-up and case management for abnormal screening results. Pre/post assessment of education, demographic distribution, characterization of recipients and refusers of screening services and focus group themes will be reported. The purpose of the LHW model is to reduce barriers to services for vulnerable populations. This initiative offers a detailed roadmap to provide woman-centered, culturally sensitive and appropriate cancer prevention, education and screening services for multi-cultural refugee women.

Objective: To illustrate the Building Bridges Initiative (BBI) and implementation of the LHW model in several refugee populations. In particular, enumerate successes and challenges to increasing breast and cervical screening among Burmese, Bhutanese, Somali-Bantu, and Congolese women

Title/Author(s): Centering Pregnancy Model to Address Low Birth Weight Infants, Jamie K. Roney, MSN, RN-BC, CCRN-K; Brittany Haynes, MSN, RN

Abstract: Lubbock County’s birth weights ranked in Texas’ top 10 counties for low birth weights for 2011. Seven of the top 10 counties are in close proximity to Lubbock County including Terry, Swisher, Scurry, Fisher, Crosby, and Dawson counties. County Health Rankings associated teen pregnancy with both late or no prenatal care and preterm deliveries, thus increasing the likelihood of delivering low birth weight infants. Lubbock County’s surrounding counties have some of the highest teen birth rates in Texas. Electronic databases searched were The National Library of Medicine database, Cumulative Index to Nursing and Allied Health, and the Cochrane Library of systematic reviews. Literature and governmental data sources were explored to assess evidence and guidelines to gain an understanding of the population health problem. Key community informants were interviewed. Published literature linked poverty, teen pregnancy, and stress to low birth weight infants. Lack of social support predicted preterm birth, low birth weights, and infant death. Centering Pregnancy Model was identified as an evidence-based practice addressing limited social support, thus decreasing stressors and increasing resources. Gathered evidence was presented and recommended to Covenant Health’s Prenatal Care Center due to their providing care primarily to low-income women in Lubbock and surrounding counties. Synthesized findings presented to clinic staff and administrators provided evidence supporting adoption of Centering Pregnancy Model for their low-income population. Centering Pregnancy Model allows for positive peer influences, community building, increased motivation for change and learning, and sharing of common life experiences with the group. The strengths of Centering Pregnancy Model support improvement in birth outcomes for low-income pregnant women in Lubbock County.

Objective: To evaluate current research and evidence addressing effects of low-income on women and their fetuses in an effort to identify a population health intervention to prevent low birth weight infants in Lubbock County.

Title/Author(s): The impact of prepregnancy maternal weight on pregnancy and birth outcomes among Texas Medicaid participants, Gary W. Rutenberg, PhD; Christopher Webb, MPH; Janice Jackson, MPH

Abstract: Growth in the prevalence of diabetes during pregnancy has multiple potential outcomes which affect mother and child. Diabetes increases management costs of high-risk pregnancies and may adversely impact birth outcomes. Pregnancies may be further complicated by excessive maternal pre-pregnancy weight which exerts a strong influence on maternal and natal outcomes. Texas Medicaid administrative and vital records data were linked to create individual pregnancy histories. These data were then used to provide details
on diabetes status and the impact of maternal weight among women participating in the Medicaid program. Our research indicates that as pre-pregnancy maternal body mass index (BMI) increases from normal to obese, risks to overweight/obese women and their infants double and quadruple respectively compared to women of normal weight. Women diagnosed with gestational diabetes (GDM) have intermediate risk levels relative to women with preexisting diabetes (PGDM; e.g., non-diabetic health risks < GDM health risks < PGDM health risks). Obese women with pre-gestational diabetes mellitus (PGDM) are five times more likely to deliver an infant with neonatal complications. The frequency of hypertension, C-section, and early gestation (<37 weeks) deliveries tend to increase by type of diabetes (non-diabetic < GDM < PGDM) and by BMI (normal BMI < Overweight < Obese). Overweight women have an approximate three-fold greater risk of hypertension and obese women with PGDM are four to seven times more likely to suffer poor maternal outcomes (e.g., C-section delivery, hypertension, or ICU admission). Large for gestational age infants tend to follow a gradient with percentages increasing by type of diabetes and by mother’s BMI. This tendency, notable among women diagnosed with PGDM, indicates a three to four-fold greater risk of delivering with a poor neonatal outcome (e.g., prematurity, low birth weight, large for gestational age, congenital defect, or NICU admission).

**Objective:** Understand the impact of prepregnancy maternal weight & diabetes on subsequent pregnancy & birth outcomes

**Title/Author(s):** Telegenetics: Overcoming Barriers Along the South Texas frontera, Anna Maria Pulido Saldivar, MPH; Lindsey Mette, MS, MScPH, CGC; Ivette Torres; Natalie Pouillard, MA, MS; Gail Tomlinson, MD, PhD

**Abstract:** While the barriers Hispanics face in accessing genetics services have been highly reported in other populations, the challenges of providing cancer genetic risk assessment among Hispanics along the border region of south Texas have not. Funded by The Cancer Prevention and Research Institute of Texas (CPRIT), the Genetic Risk Assessment for Cancer in All South (GRACIAS) Texas Program provides genetic risk assessment, counseling, genetic testing coordination, as well as preventative screening measures, such as mammography and colonoscopy, to individuals with personal or family histories of breast or colorectal cancer. South Texas populations are more likely to be uninsured, and as a result, less likely to regularly access preventative healthcare. Approximately one-third of the population lives below the poverty line, the adult illiteracy levels approach 50%, and the area is characterized by a rapidly growing minority population. With a team of physicians, genetic counselors, coordinators, and community health workers, GRACIAS Texas provides genetic risk assessment and counseling in person and via telegenetics by videoconference, as well as education to the health care and lay community. This population shares many of the barriers identified in other minority populations, including lack of resources, lack of insurance, distrust of the medical system, and family and employment obligations that preclude access to care. By offering telegenetics by videoconferencing between community-based and academic centers, coupled with educational outreach and navigation services, our program is overcoming prevalent language, financial, cultural, and geographical barriers.

**Objective:** Individuals identified as having an increased genetic risk for developing cancer may benefit from cancer prevention and early detection strategies, but shortage of trained professionals may preclude access to clinical genetics services. While over one hundred genetic counselors are employed within Texas, none are providing cancer genetic risk assessment along the South Texas border, a vastly underserved region.

**Title/Author(s):** Factors Predicting Preterm and Early Term Deliveries in Texas, Jeff Swanson, PhD

**Abstract:** Births at less than 37 weeks’ gestation (preterm) are more costly and have higher morbidity and mortality rates. Deliveries at less than 39 weeks’ gestation (early term) also carry increased risk, and are only recommended with adequate medical indication. Texas DSHS is part of national efforts to reduce infant mortality by reducing deliveries at less than 39 weeks’ gestation, but more documentation is needed on factors that predict them. Texas birth certificate data were assessed for recent trends in preterm and early term deliveries. Hierarchical logistic regression was employed on births in 2012 to Texas residents to determine medical, behavioral, and sociodemographic risk factors for preterm and early term deliveries, as well as early term inductions or cesareans without medical indication. Preterm and early term deliveries peaked around 2005 and since then, have been steady or slowly declining. As expected, having medical risks associated with the pregnancy generally increased the likelihood of a preterm and early term delivery. Being Black, smoking during pregnancy, and having lower education increased the likelihood of a preterm delivery, while having better prenatal care decreased the likelihood. The models predicted only a small portion of the early term inductions or cesareans without medical indication, but nevertheless being older, a college graduate, and having better prenatal care decreased the likelihood. Efforts to reduce deliveries at less than 39 weeks may be working. Those who are Black, smokers, younger, and with poor prenatal care are target populations for further intervention. Analysis of other factors and data sources may be important for future research efforts.

**Objective:** Document trends in preterm and early term deliveries in Texas, especially cesareans or inductions without medical indication for such deliveries. Determine associated medical, behavioral, and sociodemographic factors.

**Title/Author(s):** Texas AHEC East Regional Centers Impact Access to Healthcare by Training Health Professionals and Staff on the Health Insurance Marketplace, Carol Trono, MA; Steven R. Shelton, MBA, PA-C; Leah Jacobs, MS
Abstract: Through a contract from the Health Resources and Services Administration, AHECs received resources and technical assistance for providing CE to health professionals and their staff on the broad concepts and state-specific aspects of the Marketplaces. From March through October 2014, these centers hosted face-to-face trainings and distributed self-study materials. Because the Centers have well established health resource and career pipeline programs, they were able to effectively and efficiently market and deliver this CE to primary care practices in their communities. They identified appropriate audiences, venues, and times; coordinated the training, and tailored the provided curricula to the needs of their audience. The curricula included a PowerPoint presentation, glossary, state-specific resource sheets and a self-study monograph. Providers attending the training who wanted CE credit received the self-study materials which had CME, CNE and behavioral health credit. The self-study was also distributed to providers unable to attend a training. From March through October, 2014, TAE’s centers hosted 12 trainings for 845 health professionals and staff and distributed 839 self-study monographs. Event evaluations support that participants were highly satisfied with the quality of the presentation and usefulness of information. They also liked the self-study option and free CE. Due to strong, ongoing collaborative relationships with primary care providers and health organizations in their regions, TAE’s 9 regional centers were able to widely disseminate this training in a short time frame, thereby impacting outreach and enrollment of vulnerable populations into the insurance exchanges and reinforcing their position as trusted sources for health information in their communities.

Objective: Texas AHEC East’s (TAE) 9 regional centers participated in a nationwide AHEC project to educate health professionals and staff on the new health insurance marketplaces to impact outreach and enrollment of vulnerable populations.

Title/Author(s): Divorce Trends in Texas for 1968 to 2012, Anna Vincent

Abstract: From 1968 Texas reports of divorce have been filed with the state. These data are reported on each year but they have not been assessed for changes across time. The definition of “family” has been changing over time. Marriage and Divorce trends tend to parallel each other and these changes have a broad impact on the family. Analyzing divorce trends is a way to track these family changes. The ages of couples at time of divorce and the number of children were on the divorce reports. The average age of the couples at the time of marriage and divorce as based on the divorce reports, the length of marriage at the time of divorce, and the number of children affected by divorce.

Abstract: In the changing health care environment, implementation of federal legislation addressing quality of care and consumer health care costs may impact genetic services relevant to Texas. Current care models were examined to inform care models for improving patient access and quality of care. Between June 9 and August 7, 2014, thirty qualitative interviews were conducted across Texas with key stakeholders in the provision and receipt of genetic services for children. Interviewees were recruited using a key contact methodology and included genetic services providers and parents of children with genetic conditions including patient-level and system-level questions regarding accessing genetic health services for children. Interviews were conducted using an open-ended survey instrument, audio-recorded, coded and analyzed to identify a frequency of participant comments categorized according to themes and sub-themes. Families in Texas seeking services for genetic diseases face numerous barriers including limited access to genetic service providers and insurance coverage. Lack of communication and understanding of genetics’ role in health throughout the continuum of care impedes care coordination between practitioners, patients and facilities. Genetic services need to expand in scope, location and size to close these gaps throughout the lifespan while containing costs and improving quality of care. Communication improvement across the continuum of care is imperative to facilitate better care management. Education provision for primary care providers, other non-geneticist physician specialists, and ancillary service providers must enable recognition of when, where and how to refer patients needing genetic services. Additionally, public understanding of genetics and their impact on overall health needs to be enhanced while insurance coverage must accommodate families by closing loopholes and exclusions and using new cost saving models.

Objective: This study addresses how the changing health care environment (CHE) may impact genetic services for families in Texas, with an emphasis on children’s genetic diseases.

Title/Author(s): Access to Genetic Services in Texas: Opportunities and Challenges in a Changing Health Care Environment, Teresa Wagner, MS, RD; Erin Carlson, DrPH; Yara William, MHA

Abstract: In 1992 the peak of 89.936 in 2012 (a 69.2%). These by divorce has been decreasing during the last 20 years—from 1968 to 10.7 years in 2012. The number of children affected marriage before a divorce has increased, from 7.4 years in 41.0 years) and wife (31.0 to 38.7 years). The average length of marriage before a divorce has increased, from 7.4 years in 1968 to 2012 for both husband (34.1 to 13 years). The average age at the time of divorce reports, the length of marriage at the time of divorce, and the number of children affected by divorce.

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Abstract: Gestational diabetes is a common pregnancy complication, but there is little research on the economic impact of the disease. The problem of studying gestational diabetes is further complicated by inexact estimates of the true prevalence. By combining Medicaid and birth certificate records we have developed a more comprehensive estimate of the prevalence and cost of the disease among Medicaid participants. Medicaid and birth certificate data are linked to provide a complete history of health care costs during a woman’s pregnancy. Procedure costs are used to compare women without any diabetes to women with gestational diabetes or pre-pregnancy diagnosed diabetes. Separate linkages provide information on the cost of care for infants born to Medicaid participants with and without diabetes. The excess costs of gestational diabetes to Texas Medicaid during SFY2012 was 10 million dollars and over 60 million dollars for women diagnosed with pre-pregnancy diagnosed diabetes. Obesity, regardless of diabetes type, is a significant cost driver. However, obesity co-occurring with diabetes substantially increases costs above what a normal weight non-diabetic woman or her infant would incur. Infant cost comparisons are complicated by high risk infants with conditions which may be unrelated to diabetes. By controlling for these high risk infants, the excess cost of providing care to infants of women with gestational diabetes may increase to 17 million dollars. Obesity, in combination with gestational and pre-pregnancy diagnosed diabetes, substantially increases Medicaid health care costs. Weight management programs that target women who want to or are likely to become pregnant may be an effective method to reduce costs associated with gestational diabetes.

Objective: To determine the economic cost of providing health care to women diagnosed with gestational diabetes and their children during their first year of life.

Title/Author(s): The Role of MVPA in School-based Physical Activity Interventions; Brittanie Wilczak, MPH; Erica Gordon; Christine Pollei

Abstract: In the past 30 years, sedentary lifestyles and the chronic diseases related to such lifestyles have risen dramatically among children. Such lifestyles and diseases can having lasting and impactful effects on this population as they grow well into adulthood. Preventative interventions aimed at reductions in childhood obesity are, however, effective. Increased physical activity and nutrition interventions, as prevention techniques, prove effective in the reduction of childhood obesity trends. Founded in 1996, Marathon Kids is a non-profit organization committed to improving the health of children by providing them with the motivation, tools, and support in order to live happier, healthier lifestyles. To do so, Marathon Kids has traditionally employed the use of a programmatic endeavor called the 26.2 Mile Challenge. The 26.2 Mile Challenge is a school-based physical activity and nutrition program through which children in elementary school run or walk at least one 26.2 mile marathon in 1/4 mile increments throughout the course of about six months.

In light of this evidence, Marathon Kids is in the evaluation stage of studying role Moderate to Vigorous Physical Activity (MVPA) standards, as mandated through US Dept of Health and Human Services policies, is achieved through the health promotion endeavors of our curricula. This presentation will highlight such efforts and the infrastructure we are creating to support P.E. Teachers and district leaders in helping students to achieve their MVPA goals.

Objective: Understand the role that MVPA plays in school-based physical activity interventions.

Title/Author(s): Neighborhood Engagement using Applied Epidemiology: Case Studies from Texas, David Zane, MS; Judy Henry, PhD; Kaila Thompson, MPH; Bonnie Feldt, MPH

Abstract: Epidemiological methods exist to assess the magnitude of public health problems in communities. Rapid needs assessments provide a quick cross-sectional overview of community needs and provide situational awareness to public health and emergency management officials to strengthen disaster response and preparedness planning efforts. Rapid needs assessments involve interviewing people in sampled households in communities about their public health needs; these are door-to-door household neighborhood (cluster) surveys. The assessment rapidly obtains information using a quick, reliable, unique, and accurate technique (typical goal is 210 household interviews conducted in one day). Three local and regional health departments in Texas (Austin Travis County Health and Human Services, Ft. Bend County Health and Human Services, Texas Department of State Health Services Region 7) describe their completed use of rapid needs assessments to engage neighborhoods in their communities about public health issues (i.e., floods, wildfires, and emergency preparedness). They will present their sampling approach, assessment results, and lessons learned. Applied epidemiology presents a source of reliable and actionable information for public health leaders.

Objective: Demonstrate understanding on how applied epidemiology can be used to gather public health data on communities. Demonstrate understanding on how epidemiologic tools have been used in three communities in Texas to respond to floods, wildfires, and assess emergency preparedness.

Title/Author(s): Educational Impact on Parents of Children with Asthma, Genny Carrillo Zuniga, MD, Sc.D, MPH, MSPH; Betty Chong-Menard, RRT, RN, MEd.; Kenneth Smith, CRT; Rose L. Lucio, MPH

Abstract: In 2012, the National Center for Health Statistics reported that the prevalence of asthma in children was 9.3% in the United States and 11.4%, in Texas. Hidalgo County, which is located in Health Services Region 11, has the highest rate of hospitalizations due to asthma. This was a longitudinal, non-randomized study that aimed to test the effectiveness of an educational intervention based on an asthma and healthy
homes curriculum targeted at eighty nine parents of asthmatic children 1-14 years of age. Pre- and post-test surveys were utilized to measure knowledge based outcomes at baseline. A follow-up survey was performed 6 months later to evaluate the degree to which participants made changes (self-reported) in their household environment based upon their acquired knowledge. Post training scores were significantly higher than pre training scores (12.4 out of 14 items correct on the pre-survey versus 13.4 on the post survey). Eighty nine percent of participants indicated they had made a change in the prior 4 weeks. Among 32 healthy homes strategies ranging from roof repairs to avoiding pesticide use, study participants reported using an average of 19. The most common were frequent home cleaning, not allowing smoking in the home, and opening windows for ventilation. The asthma education and follow-up with families shows that the intervention, utilizing a Promotora model, is effective in engaging these families over time. The results obtained indicate that the educational intervention is improving the knowledge of families and resulting in adoption some healthy homes strategies.

**Objective:** To test the effectiveness of an educational intervention based on the asthma and healthy homes curriculum targeting parents of children diagnosed with asthma, and b) to assess behavioral changes in parents, based on the education they received, six months after the intervention was delivered.

**Poster Presentations Abstracts**

**Title/Author(s): Altered T-Helper 1 Activation in Type 2 Diabetes, Bassent Abdelbary, MBChB, MPH; Aldo E. Martinez, MPH; Marcel Twahirwa, MD; Blanca Restrepo, PhD**

**Abstract:** DM2 is a highly prevalent chronic disease in South Texas, where Mexican-Americans show a weighted prevalence of 29.7%, and most are poorly controlled. DM2 is associated with chronic inflammation characterized by higher serum levels of C-reactive protein (CRP) and certain pro-inflammatory cytokines. However, diabetics exhibit dysfunctional immunity that increases their risk of infections. Whole blood from 9 DM patients and 13 healthy controls was incubated with the T-cell mitogen phytohemagglutinin (PHA) or its diluent (as a control) for 18-24h. Supernatants were evaluated for the secretion of 18 cytokines by multiplex ELISA. Baseline HbA1c, fasting glucose, CRP and insulin were measured and the Homeostasis Model Assessment (HOMA) for insulin resistance was calculated. HbA1c showed the strongest relationships with altered cytokine secretion in response to PHA, with the most notable being reduced secretion of type 1 cytokines (T1C) in those with HbA1c between 7-10%, but not when >10%. Insulin, HOMA, CRP and BMI were positively correlated with each other but these variables were only associated with altered cytokines. Interestingly, CRP was inversely correlated with the secretion of T1C, like IFN-gamma and IL-12, among diabetics. The correlation between insulin, HOMA, CRP and BMI is consistent with the hypothesis that obese individuals have higher systemic inflammation that promotes insulin resistance leading to DM2. However, the DM2 characteristic with the most consistent association to altered T-cell immunity was HbA1c. Further studies are required to confirm the non-linear relationships between glucose control and T1C, and their implications in the increased risk of infection in these patients.

**Objective:** To identify alterations in the T-cell response of DM2 patients from the Rio-Grande Valley, Texas. Since diabetics are more likely to exhibit altered insulin levels, insulin resistance, chronic inflammation and higher body-mass index (BMI), we will explore if these characteristics are associated with immune dysfunction.

**Title/Author(s): COMMUNITY VIRAL LOAD LEVELS IN NEWLY DIAGNOSED PATIENTS IN HOUSTON/HARRIS COUNTY, 2013, Najmus Abdullah, MPH; James Gomez, MPH; Salma Khuwaja, MD, MPH, DrPH; Sudipa Biswas, MD, MPH; Raouf Araf, MD, MPH**

**Abstract:** Prior studies have shown that persons with suppressed viral load progressed to AIDS faster and are highly infectious. Therefore, monitoring community viral load is important for newly diagnosed patients to prevent further HIV transmission. Population-based surveillance data from 2013 was utilized for examining viral load and demographic characteristics of all persons diagnosed with HIV/AIDS in Houston/Harris County. We examined the viral load levels among different age groups and race/ethnicity. A patient was considered highly infectious at a viral load above 100,000 cubic/ml, and those with no HIV laboratory test following diagnosis are considered out of care. We will also examine geographic clustering of cases for determining areas with uncontrolled viral load levels.

Approximately 39% (596/1,254) of patients diagnosed in 2013 in Houston/Harris County with HIV/AIDS had controlled viral load level less than 200 cubic/ml. Those with highest viral load were in the age groups of 30-39 years old and were predominantly African Americans (40%). African Americans were 1.2 times more likely than Hispanics to have an uncontrolled viral load (95% CI 1.10-1.36). Whites were 1.1 times more likely than Hispanics to have uncontrolled viral load (95% CI 0.97-1.30). Hispanics are more likely to have controlled viral load than the other groups. These results indicate that in Houston/Harris County age group between 30-39 fared worse than other age groups. Future efforts may need to focus on reducing the viral load levels among newly diagnosed African Americans and Whites in order to prevent further HIV infections.

**Objective:** To examine viral load levels and demographic characteristics of newly diagnosed HIV/AIDS patients in Houston/Harris County in 2013.

**Title/Author(s): Translation, implementation and evaluation of a pilot program to improve school health; Leslie Allsopp, MSN, MPH; David A. Sterling, PhD, CIH; Andrew Allsopp, MSN, MPH; Aldo E. Martinez, MPH; Marcel Twahirwa, MD; Blanca Restrepo, PhD**
Abstract: A regional community assessment in North Central Texas has estimated a pediatric asthma rate of 18.1%. Asthma is associated with an elevated rate of absenteeism, which negatively impacts student performance and results in lost school funding. Asthma 411 is a highly successful school-based asthma program first implemented in St. Louis, MO. The University of North Texas Health Science Center and the Fort Worth Independent School District are collaborating to pilot a modified version of this program in two schools. The program is designed to strengthen school health services and reduce asthma morbidity. During the first year the following four program components were introduced into one elementary and one middle school: methods to support identification and tracking of all students identified as having asthma; standing orders provided through a consulting physician model, with equipment and training provided to allow school nurses administration of nebulized albuterol to students presenting with respiratory distress; absence follow-up to help recognize high-risk and undiagnosed students with asthma, and; on-line continuing education for school nurses. Students identified with asthma in the pilot schools miss on average four more days than students without asthma. Absentee follow-up for students with asthma suggests that approximately 20% of these absences are due to asthma. Anecdotally it was reported that over fifteen 911 calls were placed due to asthma the prior year; no 911 calls were made the first year of this initiative. Nurses have responded positively to the program, reporting an improved ability to appropriately manage symptoms of respiratory distress at school, and a reduced need to send students home or call 911. Preliminary results suggest the program may provide effective options to strengthen school health services and reduce asthma morbidity.

Objective: To translate, pilot and evaluate an evidence-based school asthma program in North Texas.

Title/Author(s): Mexican Folkways and Family Wellness: Some Fundamental Ethnographic Insights, Ruth E. Anderson, BA, MA, PhD

Abstract: The presentation will be based on five years of ethnographic field research in Central Texas and Northern Mexico with extended families of recent immigrants from rural areas in the Mexican state of San Luis Potosi. All field research and data analysis were conducted by the presenter, who holds a doctoral degree in folklore and folk life. The methodology implemented in the study was participant observation. The research participated in informants’ lives as a teacher of English as a Second Language for the study’s first three years and is currently concluding two years of follow-up research on a social interactive basis. The study yielded a wealth of qualitative data regarding the folkways of Northern Mexico and of recent immigrants to the US from that geographic area as socio-cultural determinants of health-related behaviors. Results were primarily related to family members’ respective, tradition family roles; folk medicine; traditional food ways; and traditional and no-traditional occupations both within and outside the home. The study’s conclusions include some basic insights into how preservation of traditional family roles and structures may positively influence some aspects of family members’ physical and mental health. Additional conclusions derived from the study demonstrate that adherence to traditional food ways, folk medicine and home remedies, and occupations can influence family wellness in both negative and positive ways.

Objective: This presentation’s objective is to increase the cultural competency of providers of public health education and nursing services by providing information derived from original research. The research explores how cultural factors influence wellness in extended families of recent immigrants from Northern Mexico. The research projects objective is to discover health-related traditional behaviors brought to the US by immigrants from rural Mexico and how these behaviors influence family wellness as the process of acculturation and assimilation unfold in unfamiliar urban environments.

Title/Author(s): Determining Effective Collection and Identification Measures of Estradiol in African-American Women, Jasmun Askew, BSc; Leilani Dodgen, MPH, CHES; Heather Kitzman-Ulrich, PhD; Olatunde Ola, MBBS, MPH

Abstract: Estrogen is important for overall health and reproduction, and has been linked to obesity. Currently, estrogen is time and cost intensive to measure. The purpose of this research was to establish a more cost-effective way to measure estradiol in community-based settings, and to determine a methodology for collection and identification of peak estradiol levels. Four saliva samples, medication information, and previous menstrual cycle history from 61 premenopausal and postmenopausal African-American women were collected over a 4-6 week time period. The saliva samples were analyzed by an independent laboratory to identify levels of estradiol (E2). A primary sample was defined as the sample that was collected on or most closely aligned with day 13 of the menstrual cycle when estradiol peaks. A secondary sample was identified if a primary sample was not aligned with day 13 of the menstrual cycle. The secondary sample was determined by projecting the next menstrual cycle period. A secondary sample and the average of all samples were calculated to determine the best method for identifying peak estradiol levels. Using this protocol, for the premenopausal subjects, 56.3% of their primary samples were equal to their peak estradiol sample, and 37.5% of their average estradiol samples were equal to their peak sample. Only 6.3% of the participants’ secondary samples were equal to their peak level. For the postmenopausal women, 73.9% of the participants’ average samples were equal to or ≤ .03 of their peak estradiol sample. This data suggests that this modified protocol demonstrates preliminary ability to identify peak estradiol levels in a community setting in a cost-effective and time efficient manner.

Objective: Apply a new cost and time effective protocol for
accurately identifying peak estradiol levels in African-American women.

**Title/Author(s):** Impoverished & uninsured: A retrospective review of end-stage renal disease among Hispanics living on the Texas-Mexico border, Bethany Bogges, MPH, BS, CHES; Brian Wickwire, MD; Ed Zuroweste, MD

**Abstract:** The prevalence of end-stage renal disease in the U.S. is increasing and is found disproportionately among racial and ethnic minorities in the U.S (National Institute of Diabetes and Digestive and Kidney Diseases, 2012). Texas has the highest proportion of uninsured persons in the country, and the uninsured with ESRD face multiple barriers in accessing health care. A retrospective medical records review was conducted at a Community Health Center on the Texas-Mexico border. One hundred and thirty-six patients with end-stage renal disease were identified and key demographic, socioeconomic, and clinical characteristics of these patients were abstracted. All patients were ethnically Hispanic, and the majority were Spanish-speaking and earned incomes below 100% of federal poverty level. Two-thirds (66.17%) of patients were uninsured, and 68.03% of patients who needed dialysis only received it on an emergency basis. Diabetes was present in 77.94% of cases, and the uninsured were disproportionately female and impoverished. Based on previous research regarding the cost of hospital care for uninsured patients with ESRD, the estimated annual inpatient hospitalization cost of the in this study population is $23,626,365 (Sheikh-Hamad, 2007). Public health professionals, health care providers, and policy makers should take action to ensure access to all levels of health care for disadvantaged populations in Texas in order to prevent the premature onset of ESRD among the uninsured and to mitigate the high economic and social costs of treating ESRD in the emergency room.

**Objective:** By the end of the presentation, participants will examine one approach to meeting the unique health care needs of a rural community.

**Title/Author(s):** Evaluating the Racial Distribution Between Selected Health Care Professions and the Texas Population, Amy Brown, MA; Edwin Roby, BA; James Thompson, BSAS, BSCJ

**Abstract:** Research suggests that same-race (or race concordant) interactions result in increased comfort and improved perceptions between patients and providers (Saha, Komaromy, Koepsell, and Bindman 1999), reduction in perceptions of discriminatory practices (Chen, Fryer, Phillips, Wilson, and Pathman 2005), and greater utilization of services (LaVeist, Nuru-Jeter, and Jones 2003). As such, greater representation of racial/ethnic minorities among health professionals has been linked to both improved public health and individual health outcomes among minority populations. Distribution comparisons will be made using available population data and collected health professions information, specifically targeting professionals with active licenses during each respective year. These data will be observed by county, region, and other geographic designations (border v. non-border and metropolitan v. non-metropolitan status). Review of the analysis will describe the ratio of health care professionals to the general population by race. The proportionality between the two groups will then be used to determine the need for increased recruitment and retention efforts of select health professionals across the state. Developing a more racially/ethnically proportionate healthcare workforce is crucial to improving individual and aggregate health outcomes in Texas.

**Objective:** The poster will examine how the racial distribution of the Texas general population is represented in selected health professions over the last decade in order to ascertain the need for and progress toward a racially diverse health pro-
Title/Author(s): Changes in Hospital Staffing in Texas, Cate Campbell, MPH; Andria Orbach; Lilibeth Jones

Abstract: The Affordable Care Act, aging population and increase in chronic conditions, and national shortage of physicians have created a need for more primary care providers, such as primary care physicians, nurse practitioners, and physician assistants. In the past decade, this need has led to hospital staffing mixes in the US shifting from more specialty physicians to more primary care providers. The supply of nurse practitioners, physician assistants, and primary care physicians in hospitals over the past ten years is measured using 2004-2013 licensure files from the Texas Board of Nursing and the Texas Medical Board. The percentage of nurse practitioners and physician assistants who are employed in hospitals has increased since 2004, while the ratio of primary care to non-primary care physicians employed in hospitals has fluctuated in the same time period. In order to meet the healthcare needs of an aging and increasingly insured population, Texas hospitals should continue to increase the number of primary care providers they employ.

Objective: This poster examines the change in employment of nurse practitioners, physician assistants, and primary care physicians in Texas hospitals from 2004 to 2013, to determine if Texas hospitals are following national trends.

Title/Author(s): Weight Loss Behaviors Among Overweight and Obese Children, Felicia R. Carey, MPH; Nalini Ranjit, PhD; Deanna M. Hoelscher, PhD, RD, LD, CNS; Steven H. Kelder, MPH, PhD

Abstract: Data were analyzed for 2615 overweight and obese students from the 8th and 11th grade level School Physical Activity and Nutrition (SPAN) project, a Texas-wide child obesity surveillance program of public school children in 2009-2011. Questionnaires collected data on self-reported eating behaviors, levels of physical and sedentary activity, and body mass index. We examined if the prevalence of weight loss intentions among obese and overweight children differed by sociodemographic characteristics, and how attempts to lose weight manifested in dietary habits and levels of physical and sedentary activity. Overall, 78% of overweight and obese students were trying to lose weight – 70% of boys and 87% of girls. Female students, students with higher socioeconomic statuses, younger students, and heavier students were all more likely to express weight loss intentions. Boys with weight loss intentions reported significantly (p<0.05) lower intake of unhealthy meats and unhealthy food in general, and frequented restaurants less often, compared to boys with no weight loss intentions. Girls expressing weight loss intentions engaged in significantly (p<0.05) more moderate and vigorous physical activity and muscle building exercises than girls with no weight loss intentions. Attempts to lose weight among overweight and obese adolescents differed by gender among the study population, with girls utilizing greater physical activity and boys changing dietary habits. This suggests that obesity prevention programs need to be targeted by gender to maximize their effectiveness.

Objective: To examine the ways in which weight loss behaviors present among overweight and obese children.

Title/Author(s): Demographic and home food environment correlates of energy drink consumption among middle school students in Central Texas, Eun Me Cha, MPH; Nalini Ranjit, PhD; Andrew E. Springer, DrPH; Steven H. Kelder, MPH, PhD; Deanna M. Hoelscher, PhD, RD, LD, CNS

Abstract: Energy drinks are beverages that contain stimulants such as caffeine, taurine, vitamins, and sugar. Several studies have reported rapid increase in energy drinks consumption among teenagers. However, there is limited information on different factors that may influence energy drinks consumption among adolescents. A total of 2,821 8th grade students were recruited from Central Texas and participated in a school-based obesity intervention program called, CATCH Middle School Program. This abstract is based on cross-sectional analyses of a self-reported baseline questionnaire collected in 2009. The components of survey included daily and weekly recall of dietary intake, sociodemographic information, and home food environment. Overall over 40% of 8th grade students reported occasional (31.4%) or habitual (9.3%) consumption of energy drinks. Compared to girls, higher percentages of boys were occasional and habitual drinkers (32.7% and 10.8% among boys versus 30.2% and 7.8% among girls). Hispanics (36.4%) and African Americans (11.4%) ranked at the top of the occasional and habitual drinking categories, respectively. Further, we examined the association between energy drinks consumption and different home food environmental factors. Negative trends were observed in the direction of non-, occasional and habitual drinkers with healthy home food environmental factors like ‘availability of healthy foods at home’, ‘parental support of healthy diet’, ‘parental encouragement of water consumption’, and ‘number of meals with family’ associated with lower energy drink consumption (p<.05 in each case). In contrast, ‘number of days eating at restaurant’ showed significant positive trends with occasional and habitual drinking of energy drinks. A healthy home food environment may deter consumption of energy drinks among 8th grade children in Texas.

Objective: In this study, we seek to compare the prevalence of energy drinks consumption among middle school students in Central Texas, and assess the trend of energy drinks intake stratified by home food environment.

Title/Author(s): Evaluation of Vaccine Schedules for Meningococcal Serogroup C Conjugate Vaccines, C. Brent Chesson, BS; Ana Maria Henao Restrepo, MD

Abstract: N. Meningitidis serogroup C protein conjugated vaccines are licensed globally for the prevention of menin-
glococcal disease. Schedules vary widely according to region specific epidemiology and should provide immune protection using the fewest number of doses necessary. Lowering or optimizing vaccine schedules can dramatically impact health care associated costs and patient compliance. We searched PUBMED/Medline, EMBASE, Cochrane Central Register Controlled Trials (CENTRAL) and the Global Index Medicus databases from 2004-2010, including internal referenced studies where relevant. Quadrivalent, bivalent, Hib-containing and monovalent conjugate vaccines were immunogenic in all age groups. Older age correlated with increased duration of protection. Seroprotective antibody titers in infants were short-lived after primary schedule vaccinations were completed, and by 12 months of age, only 40-69% of subjects retained defined titers adequate for short term protective immunity. Combined vaccinations with routine childhood immunizations were well tolerated. Available evidence suggests that 2 or fewer doses during infancy is highly effective and immunogenic, even beginning as early as 2 months of age. In nearly all schedules TT carrier vaccines were more immunogenic than CRM carrier equivalents. This was less pronounced with 3 doses in infancy, and by 12 months of age antibody titers were similarly regardless of the vaccine used. Single or booster doses given at 1-10 years of age maintain protective serum titers for 3 years in around two-thirds of children. Single doses given after the age of 11 years is expected to provide immunity for most children for 5 years and booster doses for 7-10 years.

Objective: The objective of this systematic review is to examine all new and current evidence comparing schedules of meningococcal C vaccines for infants, children, and adults for enhanced vaccine efficacy and long lasting immunity as demonstrated through serum titer of N. Meningitidis anti-polysaccharide serogroup C antibodies.

Title/Author(s): Self-Reported Diet and Risk of Type II Diabetes Mellitus (T2DM) in a Low Socioeconomic Pediatric Population, Ann Davis, MPH; Teresa Wagner, MS, RD; Shane Fernando, PhD, MS; Kimberly Fulda, DrPH; Susan Franks, PhD

Abstract: Type 2 Diabetes Mellitus (T2DM) prevalence is estimated at 0.42 per 1000 in youth aged 12-19 years in the United States and continues to increase within the pediatric population. T2DM prevalence is higher within Hispanic youth as compared to non-Hispanic white youth. Diet is a key component to any primary prevention treatment of T2DM. Clinical and survey data on 298 children (10-14 years) was collected in two studies conducted at the University of North Texas Health Science Center. Participants were categorized as low/ no risk or high risk for T2DM. A 24 hour recall food frequency questionnaire was administered to evaluate diet choices. Unadjusted and adjusted multivariate logistic regression was performed to determine the association between those at risk for T2DM and dietary components. Based on 2010 US Dietary Guidelines dichotomous variables were created for each diet component for met or did not meet recommendations. The mean age of participants was 11.87 (sd±1.4). Of participants, 207 (69.5%) were low risk for T2DM and 91 (30.5%) were high risk. The majority of participants was Hispanic (78.2%), 15.3% (n=40) were non-Hispanic black, and 6.5% (n=17) were non-Hispanic white. BMI percentiles revealed that 61.1% were overweight or obese. The majority of participants had an existing family history of T2DM (74.7%). Those not meeting recommendations for consumption of high fat foods (proteins) (OR = 2.195, 95% CI 1.099-4.386) and did not have breakfast (OR 2.245; 95% CI 1.170-4.307) were significantly associated with increased odds of being high risk for T2DM. Although primary prevention includes discussion on an ideal diet composition, diet interventions promoted to Hispanic youth populations may emphasize the reduction of high fat protein intake and the importance of breakfast.

Objective: To examine diet in a low socioeconomic population utilizing a food frequency questionnaire for risk of T2DM.

Title/Author(s): Fourth Grade Students’ Leisure Time Internet Use, Lenna Dawkins-Moultin, MS; Xuewei Chen, MEd; Andrea McDonald, MS; E. Lisako McKyer, PhD; Sharon McWhinney, PhD

Abstract: Screen time is associated with overweight and obesity among children, but much of the research on screen time focuses on television viewing. Increasingly, however, children are gaining access to a wide range of electronic gadgets and are spending more leisure time engaged in internet related activities. A survey was used to collect data on children’s weekday internet use from parents (n=298) of fourth grade students enrolled in seven elementary schools in a rural Texas county. Descriptive, correlation, and multiple regression analyses were conducted. The results indicated most students spend between 30 minutes to an hour each weekday in leisure time internet activities. The correlation analysis showed ethnicitly was highly associated with income (r=.216, p<0.01) and usage of Internet (r=.190, p<0.01), and income was highly associated with marital status (r=.332, p<0.01). The multiple regression model indicated ethnicity was a significant predictor (β=.175, p<0.05) for children’s Internet use (R=.187, p<0.05). Children are spending increasing amounts of time on the internet. This finding suggests public health practitioners will need to consider internet use when they design interventions aimed at reducing screen time. It may also be useful to explore how the internet can be used to promote physical activity among children, particularly in populations that show higher frequency of leisure time internet use.

Objective: The purpose of this study was to examine the relationship between fourth grade students’ use of the internet for leisure activities and three demographic variables (ethnicity, family income, and parents’ marital status).

Title/Author(s): Comparison of Single- and Multiple-Person Mercury Exposures, Mathias B. Forester, BS
Abstract: Elemental and organic mercury are extremely toxic, particularly to the central nervous system. Specific protocols are recommended to avoid exposures and contain spills. Cases were all mercury exposures reported to Texas poison centers during 2000-2013. The cases were divided into multiple- and single-person exposure groups. The two groups were compared with respect to various factors. There were 214 multiple-person incidents involving 734 total persons. The mean number of persons involved in an incident was 3.4 (range 2-25). There were 6,521 cases of single-person exposures. 45% of the multiple- and 27% of the single-person exposures involved patients aged 6-19 years. The distribution by gender for multiple- and single-person patients were 46% vs 46% male, 40% vs 53% female, and 14% vs 1% unknown. The multiple- and single-person exposures were, respectively, 87% vs. 98% unintentional and 11% vs. 1% intentional. The most frequent routes of multiple- and single-person exposures, respectively, involved ingestion (23% vs. 72%), dermal (52% vs. 23 %), and inhalation (43% vs. 5%). The most common sites for multiple- and single-person exposures, respectively, were the patient's own residence (56% vs. 91%) and school (31% vs. 3%). 78% of multiple- and 90% of single-person patients were managed on site, 10% vs. 8% were already at/en route to a healthcare facility, and 3% vs. 1% were referred to a healthcare facility. 3% of multiple- and 2% of single-person exposures were known or expected to have serious outcomes. Multiple-person mercury exposures are more likely to involve school-age children. A greater proportion of multiple-person exposures were intentional, involved dermal and inhalation routes, and occurred at school. In spite of these differences, multiple- and single-person mercury exposures were similar with respect to known or suspected serious outcomes.

Objective: This study describes multiple-person mercury exposures and compares them to single-person exposures.

Title/Author(s): Milbemycin Alone and with Lufenuron Ingestions Reported to Poison Centers, Mathias B. Forester, BS

Abstract: Milbemycin alone (Interceptor(TM)) and with lufenuron (Sentinel(TM)) are veterinary drugs used as broad spectrum antiparasitics to protect animals against worms, insects, and mites. The drugs are registered for use in animals; however, human ingestions may occur. Ingestions of milbemycin and milbemycin-lufenuron reported to Texas poison centers during 2000-2011 were identified. The distribution of the ingestions was determined for various factors and compared between the two drugs. There were 323 milbemycin and 218 milbemycin-lufenuron ingestions. The patients were age 20 years or older in 54% of milbemycin and 61% of milbemycin-lufenuron ingestions. Sixty percent of milbemycin and 66% of milbemycin-lufenuron patients were female. Only one of the milbemycin and one of the milbemycin-lufenuron ingestions were intentional, the rest being unintentional. Ninety-eight percent of the milbemycin and 98% of the milbemycin-lufenuron patients were managed on site, 1% of both drug patients were already at or en route to a healthcare facility, and <1% of both were referred to a healthcare facility by the poison center. The distribution of milbemycin and milbemycin-lufenuron ingestions, respectively, by medical outcome was no effect (32% vs. 34%), minor effect (0.3% vs. 1%), not followed-judged nontoxic (14% vs. 11%), not followed-minimal effects possible (52% vs. 50%), unable to follow-potentially toxic (1% vs. 2%), and unrelated effect (1% vs. 1%). A higher proportion of milbemycin-lufenuron ingestion patients were adults and female. Otherwise, there was little difference between milbemycin and milbemycin-lufenuron ingestions reported to the poison centers. These data suggest that the milbemycin and milbemycin-lufenuron ingestions typically reported to poison centers are not likely to be serious, resulting in few clinical effects, and can usually be managed at home.

Objective: To describe and compare human ingestions of milbemycin alone and with lufenuron reported to poison centers.

Title/Author(s): Adolescent Opioid Analgesic Exposures Reported to Texas Poison Centers, Mathias B. Forester, BS

Abstract: Opioid analgesics are the prescription medications most frequently abused by adolescents. The use and abuse of prescription opioid analgesics by adolescents is increasing. Exposures to prescription opioid analgesics reported to Texas poison centers during 2000-2013 where the patient was age 13-19 years or classified as “adolescent” were identified. The distribution of cases was determined for various demographic and clinical variables. During 2000-2013, 8,730 adolescent opioid analgesic exposures were reported. There was no observable annual trend. The most commonly reported opioid analgesics were hydrocodone (55.4%), codeine (13.5%), tramadol (12.2%), and propoxyphene (10.8%). Sixteen- to 18-year-olds accounted for 52.1% of the patients; 59.5% were female. The most common reasons for exposure were suspected attempted suicide (50.4%) and intentional abuse/misuse (24.4%). The exposure occurred at the patient’s own residence in 87.6% of the cases and at school in 3.0%. The patient was already at or en route to a healthcare facility in 61.6% of the cases and referred to a healthcare facility in 18.9%. The poison center considered the exposure to not be serious in 64.6% of the cases. Adolescent opioid analgesic exposures reported to Texas poison centers are not increasing. These exposures are likely to involve hydrocodone, be intentional, and occur at home. Although most of the exposures are managed at a healthcare facility, they are not likely to have serious outcomes.

Objective: The intent of this investigation was to describe adolescent opioid analgesic exposures reported to Texas poison centers.

Title/Author(s): Adolescent Pesticide Exposures Reported to Texas Poison Centers, Mathias B. Forester, BS; Katherine Kantzes, BS; Heidi Bojes, PhD; Natalie Archer, MS
Abstract: Pesticides, particularly when misused, can cause serious morbidity and mortality. There is limited literature on pesticide exposures among adolescents. Cases were pesticide exposures reported to Texas poison centers during 2000-2013 where the patient was age 13 years or more. Cases were divided into adolescents (13-19 years) and adults (20 years or more). The distribution of the cases was determined for various factors and comparisons made between the two age groups. There were 2,772 adolescent and 33,573 adult pesticide exposures. The most common types of pesticide among adolescent and adult cases, respectively, were insecticides (71% vs 76%), herbicides (6% vs 9%), repellents (11% vs 8%), and rodenticides (10% vs 5%). Adolescent patients were 56% male and 43% female; adult patients were 45% male and 55% female. The most common exposure routes among adolescent and adult cases, respectively, were dermal (29% vs 38%), ingestion (47% vs 29%), and ocular (14% vs 13%). The exposure reason for adolescent and adult exposures, respectively, were unintentional (82% vs 89%), intentional (13% vs 7%), adverse reaction (2% vs 3%), and other/unknown (3% vs 1%). Sixty-nine percent of adolescent and 73% of adult patients were managed on site, 23% vs 19% were already at/en route to a healthcare facility, and 7% vs 7% were referred to a healthcare facility. Serious outcomes were reported in 12% of adolescent and 13% of adult cases. Compared to adult exposures, adolescent pesticide exposures were more likely to involve repellents and rodenticides, involve males, occur by ingestion, and be intentional. In spite of this, the pattern of management site and severity were similar between the two age groups.

Objective: The purpose of this study was to describe adolescent pesticide exposures reported to poison centers and compare them to adult exposures.

Title/Author(s): Clostridium difficile (C-Diff) prevalence in healthcare settings: An Environmental Screening Study in Dallas-Fort Worth region, Kimberly G. Fulda, DrPH; Joon-hak Lee, PhD; Jerry Simecka, PhD; Michelle Lee, MS; Anne Espinoza, MD; Phung Nguyen, BS; Patricia Taylor, MHA, RRT; Sushma Sharma, PhD

Abstract: The average hospital cost for patients infected with Clostridium difficile (C-Diff) is nearly three times higher than uninfected patients without C-Diff. Cases of people infected with C-Diff, a bacterium that causes fever, nausea, and diarrhea, are on the rise in North Texas. Because the illness most often occurs in people taking antibiotics, acid suppressing medications and/or contaminated environment, the Dallas-Fort Worth Hospital Council Foundation and UNT Health Science Center conducted this study to investigate the prevalence of C-Diff in various healthcare settings. Various healthcare settings (33) i.e. hospitals (19), local and rural primary care clinics (11), and long-term care facilities/nursing homes (3) were recruited for environmental screening. Surfaces of high touch areas i.e. computer keyboards, light switches, window blind wands/curtains, bedrails, door knobs, restroom sink handles and faucets, toilet handles were selected for the sample collection. A survey was also conducted to learn about the infection control policies and procedures of the facilities. Overall C-Diff prevalence was 3.42% including 6.93% in clinics, 3.17% in long term care facilities and 1.32% in hospitals. Among the surfaces, bedrails had the highest C-diff prevalence (6%) followed by key boards (5%), door knobs (4%) and restroom sink handles and faucets (4%). Survey results indicated that overall 84% of the total facilities have an infection control policy and 82% facilities provide education and training on infection control. Most of the facilities (91%) do have the guidelines for staff for cleaning processes, personal hygiene and hand washing techniques, and antibiotic stewardship. But only 60% of the facilities have specific guidelines for C-Diff infection prevention. This study identifies the scope for education and awareness regarding C-Diff infection prevention in the community as well as in health care settings. More robust cleaning and infection control measures are recommended.

Objective: To understand the epidemiology the c-diff in inpatient and outpatient settings.

Title/Author(s): Skin Health on Our Team: Prevention of Pressure Ulcers in Athletic Individuals with Spinal Cord Injuries, Becky Garner, MS; Stephanie Spohr, M A ; Margi Bhavsar; Heather Kitzman-Ulrich, PhD

Abstract: Little research has been done on pressure ulcers (PU) in healthy, active individuals with spinal cord injuries (SCI). Athletes, in particular, may be at greater risk for developing PUs due to prolonged vigorous movement. Despite this risk only 30.8% of all wheelchair athletes seek medical assistance for PUs. Participants were recruited following collegiate sports practices to participate in a focus group that assessed attitudes, beliefs, and feelings about PU prevention and intervention delivery preferences. Classic content analysis methods were used to determine frequencies of important themes. Basic demographics, sports involvement, and previous PU history were also collected. Participants were male (N=8) with a mean age of 23 years; Caucasian (55%), and Hispanic/Latino (33%). All participants were actively competing in various wheelchair sports. Forty-four percent had a history of PUs but only 28% sought medical treatment. Focus group themes included: awareness, risk, prevention, and program solutions. Within PU awareness, 72% of comments concerned intrapersonal topics (e.g., beliefs, attitudes) followed by participants’ comments on past experiences (15%). Participants expressed a sense of isolation with PU occurrence resulting in frustration and a lack of ability to face the challenges coinciding with PUs. This group of athletes with SCI believes skin health is crucial for overall health, ability to participate in sports, and quality of life. Although PU occurrence may not necessarily be due to laziness or lack of attention, that impression seems to be general consensus of other team members and society. Future recommendations include providing athletes with direct access to a wound care specialist, while interventions should emphasize best practices in compliance, motivation, and development of protective lifestyle behaviors.
**Objective:** Focus group data were collected as a means to gather participant attitudes, beliefs, feelings and opinions in regards to informing the design of a pressure ulcer prevention study.

**Title/Author(s): Participant Attrition in Better Me Within, a Community-Based Diabetes Prevention Program;** Becky Garner, MS; Jahnvi Mallah, MPH; Qianzi Zhang, BM; Leilani Dodgen, MPH, CHES; Heather Kitzman-Ulrich, PhD; Jennifer Robb, BS

**Abstract:** Participant attrition is a serious concern in obesity trials with reported dropout rates as high as 80%. Effectiveness of program delivery measured through process evaluations of fidelity and dose may be related to participant satisfaction and attrition. Unlike weight loss studies delivered in clinical settings by health care professionals, the BMW program is delivered in church settings by trained lay health coaches (LHC), which may influence program delivery, participant satisfaction, and attrition rates. Baseline demographic information, process evaluations, participant satisfaction surveys and attendance data were collected from three churches within Cohort One of the BMW program. Process evaluation measures included fidelity (scale of 1-4) and dose (yes/no). Facilitator communication skills and social support had the highest fidelity ratings across all churches (3.63, 3.62, respectively). Acceptable dose of greater than 75% was reported for two of the three churches (Church 1 84.6%; Church 2 80.4%), with church 3 not meeting acceptable dose (66.2%). Church 1 had the highest average for all participant satisfaction scores combined, reporting an average of 4.64 (scale of 1-5), followed by Church 4 (4.58) and Church 3 (4.31). Attendance rates were acceptable at church 1 and 4 (76.70% and 71.63%, respectively), and below acceptable at Church 3 (57.5%). Data suggests that adherence to the DPP curriculum evaluated through process evaluations may influence participant satisfaction scores resulting in lower attendance levels. Monitoring adherence to intervention protocols is essential for understanding study outcomes and may improve participant attrition.

**Objective:** This study evaluated implementation and attrition in the Better Me Within (BMW) program, a randomized controlled study testing a faith-enhanced Diabetes Prevention Program (DPP) compared to a standard DPP intervention in 300 African American (AA) women in 12 churches.

**Title/Author(s): Conscientious Exemptions and Pertussis Disease Clustering in Texas, Kenzi Guerrero, MPH; Rachel Wiseman, MPH; Erin Gardner, MPH; Lucille Palenapa, MPH**

**Abstract:** The number of COs that are filed at Texas public and private schools has increased from 2,314 during the 2003-04 school year to 32,616 in the 2012-13 school year. Peak year incidence of pertussis disease has increased from 9.7 per 100,000 in 2005 to 14.8 per 100,000 in 2013. Using Zip Code Tabulation Area (ZCTA) data, pertussis incidence rates and rates for individuals requesting COs were calculated for each zip code. ArcGIS, version 10.2, was used for creating geographic analysis layers and performing hot spot analysis. SAS, version 9.3, was used to calculate Spearman’s rank correlation coefficients. Spearman’s rank correlation test was performed for both the association between counts and for association between pertussis incidence and rates for individuals whom a CO was requested. Spearman’s rank correlation coefficients for individuals for whom a CO was requested and pertussis cases ages 0-19 by zip code for 2011, 2012, and 2013 were 0.44, 0.56, and 0.64 respectively (p < 0.0001). The correlation coefficient for pertussis incidence in persons 0-19 years of age and the rate of individuals for whom a CO was requested for 2011, 2012, and 2013 was 0.28, 0.28, and 0.35 respectively (p < 0.0001). Hot Spot Analysis tool was used for pertussis data and CO data by zip code to identify clusters. Three statistically significant hot spots were identified. The results of the study indicate a moderate positive association between pertussis incidence rates and rates of individuals for whom COs were requested for persons 0-19 years of age. There is a strong positive association between the number of pertussis cases and the number of individuals for whom COs were requested by zip code.

**Objective:** To determine if there is an association between reported cases of pertussis disease in a zip code and conscientious exemptions (CO) requested in a zip code for the years 2011-2013 in Texas.

**Title/Author(s): Hospice/Palliative Care and the Medical/Health Care Community,** Wendy Holbach, AA; Shelby Kay Lyda; Ciourtney Bowman; Monique Edwards; Trey Soza; Aricella Rodriguez; Karen S. Murray, DrPH, MSN, RN

**Abstract:** In Medieval times, hospice or “hospitality” refers to a place of shelter or rest for weary travelers. The contemporary meaning of hospice, as an idea of specialized care for the dying was introduced in 1962.

Nationally, hospice gained support of the U.S. Department of Health Education & Welfare in 1978 and in 1982 became a Medicare benefit. By 2004 more than one million Americans with a life-limiting illness were served by the nation’s hospices. Integration of the epidemiology of aging provides evidence for the growing need for hospice and palliative care. To assess hospice awareness among health care providers today, we developed a ten-item questionnaire based on the six most important facts about hospice, had it appraised by hospice medical directors, and administered it in brief educational sessions to a convenient sample of medical and health care practitioners in hospital based settings. One hundred and thirty-nine respondents completed the questionnaire. Responses were tabulated in aggregate and by professional title. Tables and figures display summary responses for each variable and every question. Demographics for age, sex, and job title were included. Less than fifty percent of the respondents consistently distinguished responses to factual questions about who – eligibility, what – diagnostic criteria, where – locations, and when – certification of time. Seventy percent of respondents reported receiving formal hospice education in their profes-
sional training. Many reported personal experience with and the value of hospice. Health professionals showed interest and support for this hospice/palliative care study. Questionnaire results on hospice facts warrants further study. At each session we provided a pocket card of hospice facts. Final questionnaire results are in analysis.

Objective: Interpret the definition of hospice and palliative care in 21st century healthcare; examine the six most important facts advanced by the National Hospice & Palliative Care Organization; synthesize perceptions of hospice and palliative care.

Title/Author(s): Feasibility Study for Factors Influencing Dietary Fat Intake Among Emerging Adults, Shalonda D.B. Horton, MSN, BSN, RN

Abstract: Studies report Black adults having higher total dietary fat intakes (DFI) compared to White adults. High DFI health risks include cardiovascular disease, diabetes mellitus, and cancer. Black emerging adults are transitioning from childhood to adulthood, and it may be difficult for individuals in this age bracket to develop healthy dietary habits, which may be maintained into their elderly years. A convenience sample of 42 participants, recruited from churches and social media, were sent a web link to complete an online self-report survey (11 instruments) regarding factors that influence their dietary fat intake. Upon completion of the survey, participants were compensated with a chance to win a $10 value gift card. Data were analyzed using SPSS, including descriptive statistics. Descriptive content analysis was used to analyze participants’ reported barriers to managing dietary fat intake and their feedback regarding how to improve the online survey. Cronbach’s alpha coefficients for reliability ranged from .65 to .91. The correlation coefficients were not significant (p < .05) and ranged from -.42 to .28. Barriers to managing dietary fat intake were lack of time, money, knowledge, and taste and availability. Based on the participants’ feedback, the investigator deleted three instruments from the survey. These changes shortened the survey from 208 items to 113 items, which may help lessen the burden of time spent in completing the survey. Understanding the factors that contribute to dietary fat intake will potentially lead to innovative interventions and programs designed to reduce fat intake among emerging adults.

Objective: The purpose of this cross-sectional, descriptive correlational pilot study was to refine and evaluate the feasibility of select instruments in measuring factors that may influence dietary fat intake among Black emerging adults, ages 18-25 years.

Title/Author(s): Fetal and neonatal mortality, Texas, 2010-2012, Fei Hua, PhD; Lyudmila Baskin, PhD; Jeffrey Swanson, PhD

Abstract: Fetal death statistics were based on fetal death certificate. Neonatal mortality statistics were from the linked birth/neonatal death data set and provided data from both the birth and death certificate. A total of 6,259 fetal deaths occurred in Texas for Texas residents from 2010 to 2012. In the same period, the number of linked birth/neonatal deaths occurred in Texas was 3,998 for Texas residents. Data were interpreted and presented by descriptive tabulations and histograms. From 2010 to 2012, the fetal death ratio was 5.48 per 1,000 live births and the neonatal mortality rate was 3.50 per 1,000 live births in Texas for Texas residents. The fetal death ratio for non-Hispanic Black (9.51) was more than twice higher the ratio for non-Hispanic White (4.73) and non-Hispanic Other Race/Ethnicity (4.19), and similar differences were observed among neonatal deaths. In both data sets, rates/ratios were higher among males and those at low birth weight, as well as among women who were single, aged 40 or over, who had multiple gestations (twin, triplet, etc.), who had no previous live births, and who had multiple (> 3) previous live births. In addition, both groups had the same cause of death, newborn affected by premature rupture of membranes, among top five leading causes. Fetal and neonatal deaths share similar risk factors. Future researches can be done to identify more similarities in both groups to address public concerns regarding perinatal mortality.

Objective: Data for Texas resident fetal and neonatal deaths that occurred in Texas from 2010 to 2012 were compared by public health regions, maternal and fetal-neonatal characteristics. Trends in fetal and neonatal deaths from 1999 to 2012 were also examined.

Title/Author(s): Potential health effects from exposure to Xylene (Dimethylbenzene) in residential communities experiencing unconventional shale gas extraction and processing operations, Oluwatsin P. Igenoza, MBChB; Kikelomo M. Akintunde, BSc; Alisa Rich, PhD, MPH

Abstract: Xylene (m-, p- and o-) is found to be present in emissions from unconventional shale gas extraction and processing (E&P) operations. Residential communities experiencing urban drilling may have an increased risk for Xylene exposure from airborne emissions. Routes of entry into the human body include inhalation, ingestion and dermal absorption. Due to its high solubility in blood, Xylene rapidly spreads throughout the body. It is highly lipophilic, easily retained in fatty tissues, and able to cross the placental and blood-brain barriers (BBB). A meta-analysis was performed and articles retrieved from Pubmed (388), Scopus (353), EBSCO, Science Direct and Pneumonet (25). Keywords searched include xylene, dimethylbenzene and health effects of xylene. Abstracts pertaining to health effects were retrieved in full text. No date restriction on publications was made. Xylene was commonly found in mixture with other volatile organic compounds (Benzene, Toluene and Ethylbenzene), with literature referencing BTEX rather than individual compounds. Articles that combined effects of BTEX were excluded. Ambient air monitoring studies identified high concentrations of Xylene at various distances from unconventional shale gas E&P. Published medical literature confirmed exposure to isomers of Xylene was associated with neurological, respiratory and hematological impairment.
Residents in close proximity to unconventional shale gas E&P processes may have an increased risk for these adverse health effects. Published literature confirmed high concentrations of Xylene in residential areas where unconventional shale gas E&P was occurring. While occupational studies exist, current literature is lacking on non-occupational health effects from short- and long-term exposure to Xylene. Children may be at a greater risk for adverse health effects due to their unique physiological demand and high body fat.

Objective: To identify potential health effects from Xylene exposure in residential communities experiencing unconventional shale gas extraction and processing.

Title/Author(s): Ethyl Benzene (EB) Exposure and Potential Health Effects From Natural Gas Extraction in Urban Areas (“Urban Drilling”), Obioma I. Ilouga, MBBS; Oluwafunlayo A. Osunkoya, BSc; Alisa Rich, PhD, MPH

Abstract: Residential communities affected by “urban drilling” have raised concerns about potential health effects from exposure to toxic chemicals. This study examines ethyl benzene (EB) in ambient air in residential communities experiencing E&P operations and potential health impacts from EB exposure. Natural gas processing occurring at pad sites located in residential areas may be additional sources of toxic EB emissions. A meta-analysis was performed and articles related to health effects from EB exposure evaluated. Databases searched included: Pub-Med, Scopus, Science direct and TOXLINE. Keywords were ethyl benzene, health effects, occupational exposure, natural gas and ambient air. Initially, 500 articles on the health effects of EB were selected. Publication dates ranged from 1967 to 2014. Inclusion criteria were occupational exposure, health effects, ambient air and toxicological animal studies. Exclusion criteria included soil and groundwater contamination, and EB exposure from other sources like cigarette smoke. Retrieved abstracts were evaluated for relation to study focus. Fifty articles were selected and reviewed as full text. Occupational studies of EB exposed workers in natural gas and petrochemical industries, confirmed multi-system toxic effects. Animal studies supported the findings. Adverse health effects included respiratory, cardiovascular, reproductive, hematologic, digestive/liver, excretory and endocrine impairment. Ambient air monitoring studies confirmed elevated levels of EB in residential communities experiencing urban drilling. Communities where natural gas E&P operations are occurring may experience occupational-like exposure to EB and elevated risk of adverse health effect when compared to other areas. Current literature on health effects from EB exposure is lacking and limited to occupational studies. Future studies examining occupational-like EB exposures in residential communities experiencing urban drilling are recommended.

Objective: To examine the presence of ethyl benzene (EB) in ambient air in residential areas experiencing natural gas extraction and processing (E&P) and identify potential health impacts.

Title/Author(s): Reproductive Health among Texas Women: A Descriptive Study, Mihaela Johnson, PhD; Rebecca Wood, MHSP; Ella Puga, MPH

Abstract: Many studies focus on contraceptive use and pregnancy intentions to decrease unintended pregnancy, and monitor changes in the use of contraceptives. The Reproductive Health module included in the 2013 Texas Behavioral Risk Factor Surveillance System (BRFSS) extends this research to include additional topics on pregnancy, types of deliveries, infertility and treatment options. Using BRFSS, we analyzed data on pregnancy intentions, use of contraceptive methods, type of delivery, ability or inability to conceive, and use of infertility treatments for women aged 18-50. Descriptive analyses using complex survey software were conducted to summarize each of the proposed indicators. The analyses showed that 20% of women reported no pregnancies and 55% had 3 or fewer pregnancies. The majority of women (66%) delivered vaginally only, 17% had cesareans for all of their deliveries and 17% had deliveries through both methods. Forty-five percent of women reported not wanting to have children, likely a function of age. To keep them from getting pregnant women indicated using birth control pills (32%), followed by male condoms (23%) and female sterilization (14%). Eleven percent reported suffering from infertility and 40% of those sought infertility treatments. Almost half of the women that underwent treatment (44%) became pregnant and had a baby and another 12% were pregnant at the time of the survey. The most prevalent infertility treatments included consulting an infertility specialist and using drugs to improve or stimulate ovulation. These results are important initial steps in understanding the health and challenges of the reproductive population in Texas and informing future surveillance and reproductive health program planning. To note, some populations were not fully represented in this study (younger, lower-income, some minorities), thus research into these groups is warranted.

Objective: To examine the reproductive functions, behaviors and challenges that women of child bearing age may experience.

Title/Author(s): Predictors of Attitudes towards Breastfeeding among Texas Residents, Mihaela Johnson, PhD; Julie Stagg, MSN, RN, IBCLC, RLC; Ella Puga, MPH; Rebecca Wood, MHSP

Abstract: The benefits of breastfeeding for infants’ and mothers’ health have been well documented. Nevertheless, a mother’s decision to breastfeed her child can be greatly influenced by other people’s attitudes toward breastfeeding. Understanding and addressing these attitudes may help improve initiation and duration of breastfeeding. Data from the 2012 Texas Behavioral Risk Factor Surveillance System (BRFSS) survey were used to examine attitudes toward breastfeeding by sex, age, race/ethnicity, socioeconomic indicators, insurance status and geographic stratification. This study found that the majority of respondents have a positive attitude towards
breastfeeding in public, think breastfeeding is important and that it saves health care costs. Females, younger respondents and those who reporting having children were more likely to indicate a positive attitude. About half of respondents, however, believed some formulas are just as healthy as breast milk (55%) and that hospitals should continue to advertise baby formula from formula manufacturers (46%). Finally, 24% of respondents reported that health professionals should not be involved in infant feeding decisions. It is encouraging to note that most respondents held positive attitudes towards breastfeeding, however there are still misconceptions about the benefits of breast milk versus formula and hospital and doctor’s role in promoting breastfeeding. Doctors play a key role in patient education regarding infant feeding, and support from health professionals could have a significant impact on breastfeeding initiation. At the same time, health experts say formula samples in hospitals can influence women away from breastfeeding and hospitals shouldn’t be a marketing avenue for formula companies. Health programs should continue to emphasize the benefits of breast milk, and aim to improve people’s understanding of doctor’s role in breastfeeding decision and address the potential implications of formula marketing in hospitals.

**Objective:** To describe demographic-related characteristics that may affect attitudes towards breastfeeding among Texas residents.

**Title/Author(s):** 2013 Drowning Statistics in the State of Texas, Erin Kader, MPH

**Abstract:** Fatal and non-fatal drownings are reportable by law to the State EMS/Trauma Registry by hospitals, physicians, justices of the peace, and medical examiners. Drowning reports are collected through a passive surveillance system, and include demographic details as well as circumstances surrounding the drowning event. Deaths due to drowning are determined using death certificate data from the Texas Center for Health Statistics (CHS). EMS/Trauma Registry reports are entered into an online reporting system. The death certificate data was provided by the CHS. The data was cleaned and analyzed using SAS v 9.3 and Microsoft Excel. There were a total of 468 fatal and non-fatal drowning reports received by the EMS/Trauma Registry in 2013. 18% were fatal, 52% were younger than 5 years old, 66% were male, 45% were in June and July, and 40% occurred in a pool, hot tub, or spa. However, according to CHS death certificate data, there were 318 deaths due to drowning, 83% were male and 45% were in a natural body of water. Only 25% of fatal drownings were reported to the State EMS/Trauma Registry in 2013. It is also suspected that non-fatally drowning is underreported in the state, and that these numbers underestimate the true burden. Adults (18+ years old) are more likely to experience a fatal drowning in a natural body of water, while children are more likely to experience a non-fatal drowning in a pool, hot tub, or spa.

**Objective:** Define what data is collected by the Texas DSHS EMS/Trauma Registry and describe the burden of fatal and non-fatal drownings in the state of Texas, including who, where, and under what circumstances drownings occur.

**Title/Author(s):** Describing Health Disparities Among Native Americans/American Indians, Jared Komatz, MPH, CPH, GISS; Anna Vincent; Ella Puga, MPH; Christopher J. Simmons, MPH, CPH

**Abstract:** The Texas population of Native Americans/American Indians has increased over the last several years to an estimated 264,482 for 2013. Native Americans are a minority population and health disparities exist in overall health, access to care, and prevention of diseases. This project aims to demonstrate health implications and initiate discussion for interventions within the health workforce. Data for Native American adults in Texas were compiled from Texas Behavioral Risk Factor Surveillance System from 2011 to 2013, Texas Vital Statistics from 2010 to 2012, US Census and the American Community Survey using three-year estimates from 2010 and 2012. An estimated 39.6% of Native Americans are without current health care coverage, 25.5% reported that they needed to see a doctor but could not due to cost, 76.0% of adults reported having “Fair/Poor” health, 11.2% reported being diagnosed with cardiovascular diseases and 9.5% with diabetes. Additionally, 22.3% reported being diagnosed with a depressive disorder and 26.8% reported having recent poor mental health. The top mortality causes in Texas were heart disease (2.13 per 1000 deaths), cancer (2.05), accidents (0.71), chronic lower respiratory disease (0.49), and cerebrovascular diseases (0.47). There were 4,435 births for Native American women; and among these new mothers 46.81% reporting using WIC, 49.09% used Medicaid, and 41.2% having a high school education or less. While there are additional factors that contribute to health disparities for Native Americans, these data describe both variations in risk and inequalities in access to care for Native Americans within Texas. These analyses demonstrate the need for culturally appropriate interventions and programs that guide communities and policy on how to best mitigate the effects of health disparities among the Native American population.

**Objective:** To describe factors contributing to overall health disparities that exist for Native Americans/American Indians

**Title/Author(s):** McLennan County Worksite Tobacco Follow Up Survey 2014, Michelle Lee; Kahler Stone, MPH; Hammad Akram, MPH

**Abstract:** Because the state of Texas is not completely tobacco-free, each county and municipality is responsible for creating its own tobacco policies and ordinances. In 2013, the initial McLennan County Worksite Tobacco Survey was completed to measure tobacco protection of large worksites. The survey reported that a majority (77%) of worksites had some kind of policy regarding tobacco use and only 17% of worksites had a comprehensive tobacco-free policy. Large employers and worksites in McLennan County will be contacted
electronically, by mail, or by telephone to assess any current smoke or tobacco use policies in place. Workplaces that had no response or had a weak or no tobacco policies will be targeted for this survey. All worksites will be contacted again to assess any policies regarding electronic cigarette use. This survey is currently in progress, but we hope to see an increase from the 17% of worksites that had a comprehensive tobacco-free policy. We also will be able to describe worksite policies about electronic cigarette use. This follow-up survey will give a better understanding of any policy improvements that large work sites in McLennan County have made to increase tobacco and smoke protection for their employees and visitors. As a way to continue to monitor tobacco protection in McLennan County, the Waco-McLennan County Public District will continue to annually survey large work sites and work with those who have a weak or no comprehensive tobacco policy.

Objective: To provide an overview of updated levels of tobacco and secondhand smoke protection and any new or improved tobacco policies from the results of the McLennan County Worksite Tobacco Follow-up Survey administered in 2014.

Title/Author(s): Examining Patients’ Health Status, Functional Status, and Health Behaviors Among Differing Nurse Practitioners and Physicians Care Groups, Figaro L. Loresto Jr., RN, BSN; Yong-Fang Kuo, PhD; Nai-Wei Chen, PhD; James Goodwin, MD

Abstract: With an increasing trend of older adults receiving care from NPs, there is research interest in studying the comparison of delivery of primary care between NPs and MDs. Research consisting of randomized control trials have addressed this comparison stating that NPs have positive results in outcomes such as hospitalizations. However, there are issues of generalizability in these results. Few observational studies using administrative data have been conducted to address this comparison. Some observational studies have examined outcomes such treatment decisions and preventable hospitalizations. Regarding health status, functional status, and health behavior, little has been done in comparing these between care groups. Using the Medicare Beneficiary Survey, a cohort from 2007-2010 was selected. This data set was chosen because it contained the variables of interest. Our outcome variable was that of different care groups defined as follows: MD-only care, less than one-third NP care, greater than one-third NP care, and NP-only care. There were four categories of predictor variables: geographic, demographic, health status, and health behavior. Bivariate analysis and multinomial logistic regression was conducted. Patients in the greater than one-third NP group reported better health as compared with other groups (79.9% vs. 77.4%, 72.0%, 72.5%). Patients with higher number of comorbidities and disabilities tended to belong to groups with NPs. Controlling for all factors, those reporting fair or worse health were 26% more likely to receive care within the less than one-third NP care group than MD-only. Our study revealed that patients with some form of NP care (including NP-only) reported poorer health and more comorbidities as compared with MD-only patients.

Objective: To examine how patients cared for by NPs differ from those cared for by MDs or cared for by both NPs and MDs regarding their health status, functional status, and health behaviors.

Title/Author(s): Follow up of new born infants exposed to HIV positive mothers Houston/Harris Co. 2009-2013, Yvonne Y. Lu, MD, MPH; James Gomez, MPH; Jeffrey M. Meyer, MD, MPH; Salma Khuwaja, MD, MPH, DrPH

Abstract: Enhances HIV/AIDS Records System (eHARS) has been implemented in Texas since June 2009. The new HIV lab reporting rules were implemented on Jan 1, 2010 in Texas, which include reporting of all HIV viral loads and all CD4 test results. Texas started importing electronic lab reports to eHARS in May, 2011, with electronic lab reports dating back to 2009. The electronic lab report importing to eHARS should improve the accuracy of infants’ HIV status in pediatric HIV/AIDS surveillance, by the electronic addition of related lab reports to infant records for updating case status by definition when infants are in care. Data records of infants born to HIV positive mothers from 2009-2013 were retrieved from State eHARS. A follow up study was conducted to assess the changes in case status of infants born to HIV positive mothers at the time of data entry versus the time of analysis. Among the 700 infants born to HIV positive mothers in Houston/Harris Co in 2009-2013, the number of infants with exposure status decreased from 591 to 242; there were more infants changed to serorevertor from exposure status over the last 5 years. However, additional 8 infants developed to be HIV positive. Currently, 242 infant remain in the status of exposed or unknown status. It is unknown how many infants move out of Texas or their status changed due to manually Pediatric Case Report Form (PCR) entry. More studies are needed for continued follow up of HIV exposed infants and for infants who developed HIV. Electronic lab report important can systematically improve the accuracy of pediatric HIV surveillance data over time although a manually PCR entry may also change the case status.

Objective: To examine the changing status of HIV exposure in new born infants from 2009-2013.

Title/Author(s): The Association Between Self-Reported Symptoms and of Urine, Blood and Environmental Measures of Heavy Metal Exposure, Nnami Maduabum, MBBS; Obioma Ilouga, MBBS; David Sterling, PhD, CIH

Abstract: People that live in areas where industrial activities such as mining and smelting are common are particularly at a higher risk for exposure to heavy metals. Heavy metal exposure has numerous health effects, and when individuals are asked how they feel, they self-report symptoms that that are non-specific and may be associated with a number of possible heavy metal exposures. The relationship between biological measures of urine and blood for lead, cadmium and arsenic, and self-reported symptoms of people exposed to heavy met-
als was evaluated. The data used came from a cross-sectional study of Environmental Contamination and Community Exposures in the industrial mineral processing city of La Oroya, Peru, and an agricultural control city in 2005. Blood and urine measures of lead and cadmium, and urine measures of arsenic were grouped into quartiles and the frequency of subjects in the lowest quartile reporting various symptoms was compared with the frequency of those in the highest quartile reporting the same symptoms. The symptoms used were those highly associated with high body levels of the respective metals. Chi-square tests run for these variables showed some significant trends. Out of 312 participants, 30% reported skin lesions and 10.6% of the subjects with urine cadmium levels were in the highest quartile (>1.2150ug/gCr) compared to 6.1% of the subjects in the lowest quartile (<0.4088ug/gCr). Likewise, out of a total of 311 participants, of which 30.2% reported frothy urine, 11.9% were in the highest quartile compared to 6.8% in the lowest quartile. Similar but not statistically significant trends were observed in the other comparisons. The frequency of self-reported symptoms correlates with the levels of metals in the body.

**Objective:** The objective of this study is to evaluate the relationship between self-reported symptoms and Biomarker measures in urine and blood of people exposed to various heavy metals.

**Title/Author(s):** Hello Healthy: An Obesity Prevention Model Program, S. Mantravadi, CPH, CHES, MS, HCM, MPH

**Abstract:** Understanding public health theory is difficult for public health students. This paper provides a model for public health students, to augment interventions with the application of theoretical concepts, using childhood obesity as the target issue. Childhood obesity is a major epidemic in the United States. Being overweight or obese affects one in three children and teens (American Heart Association, n.d.). The consequences of obesity include diabetes, hypertension, and high blood cholesterol levels (Collins, n.d.). The effects of obesity seem to stay with a child for life. Overweight children are more likely to be overweight their entire lives; eighty percent of obese children will be obese for the rest of their lives (American Heart Association, n.d.). The program will focus on behavior change, and teach children about eating healthy, staying active, reducing screen time, balancing calories, BMI, obesity risks and consequences. This model program indicates how the utilization of theory grounds an intervention, towards the availability of healthy and affordable food items. Different theories will be in use for this program, including the Trans-theoretical Model/Stages of Change, Health Belief Model, the Precaution Adoption Process Model and the Social Cognitive Theory behavior change to create a holistic program that will take into consideration the needs of the community as well as truly promote the long-term behavior change. This paper will focus more on theoretical concepts and techniques to accomplish behavior change, including which theory can act as a better basis for change in various behavior categories, applications, and research gaps.

**Objective:** The objective of this framework is to enhance student rationalization and analysis of theoretical concepts, in terms of intervention planning, implementation, and evaluation.

**Title/Author(s):** Contingency Management, Financial Incentives, and Weight Loss: A Meta-Analysis, Brittany Marshall, MPH, CPH, CHES; Deepthi Gandhiraj, MBBS; Rajesh Nandy, PhD; Scott Walters, PhD

**Abstract:** Contingency Management has been effective in treating substance abuse, however the effectiveness of contingency management in targeting chronic conditions such as obesity has yet to be determined. PubMed and SCOPUS were reviewed for articles meeting selection criteria: 1) randomized controlled trials, 2) measured weight as an outcome measure, and 3) included a financial (monetary) incentive for weight loss. Ten studies were included in the meta-analysis. We examined features that were commonly used in contingency management trials in other behavior areas, including escalating payment schedule (yes, no), reset of payment (yes, no), and bonus for continuous improvement (yes, no). A test for heterogeneity was conducted to measure the level of variation in the outcome measures. Both fixed and random effects models were used to calculate the global outcome measure and confidence intervals. The studies were found to be homogeneous \( [x^2 =121.66 \text{ (p value}=0.0001)] \). The global odds ratios based on the fixed and random effects model concluded that interventions that utilized financial based incentives were more effective in achieving weight loss as compared to controls, 2.67 [95% CI= 2.60, 2.73] and 2.69 [95% CI= 2.20, 3.19], respectively. The use of contingency management and financial incentives can serve as a promising feature of weight loss interventions.

**Objective:** The purpose of this study was to conduct a meta-analytic review of financial incentive-based interventions targeting weight loss.

**Title/Author(s):** iCHAT: Interactive Community Health Assistance for Tenants, Brittany Marshall, MPH, CPH, CHES; Stacy Abraham, MPH; Whitney Hill, MPH, CPH; Scott Walters, PhD

**Abstract:** Interactive Community Health Assistance for Tenants (iCHAT), funded through a Medicaid 1115 Waiver, combines motivational interviewing, technology, and wellness incentives to improve health among dual-diagnosis permanent supportive housing (PSH) residents in Tarrant County, Texas. Participants in iCHAT will meet monthly with “Health Navigators” over the course of 24 months to set wellness goals in the areas of diet, exercise, social support, recreation & leisure, medication adherence, and substance abuse. Navigators will employ motivational interviewing, along with a customized health coaching software, to increase motivation, identify goals, and set reminders. Participants will receive wellness in-
centives (called “CHAT Bucks”) contingent on their participation in the program. To test the added value of a smartphone check-in/reminder, participants will be assigned to carry a mobile device in either months 1-6 or 7-12. Those who are carrying the phone will receive up to 60 CHAT Bucks each month based on their percent completion of daily phone assessments. Examples of wellness incentives that can be redeemed with CHAT Bucks include gym memberships, fresh produce, and GED preparation courses. Program Monitoring, Process Evaluation, Outcome Evaluation, and Developmental Evaluation will be used to determine the effectiveness of the iCHAT over the course of the 24 months of program implementation.

Objective: The goals of the program are to a) reduce alcohol and drug use by at least 10%, b) reduce depressive symptoms by 10%, and c) reduce preventative admissions and readmissions in the Criminal Justice System by 5% as compared to baseline.

Title/Author(s): A Comparison of Fruits and Vegetable Consumption: Pre and Post Nutrition Education Intervention among Rural Elementary School Children, Andrea McDonald BS, MS; Lenna Dawkins-Moultin BS, MS; Xuewie Chen, MS; Sharon McWhinney PHD, RD, LD; Lisa McKyer PHD, MPH

Abstract: Increasing fruits and vegetables consumption in rural underserved community has been a challenge for most families. Numerous studies have explored possible solutions to reduce the disparities hampering fruits and vegetable intake. However, limited studies have explored how rural elementary school children benefit from nutrition education intervention. Therefore, the objective of this study was to assess the effectiveness of a six-week nutrition intervention on fruit and vegetable consumption of fourth graders. Fourth grade Students were recruited from 3 rural Independent School Districts in Texas to participate in this study. Each qualified participant was asked to complete a pre-post survey. The survey questions sought to obtain the number of times per day each participant consumed fruits and vegetables. Trained dietitians developed six-week teaching unit that was driven by the Myplate guidelines. One nutritionist and two graduate students facilitated the six nutrition lessons. We conducted descriptive analysis to evaluate the frequency of fruits and vegetable consumed per day, and t-test to compare the children’s vegetable and fruit consumptions before and after the intervention. A total of 142 students participated in the study and finished both the pre-test and post-test survey. Their vegetable consumptions were significantly different before and after the intervention, t (141) = 24.3, p<0.01, with consuming more vegetable after the intervention. Also, their fruit consumptions were significantly different before and after the intervention, t (141) = 32.9, p<0.01, with consuming more fruit after the intervention. Rural community may benefit from more nutrition education in school. Public health practitioners and dietitians may need to collaborate to design programs that will help children increase fruits and vegetable consumption.

Title/Author(s): Application of Measurement System Analysis on Empirically-derived Composite Measure of Preventive Care, Osaro Mgbere, PhD, MPH; Mamta Singh, PhD

Abstract: Measurement system analysis (MSA) of empirically-derived composite measure of preventive care practices was assessed using data from Medical Monitoring Project HIV medical care providers’ survey conducted in 2009. The study assessed the measurement system using the following statistical properties: precision (Gauge Reproducibility and Repeatability, Gauge R&R), accuracy (bias and linearity), stability, and process capability. HIV medical care providers were required to assess the preventive care counseling practices in their clinic using a four-point scale on 20 indicator variables. A weighted single composite preventive care counseling index was developed based on these measures and used for the measurement system analysis using JMP statistical discovery.TM software version 11.1 (SAS Institute, Cary, NC, USA). The variance components attributed to provider and patient status were 29.7% and 31.4% of the total varia-
tion, while the Gauge R&R was 68.6%. A high percent Gauge R&R precision to tolerance ratio (99.13%) and precision to total variation ratio (82.85%) were obtained. With measurement system intra-class correlations without bias factors (r) of 0.45 and with bias factors (rb) of 0.31, the system was classified as “Third Class Monitor” indicating the need for process improvement. However, the system expanded uncertainty was within set range at 99% confidence level making it statistically “stable” and “capable” at a process capability ratio (Cp) of 0.999 (95% CI: 0.793-1.205), process capability index (Cpk) of 0.999 (95% CI: 0.771-1.227) and long term Sigma yield of 2.292. HIV medical care providers should be encouraged to undertake continuing medical education and skills training on HIV prevention; be compliant with standard guidelines, and enhance patients’ communication and education. These efforts would enhance both the providers’ performance outputs and the quality of preventive care counseling received by HIV patients, leading to reduced variations across practices and improvement in the current measurement system.

Objective: Apply measurement system analysis in assessment of composite measure of Preventive Care

Title/Author(s): Current Trends in Accidental Opioid-Related Deaths, Texas, Whitney Michael, MPH; Jeffrey Swanson, PhD

Abstract: The mortality rate for deaths related to drug abuse and misuse increased 78% in Texas from 1999-2010. This growth has led to substantial interest in drug-related deaths in recent years, particularly those related to opioid use. Opioids are substances which act by attaching to receptors in the body in locations such as the brain, spinal cord and gastrointestinal tract to inhibit release of neurotransmitters that are involved in evoking the sensation of pain. Data were based on Texas death certificate for Texas residents who died from 2010-2012. Decedents were selected when “accidental poisoning or exposure to noxious substances” was listed as the underlying cause of death. These cases were further assessed to determine if poisoning by narcotics and psychodysleptics, including opium, heroin, other opioids, methadone or other synthetic narcotics were listed as drugs contributing to death. Decedents’ sex and race were also obtained from these data. Over 41% of accidental poisoning deaths and approximately 10% of all accidental deaths involved opioid use. In total, accidental opioid poisoning contributed to 2,780 deaths from 2010-2012. Of those who died, 66.7% of decedents were male and 69.9% were white (21.6% Hispanic, 6.9% black and 1.6% other races). Nearly half of all decedents (45.7%) were white males. Though more in depth studies are warranted, these findings suggest a need for stricter control of opioid-containing medications and derivatives, harsher punishments for offenders, better access to medical care and counseling services for those affected by opioid dependence and development of medications that block or counter the effects of opioids. Such therapies and interventions may wish to target white males in particular.

Objective: Explore the likelihood of accidental death involving opioid poisoning and evaluate which gender and race were most at risk for accidental opioid poisoning deaths from 2010-2012.

Title/Author(s): Creating Partnerships through Outreach to Promote Participation in Population-based HIV surveillance Project, Karen Miller, MS; Fernando Segura, BS; Brian Goldberg, MPH; Lydwina Anderson, BS; Mamta Singh, PhD; Osaro Mgbere, PhD, MPH; Marcia Wolverton, MPH

Abstract: The Medical Monitoring Project (MMP) is a national population-based special HIV surveillance project conducted by Centers for Disease Control and Prevention (CDC) in collaboration with Houston Department of Health and Human Services. The project is designed to learn more about the met and unmet needs of people who are receiving care for HIV in the United States. Community outreach is at the heart of building a strong and responsive partnership in many population-based projects; and achieving an effective and result-oriented outreach program takes time, energy, and commitment. The objective of this study was to assess the impact of our community outreach activities on the participation rates over the project cycles from 2005 to 2013. The project team organized an average of 6 outreach events annually and attended approximately 8-10 health fairs/community programs annually. Information booths were setup and manned by the project staff at the events. Incentives such as pens, key holders, drinking bottles etc., were given out during such events. In addition, each project staff was encouraged to join or participate in one or more task forces, support groups or advocacy groups, where they will have the opportunity to share information about the project with members and also distribute brochures, flyers and newsletters. The outreach efforts created awareness in the community among HIV medical care providers, patients and stakeholders. HIV medical care providers’ participation rates significantly increased from 36% in 2005 to 80% in 2013. Similarly, patients’ participation rates increased from 23% in 2005 to 61% in 2013. The continuing community outreach efforts provided an important opportunity to educate the HIV care providers, patients, and stakeholders about the project goals and benefits for the HIV community. These helped to build strong and responsive partnerships, and greater public support leading to increased participation in the project.

Objective: Learn how to conduct result-oriented community outreach program targeting the HIV community.

Title/Author(s): Texas Refugee Health Program, Jessica Montour, MPH; Deb Lee, MPH; Amira Suton

Abstract: Since August 2012, several U.S. state refugee health programs have collaborated with the CDC on an ongoing project to assess the needs and evaluate public health interventions for parasites, anemia, chronic hepatitis B infection (including vaccination of uninfected). Texas is the top receiving state for refugees resettling in the U.S. DSHS RHP works
with seven refugee health clinics which conduct domestic medical screenings. Enrolled Burmese refugees received an enhanced health assessment prior to departure. Approximately two weeks prior to arrivals in the U.S., CDC used a secure website to send overseas results for enrolled refugees to the RHP. The RHP relayed the information to the receiving clinic so that the results could be reviewed prior to the domestic health assessment. Serum and stool specimens for additional testing on parasitic diseases were collected in TX and sent to the CDC. During (timeframe TBD), Texas received (TBD) of enrolled refugees who arrived in the U.S. An in-depth description of demographics and health measures will also be provided. Notification prior to or on arrival noting medical issues through the RHPs can provide persons with complex medical conditions immediate care on arrival. Close collaboration between overseas, federal, and state health partners is essential in ensuring good health care of refugees. The collaboration between the Texas RHP and the CDC provides a successful model.

**Objective:** To provide an example of collaboration between the TX Department of State Health Services (DSHS) Refugee Health Program (RHP) and the Centers for Disease Control and Prevention (CDC) Immigrant and Refugee Health Branch.

**Title/Author(s):** Incorporating Rural Community Child and Adolescent Psychiatry Experience in an Urban Psychiatry Residency Program Via TWITR, Ankit Parma, MD, MHA; Deepti Vats, MD; Manish Aligeti, MD, MHA; Matthew Lambert, PhD; Terry McMahon, MD

**Abstract:** In 2010, suicide was the third and fourth leading cause of deaths in ages 15 to 24 and 5 to 14, respectively. Suicide rates in children and adolescents are higher in rural areas compared to urban. Further, data suggests that among 1,253 rural counties in the nation with populations of 2,500 to 20,000, nearly three-fourths lack a psychiatrist, and 95 percent lack a child psychiatrist [3]. Many psychiatrists end up practicing in urban areas and the growing mental health needs of the rural population remain unmet. Very few psychiatry residency programs offer training in rural areas limiting the exposure of the trainees in those settings. Incorporating such training into residency programs could potentially help generate interest among the future psychiatrists to work in those areas. Telemedicine, Wellness, Intervention, Triage, and Referral (TWITR) project is one such unique initiative that provides rural community mental health training to general psychiatry residents at the Texas Tech Health Sciences Center in Lubbock, Texas. This project is funded by the Texas Department of Criminal Justice to provide psychiatric services to school-going children and adolescents in the rural areas. This presentation will discuss their individual experiences while seeing patients from rural communities via telepsychiatry. We will also discuss several challenges such as; access, limitation in available resources, and severity of disorders that residents encountered while devising comprehensive treatment plans for these patients. The success of the incipient year led to the extension of the TWITR project for two additional school years (August 2014 - May 2016). In these upcoming years, resident experiences are being measured using objective data. Such projects will not only help bridge the gap between the growing demand for mental health services and shortage of trained healthcare professionals, but will also provide unique rural exposure to physicians-in-training helping them become better community psychiatrists.

**Objective:** Learn that telepsychiatry projects can be a unique way to incorporate rural community health training in psychiatry residency training program to generate interest among future psychiatrists.

**Title/Author(s):** 1,2,4-Trimethylbenzene (Pseudocumene) Formation of Photochemical Smog and Contribution to Atmospheric Greenhouse Gases (GHGs), Devang A Patel, BDS; Alisa Rich, PhD, MPH

**Abstract:** 1,2,4-Trimethylbenzene, a chemical derivative of benzene, is an industrial solvent and easily volatilizes to the atmosphere. In the presence of other VOCs, it was found to contribute to formation of photochemical smog. Photochemical smog is known to exacerbate respiratory conditions, including asthma and may contribute to cardiac and pulmonary disease. This study examined 1,2,4-Trimethylbenzene in hydraulic fracturing fluids and produced water and its ability to contribute to atmospheric levels of GHGs and photochemical smog. A meta-analysis was performed and articles related to 1,2,4-Trimethylbenzene evaluated. Databases searched include PubMed, Scopus, Web of Science, TOXNET and Science direct. Keywords 1,2,4-Trimethylbenzene, pseudocumene, Trimethylbenzene, atmospheric conversion, atmospheric degradation/reaction, hydraulic fracturing, and health effects. Published article dates ranged from 1994 – 2011. Inclusion criteria were chemical properties of 1,2,4-Trimethylbenzene, atmospheric degradation and reaction, and atmospheric sustainability, and health effects. Exclusion criteria were articles related to 1,2,4-Trimethylbenzene and water pollution, and animal toxicology studies. Articles meeting inclusion criteria were retrieved as full-text and examined. This study confirmed high concentrations of 1,2,4-Trimethylbenzene in hydraulic fracturing fluids and produced water, and ability to aerosolize to the atmosphere from water and soil. Degradation of 1,2,4-TMB in the atmosphere by reactions with hydroxyl radicals are an indirect contributor to atmospheric GHG levels from hydroxyl radical scavenging, and may contribute to local/regional climate change. Slow atmospheric conversion of 1,2,4-TMB in the presence of ozone was found to occur with a half-life of more than 24 years, making it a candidate for long-range transportation. 1,2,4-Trimethylbenzene may be
present in tanks and ponds in areas where hydraulic fracturing is occurring. The general public in close contact with these tanks and ponds may be exposed to 1,2,4-Trimethylbenzene in air and may experience adverse health effects.

**Objective:** To examine 1,2,4-Trimethylbenzene’s contribution to photochemical smog and affect cardiac and pulmonary disease.

**Title/Author(s):** Use of 1,3,5–Trimethylbenzene (Mesitylene) in unconventional shale gas hydraulic fracturing operations and potential for water and soil contamination. Maulikkumar N. Patel, BDS; Tarang M. Patel, BDS; Alisa Rich, MPH, PhD

**Abstract:** Hydraulic fracturing in unconventional shale gas formations allows for natural gas extraction in tight geologic formations. Large quantities of water, proppants and chemical additives are required during hydraulic fracturing. These chemicals have the potential to contaminate water and soil if not properly used and contained. 1,3,5-Trimethylbenzene’s unique characteristics increases the potential for human exposure from contaminated water, soil and bioaccumulation in fish. A meta-analysis of articles related to 1,3,5-Trimethylbenzene was performed. Databases searched included Science direct, PubMed, Scopus, Web of Science, ACS ChemWorx and TOXNET. Keywords included 1,3,5-Trimethyl benzene, Mesitylene, soil and water contamination, surface and drinking water, fish kills, fracking fluids and petroleum industry. Published articles dated from 1993-2012. Inclusion criteria were chemical properties of 1,3,5-Trimethylbenzene (Mesitylene), TMB concentrations in water and soil, TMB in hydraulic fracturing. Exclusion criteria were health effects of TMB, air pollution, and toxicology studies on animals. All relevant abstracts were evaluated with 150 articles reviewed in full-text. This study confirmed 1,3,5-Trimethylbenzene as a chemical additive in hydraulic fracturing. High concentrations of 1,3,5-Trimethylbenzene were found in natural gas produced water discharge. Migration of 1,3,5-Trimethylbenzene from accidental spills, uncontained fluids, and holding ponds was found to increase potential for municipal water, surface and groundwater contamination. Aerosolized 1,3,5-Trimethylbenzene in ambient temperature water was found to be possible due to its high solubility and low partition coefficient. The use of 1,3,5-Trimethylbenzene as a chemical additive in hydraulic fracturing was confirmed in this study. Published literature supports 1,3,5-Trimethylbenzene’s ability to contaminate surface and ground water used as municipal water reservoirs. Bioaccumulation of 1,3,5-Trimethylbenzene in fish was found to be possible due to its high solubility in water.

**Objective:** The objective of this study is to examine the use of 1,3,5-Trimethyl benzene in hydraulic fracturing and its potential for water and soil contamination.

**Title/Author(s):** EMS/Trauma Registry: Performance Improvement in the Surveillance of Reportable EMS runs in Texas. Prakash S. Patel, MD, MPH; Christopher J. Drucker, PhD

**Abstract:** The Omnibus Rural Health Care Rescue Act of 1989 directed the development and implementation of a statewide EMS and trauma care system, and to create a registry. The registry (now the EMS/Trauma Registry [ETR]) is a passive surveillance system that collects legislatively mandated EMS and injury data. ETR’s purpose is to monitor and analyze the EMS and trauma care systems for further prevention of injuries in Texas. In 2012, the ETR transitioned into an advanced registry in part, to adopt a uniform EMS data standard, i.e. National EMS Information System (NEMSIS) standard, and to improve reporting by EMS providers. EMS runs reported to the ETR increased from 92805 in 1997 to 2,606,277 in 2012, an annual increase ranging from 1% to 103%. With the collection of NEMSIS data, it’s expected that Texas’ contribution to NEMSIS will increase total national numbers from 37 to 40 million EMS runs annually, an 8% increase. While transitioning to the new ETR, difficulties were experienced by many EMS providers which resulted in 28,596 fewer EMS runs reported to the ETR in 2013. However, the timeliness of data reported to the ETR improved by 24% from a median of 83 days to 63 days in “Reporting Period” (duration between occurrence of EMS run to its reporting to ETR). The new ETR has the capacity to capture both EMS and hospital patient information. Future activities, which will include the ability to link data, will enable patient care to be analyzed through the entire continuum of care. The ETR data will be used as a primary data source to improve Texas’ EMS and trauma care systems and to identify and support injury prevention projects.

**Objective:** To understand the efforts made in improving the surveillance of reportable emergency medical services (EMS) runs in Texas.

**Title/Author(s):** Knowledge of and Attitudes towards General Preparedness: Texas Behavioral Risk Factor Surveillance System (TX BRFSS), 2013. Ella D. Puga, MPH; Katherine Sanchez, MPH; Danielle Hesse; Mihaela Johnson, PhD; Jeff Hoogheem; Rebecca Wood, MSHP

**Abstract:** Since 1953, Texas has been issued 88 major disaster declarations, more than any other state. In the last ten years, these declarations included droughts, floods, severe storms, and wildfires. Texas preparedness efforts have two current goals: to build community resilience, and to strengthen and sustain health and emergency response systems. The 2013 Texas BRFSS included general preparedness questions to assess Texas’ progress towards these goals. One module was included in the 2013 TX BRFSS and inquired about the preparedness levels of individuals. An estimated 23.5% of Texas residents reported feeling their household was well-prepared to handle an emergency, while 62.0% reported having a three-day water supply for all household members. Compared to females, a higher proportion of males reported feeling their household was well-prepared (29.0% vs 18.1%) and having a three-day water supply (67.1% vs 57.1%). A similar proportion of Texas residents reporting a disability.
indicated feeling their household was well-prepared (26.0%) and having a three-day water supply (62.5%) when compared to respondents not reporting a disability (22.8%; 61.7%). However, 22.8% of respondents having a disability reported relying on regular home telephones to communicate with relatives and friends during a disaster, while only 13.8% without a disability reported the same communication method. The majority of Texas respondents reported relying on cell phone calls (62.8%) as their main method of emergency communication with loved ones. Although Texas residents, regardless of disability status, similarly report feeling their households are well-prepared and having a three-day supply of water, differences may exist between the disabled and able populations with respect to other preparedness-related attitudes and knowledge. Further study needs to be conducted to examine differences by other demographics and types of disability.

**Objective:** To describe Texas residents’ knowledge and attitudes related to preparedness for a disaster or emergency.

**Title/Author(s):** Use of GIS in Global Health: Assessment of Indigenous People in the Chayanta Valley of Bolivia, Heather Reddick, MPH; Conrad Schaefer, MS, GISS; Regina Bentley, EdD, RN

**Abstract:** Since 2010, Texas A&M Health Science Center (TAMHSC) students and faculty from nursing, medicine, dentistry, public health and pharmacy have participated in a summer program to provide health and public health services to remote Quechua and Aymara villages in the Altiplano area of Bolivia. The study group consisted of village members from Quesimpuco and Futina and surrounding remote villages who chose voluntarily to seek health care at designated clinic sites. Two clinics were designated in the remote villages of Quesimpuco and Futina to assess the medical problems of residents and collect a public health assessment of the community members. The 2012 team treated and educated over 492 patients and completed public health assessments for approximately 245 community members in the Bolivian Villages. Public health assessments conducted as part of the program indicated that local concerns included proper housing, potable water, water supplies for animals, food security and education. These villages differed geographically by distance to the closest clinic, the topography separating a village and clinic, time of travel, availability of clean water, and cultural views on public health needs. Many residents walked greater than 5 miles over dry, rugged, high altitude terrain to reach the established clinics. Using Geographic Information Systems (GIS), disease distributions were mapped by villages in the Chayanta Valley. Further, a network analysis of existing Bolivian posts and clinics in relation to villages served will help identify gaps in service. Conclusions will be used to increase awareness and ultimately eliminate common diseases through preventative measures.

**Objective:** The purpose of the 2012 Interprofessional Service Trip to Bolivia was to allow medical, dental, nursing and pharmacy students a chance to provide direct healthcare services, while public health students focused on identifying public health concerns of the community.

**Title/Author(s):** The association of individual, interpersonal, and physiological factors on obesity in African American women, Courtney Reynolds, BS; Qianzi Zhang, BM; Heather Kitzman-Ulrich, PhD; Leilani Dodgen, MPH, CHES

**Abstract:** 34.9% of adults are obese with African Americans (AA) demonstrating the highest rates of obesity (47.8%). Obesity is associated with a variety of chronic health conditions, and has been strongly linked to type II diabetes. In fact, nearly 90% of overweight or obese individuals have a concurrent diagnosis of type II diabetes.

Associations between individual, interpersonal and physiological variables and Body Mass Index (BMI) were evaluated in 62 AA women (mean age 45.8 years [SD 12.4], mean BMI 37.4 [SD 8.3]). Individual and interpersonal variables including social support, self-efficacy for diet and physical activity, and weight management self-efficacy were evaluated with reliable and valid self-report surveys. Physiological variables including LDL cholesterol and Hemoglobin A1C were collected by trained measurement staff. BMI was calculated with objectively collected height and weight data. Of the 62 participants, 21% were overweight (BMI 25-29.9), 24.3% were Class I Obese (BMI 30-34.9), 25.8% were Class II Obese (BMI 35-39.9), and 29.0% were Class III Obese (BMI ≥ 40, extreme obesity). The only individual level variable associated with BMI was motivation for physical activity (r=−0.32; p=0.01). The interpersonal variable of support for weight management was negatively associated with BMI (r=−0.23; p=0.08). LDL cholesterol was not associated with BMI, however hemoglobin A1C was significantly associated with BMI (r=0.29; p<0.05). In this sample, greater motivation for physical activity and social support for weight management were associated with lower BMI. Hemoglobin A1C was associated with greater BMI, demonstrating increased risk for diabetes based on weight. Future research should evaluate the role of motivation for physical activity and social support to improve weight management efforts in AA women.

**Objective:** This study evaluated individual, interpersonal, and physiological factors related to obesity. By determining the various underlying factors associated to weight, potential protective factors against obesity can be identified.

**Title/Author(s):** Assessing the Impact of an Open Streets Initiative upon Health Behavior among a Hispanic Border-Town Population, Cindy Lynn Salazar-Collier, MPH, CHES; Rose Gowen, MD; Lisa Mitchell-Bennett, MA, MPH; Arturo Rodriguez, MPH; Belinda Reininger, DrPH

**Abstract:** Although the implementation of open streets initiatives has gained traction within the U.S., little work has been done to assess their impact upon health behavior of event attendees. Brownsville CycloBia is an open streets initiative
which temporarily closes streets to allow attendees the opportunity to engage in any type of PA freely. In-person surveys were conducted among participants of four CycloBia events held between October, 2013 and August, 2014 (n=577). Surveys assessed event engagement in PA, changes in PA behavior after attending CycloBia, personal barriers to engaging in PA, and sociodemographic factors. Most participants surveyed were female (58.70%), Hispanic (93.5%), and between 30-45 years old (44.7%). The average amount of time spent being physically active at CycloBia was 104.8 minutes with the majority of respondents describing their activity as moderate PA (50.81%), and 56.7% reporting that they would have not engaged in PA that day had it not been for the event. Most return attendees reported maintaining/increasing their amount of PA each week after attending CycloBia (97.5%) with 47.2% reporting an increase. Among return attendees there was a 9.5% decrease in the number of people who said they never biked for trips of less than 5 miles (37.4% vs. 27.9%) when comparing bicycling habits before and after CycloBia. Barriers to PA were assessed among June and August CycloBia attendees (n=367) with most common barriers being concerns about safety (40.8%), lack of time (29.0%), and lack of walking/biking resources (19.4%). Results show a positive impact upon PA behavior of participants suggesting that open streets initiatives such as CycloBia may be a viable avenue by which improve health behaviors of Hispanic populations.

**Objective:** The purpose of the study was to assess changes in physical activity (PA) behavior among attendees of an open streets initiative implemented within Brownsville, Texas.

**Title/Author(s):** Assessing Physical Activity Resources and Internal Programming Aimed at Promoting Physical Activity in Churches of South Texas, Cindy Lynn Salazar-Collier, MPH, CHES; M. Renee Umstattt Meyer, PhD, MCHES; Jasmin Sumrall, BS

**Abstract:** The church has been utilized as a means to promote positive health behavior through faith-based health interventions focusing namely on obesity/diabetes prevention and improvement of screening behaviors, but research is needed to assess the direct role the church plays in promoting positive health behavior. All churches were identified within three cities of the Lower Rio Grande Valley and church properties were surveyed in-person and through Google Maps using the Physical Activity Resource Assessment (PARA) instrument (n=177). A Quality Physical Activity Resource (QPAR) score was calculated by summing quality ratings of PA features and amenities and subtracting incivility ratings from that score. Percent agreement and spearman correlation coefficients were conducted to assess inter-method of assessment reliability. Nineteen surveys were as well completed by faith leaders assessing internal church programming and barriers to promoting PA. The average QPAR score was 9.6 (possible range: 36 – 81) and the average number of features, amenities and incivilities was 1.6, 3.2 and 1.8, respectively. The most common PA resources were sidewalks (54.8%), open fields (33.3%), fenced-in open fields (26.6%), and play equipment (18.1%). The most common programming efforts reported were physically active mission/service activities (84.2%) and PA recreation activities/programs (57.9%). Biggest barriers were lack of financial resources for PA staff, lack of leadership to organize PA, and lack of interest from congregation members. Results show that churches have the potential to serve as a viable resource by which to promote PA within Hispanic communities of South Texas. Further research should look at the relationship between PA behaviors of congregants and PA resources and programming offered by the church.

**Objective:** The purpose of this study was to examine the built environment of churches within South Texas to assess the presence of physical activity (PA) resources and internal church programming aimed at promoting PA

**Title/Author(s):** Concentration of Volatile Organic Compounds in Urban Cities as Compared to Urban Areas Experiencing Natural Gas Extraction And Processing, Ruchita P. Shah, BDS; Mansi N. Shah, BDS; Alisa Rich, PhD, MPH

**Abstract:** Expansion of unconventional shale gas extraction and processing (E&P) over the last decade has progressed significantly across the United States. Many communities have voiced concerns for the affect this may have on air quality and environment. Many VOCs present in natural gas and chemicals used in hydraulic fracturing are contributors to atmospheric greenhouse gas (GHG) levels and hazardous air pollutants (HAPs), which are major factors in human respiratory illnesses. In this research, atmospheric VOC concentrations were compared in areas experiencing natural gas E&P to urban area VOC concentrations without E&P. A meta-analysis was performed and articles related to urban VOCs evaluated. A systematic search of Medline, TOXLINE, Scopus, and PubMed databases was performed. All study designs were included without limitation to publication date due to lack of available literature. Inclusion criteria were natural gas extraction process, urban VOCs, HAPs and GHGs. Exclusion criteria were water/soil contamination and other studies conducted outside the U.S. After thorough review 3 studies of urban VOCs met inclusion criteria. For unity and comparison all units were converted to a common unit. Methodology of ambient air sampling varied considerably between studies. In analysis of over 100 concentrations, 7 compounds were consistently collected in urban studies and included acetone, benzene, chloroform, 1,2-dichloroethane, ethylbenzene, tetrachloroethene and styrene. VOCs were found to be 70% higher in urban areas experiencing natural gas extraction. Atmospheric levels of certain VOCs are found to be higher in urban areas where natural gas E&P were occurring. Chemicals found are known HAPs and contribute to atmospheric GHGs, and are responsible for adverse health and environmental effects. Recommendation is for consistent chemical monitoring in urban areas.

**Objective:** To compare atmospheric concentrations of volatile organic compounds (VOCs) in urban areas of natural gas extraction to areas without natural gas extraction.
Title/Author(s): Selected Beliefs and Values of Medical and Nursing Students enrolled in an East African University, Lauren Stewart, BS; Cheryl Cooper, PhD, RN; William Sorenson, PhD; M. Wayne Cooper, MD, PhD

Abstract: Burundi has a population of 10 million composed of 85% Hutu and 14% Tutsi. Eighty-one percent of the population lives in poverty. The infant mortality rate is 61.8 per 1000, 3% of the population is HIV infected, and the average life expectancy is 58 years. (CIA, 2014) The study participants included 74 nursing and 54 medical students. The data collection method was a paper/pencil survey that included 35 questions exploring beliefs and values about professional roles and responsibilities, attitudes and beliefs of their patients, and disease causation. Medical students were more likely to believe that the major cause of illness in Burundi was due to lack of health knowledge, whereas nursing students were more likely to believe that poverty was the cause. Nursing students were more likely to state their most important role was to ensure patient comfort, while medical students were more likely to indicate that treatment was their primary responsibility. Medical students listed, HIV and malaria, as the most serious health problems, whereas nursing students stated that “social” determinants such as alcoholism and poverty were most important. Though both groups considered themselves equally important in caring for patients, nursing students used words with meanings more aligned to larger social issues, whereas medical students used more disease-oriented language. These differences may have implications for the role changes proposed by WHO.

Objective: The purpose of this study was to explore the perceptions of Burundi nursing and medical students about their future practice, and their beliefs about their respective professional roles. The study was a response to a World Health Organization announcement (2009) about a planned change in the professional roles and responsibilities of nurses, whereby nurses would be taking on some roles and responsibilities that were previously considered the domain of physicians.

Title/Author(s): Healthy Food Availability in Food Desert Areas: McLennan County, 2014, Kahler Stone, MPH; Hammad Akram, MPH; Courtney Wollard, MPH; Jake Pry, MPH

Abstract: Food Deserts are defined by the U.S. Department of Agriculture as low-income census tracts where a substantial proportion of residents have low access to a supermarket or large grocery store. The Live Well Waco Coalition in partnership with the Baylor School of Social Work and Texas Hunger Initiative collaborated on this project to better inform the initiatives each partner was implementing. The geographical scope was established by zip codes containing food deserts located inside TX Highway 6 and 340 Loop. Store information and locations were gathered by Waco-McLennan County Public Health District (WMCPHD). The Texas Nutrition Environment Assessment for Stores (TxNEA-S) was used to assess food availability in each store surveyed. In total, 111 stores were identified in 7 zip codes, of which, 86 were successfully surveyed. The TxNEA-S survey assessed 14 food categories and a total of 134 items including data regarding quality and cost. Of the different food categories, milk, grains, and canned goods were the most available in all zip codes. Frozen fruits and vegetables were notably unavailable in all zip codes. The majority of items available in corner stores were 2-3 times more expensive than in grocery stores. The data provided community stakeholders a snapshot of the food items available in different types of stores for the community. The Live Well Waco Coalition and partners are using this data to inform their healthy food option initiatives. The survey results confirm that food desert areas in McLennan County have disparities in healthy food availability.

Objective: Participants will have an understanding of the methods and tools used to perform the Greater Waco Food Environment Study. Participants should also be equipped with knowledge necessary to identify areas have high and low availability across different food categories.

Title/Author(s): Texas Vital Statistics, 2012, Jeff Swanson, PhD; Timothy Hawkins; Fei Hua, PhD; Whitney Michael, MPH; Anna Vincent; Rick Sacratini; Lyudmila Baskin, PhD

Abstract: The Center for Health Statistics and Vital Statistics Unit at the Texas Department of State Health Services work collaboratively to collect, screen, and disseminate vital events data. By continuously documenting changes in Texas vital events, we are able to paint a picture of the health status of Texas. Vital events records were submitted to the Vital Statistics Unit and the Center for Health Statistics. These data were screened for accuracy, and statistical files were produced for use in public health research. Summary frequencies and statistics were calculated among residents of Texas and assessed for changes across time. Since 2003, birth rates have decreased from 7% (White) to 24% (Hispanic). The most commonly registered baby names in 2012 were Sophia for females, and Jacob for males. Deaths from diseases of the heart and malignant neoplasms (cancer) were each approximately four times more likely than the next most common cause (chronic lower respiratory diseases). Infant mortality rates have decreased by 89% since 1943, but recent declines have been smaller. Since 1970, the average age at marriage and divorce has increased by approximately 7.5 years. Finally, induced abortions represented approximately 15% of all pregnancies in 2012. Recent vital events data show that the makeup and health of Texans is changing. Declines in rates of births and infant mortality, and increases in age at marriage, are signs of improvement in Texans’ quality of life. Diseases of the heart and malignant neoplasms remain the leading causes of death, and factors that cause these deaths should remain primary targets of intervention.

Objective: This poster provides a summary of the current trends and statistics on births, deaths, fetal deaths, marriages, divorces, and abortions among Texas residents.
Title/Author(s): Drinking Habits in High School Adolescents in Texas, Michael N.H. Tran, NCPT, MPH; Joe Simon, CPH, MPH; Susie Ramisety Mikler, PhD, MPH

Abstract: A major public health concern facing high schools in the United States is binge drinking among 9th-12th grade students and its consequences towards adolescent health and wellbeing, especially physical violence. The short and long term consequences of binge drinking include blackouts, memory loss, suicides, academic failures, violence, and automobile accidents. Data was analyzed from the 2011 Youth Risk Behavior Survey to examine the prevalence of binge drinking among high school students in Texas and its relationship to other categories of risk behavior like smoking, marijuana use, and drugs without prescription. Binge drinking is defined as consuming ≥5 drinks in two hours. Prevalence estimates, odds ratios, p-values, 95% confidence intervals, and logistic regression were calculated using SPSS software. 53.4% of the participants are associated with both physical fights in schools and an episode of > 1 binge drinking in the last one year. Males have higher odds (OR=2.51) with increased violence compared to females. Among different ethnicities, African Americans have higher odds (OR=1.566) of violence compared to any other ethnic groups. Students who binge drank were more likely than both nondrinkers and current drinkers who did not binge, to report being in a physical fight at least once in twelve months. Other covariates such as male gender (OR=2.51), smoking marijuana (OR=1.52), smoking tobacco (OR=1.84) and using drugs without prescription (OR=1.64) have an association with increased physical fights. The alcohol consumption, especially binge drinking, and other risk factors (smoking, marijuana use, and drug use without prescription) among high school adolescents is significantly associated with increased violence. Study limitations include generalizability of the results and over/under reporting of the responses. Effective intervention strategies will require further attention to other positive and negative covariates, enforcement of the legal drinking age, looking at those who engage in violence sober, and interventions programs for students at-risk.

Objective: By the end of the presentation, participants will be educated about the association between binge drinking and other risk behaviors with physical violence among high school students in Texas.

Title/Author(s): Smoking Prevalence and Media Influence on Smoking Behaviors Among LGBT Persons, Christina Tuell, BS; William Sorenson, PhD; Cheryl Cooper, PhD

Abstract: Recent studies have shown there is a higher prevalence of smoking in LGBT communities (Tang, et al. 2004). A common problem is not having enough LGBT participants. In 2012–2013, the prevalence of current cigarette smoking among LGBT individuals was 27.7%, compared with 17.3% among heterosexual/straight individuals (CDC, 2014). In Texas, the percentage of adults (ages 18+) who currently smoke cigarettes was 19.2% in 2011 (CDC, 2013). Along with minors, big tobacco companies are targeting LGBT communities (Washington, 2002). Self identified persons will be picked using LGBT groups like Tyler Area Guys (TAG), Kilgore Gay Club, and the University based Gay Straight Alliance (GSA). Electronic survey links will be dispersed to 100 - 150 LGBT persons using snowball techniques (known members of the LGBT community will be given the questionnaire and will be asked to pass it on to ten other people). The survey will collect demographic information on sexual preference, behavioral habits, and knowledge of harms of smoking. The video media will be divided into two categories, general public and LGBT, and three genres, drama, comedy, and action. Nine movies from each category, three from each genre will be selected. For the TV series three episodes of four series will be chosen at random. The media will be reviewed for smoking in two ways, a person actually smoking and any appearance of cigarettes, or references to cigarettes (packs, ash trays, butts, etc.).

Objective: The purpose of this study is to explore the prevalence of Lesbian, Gay, Bisexual, and Transgender (LGBT) smoking in Northeast Texas to identify possible associations between smoking behavior and depictions of smoking presented in visual media programming commonly viewed by these groups.

Title/Author(s): Time to Viral Suppression: Timely Linkage and Number of Care Visits Texans Diagnosed in 2010-2011, Margaret Vaaler, PhD; Rena Manning, PhD

Abstract: Increasing early linkage to care (within three months of diagnosis) has been a HIV National Strategy goal since 2010. It is believed that timely linkage to care results in a faster time from initial diagnosis to viral suppression. A recent study (Hall, et al., 2013) examined this for those newly diagnosed with HIV from several different states and cities. We replicated their study with Texas data for 9,305 people

Student Competition Abstracts

Title/Author(s): Sex Trade: Survival Strategy among Homeless Women, Shlesma Chhetri, BA; Gabrianna Saks, MPH; Emily Spence-Almaguer, MSW, PhD

Abstract: Homeless women are vulnerable populations in need. But in order to meet their needs as a community, we must first understand their experiences. For many homeless women “sex trade” or “survival sex” or “transactional sex” performed to meet their basic need is a part of this experience. This survival strategy has major implications to the mental as well as physical health of homeless women. Through a non-random purposive sampling of homeless women utilizing 3 emergency shelter services in Fort Worth Texas, 150 interviews were conducted. Some of the most compelling results from this study were related to survival sex. These findings contribute to an understanding of the role that “survival sex” plays in the complex experience of female homelessness. Survival sex is defined as transactional sex acts that are performed to meet a person’s most basic and immediate needs. Forty-per-
cent of the respondents indicated having been approached and asked to trade sex for money, shelter, food, or substances. One in every four women interviewed reported having engaged in transactional sex exchanges. The study found that women who engaged in sex trade were more likely to have history of victimization, were at higher risk for current victimization and reported greater number of poor health conditions. The results suggest that survival sex is a common phenomenon among homeless women and there is a cyclic relationship between sex trade and victimization. The health correlates of sex trade illustrate the broad and serious health implications of this survival strategy. These findings from the study helped initiate the development of community plan to address the issue of violence against homeless women.

Objective: The purpose of this study was to explore the victimization of homeless women and the effects these experiences have on their physical and mental health.

Title/Author(s): Work environment research: Findings from a survey of public health nurses in Texas, Jacquelyn Dingley, RN, BSN, MPH, MBA; Linda H. Yoder, RN, MBA, PhD, AOCN, FAAN

Abstract: Hospitals have long recognized the need to conduct work environment research to identify optimal strategies for the recruitment and retention of nurses. Such research efforts appear to be long overdue in the public health setting, given the vital role of public health nurses (PHNs) and high vacancy rates reported. Existing research instruments were adapted and tested within the public health setting. Institutional Review Board approval was obtained. An online survey was conducted with PHNs in Texas. A total of 219 completed surveys were returned (response rate = 52%). Most respondents were female (90%), Caucasian (87%), and > 45 years of age (73%). The following work environment characteristics were measured: management support; job autonomy; teamwork; staffing; career development; training; public health practice; and quality focus. The work environment was found to have a clear influence on the following workforce outcomes: organizational commitment (r = .64, p = .01); job satisfaction (r = .51, p = .01); and intent-to-stay (r = .45, p = .01). All survey tools were found to be highly valid and reliable in the public health setting. Further data analysis is pending. This study will fill an important research gap regarding the PHN work environment in Texas. Findings will be presented to public health agency leaders in order to assist them in identifying optimal strategies for the recruitment and retention of PHNs. Valid and reliable survey instruments will be made available for use in future studies of the public health workforce. Such studies may be particularly useful for public health agencies undergoing PHAB accreditation.

Objective: Describe work environment research as a tool to identify optimal strategies for recruitment and retention. Discuss findings from a survey of public health nurses (PHNs) in Texas.

Title/Author(s): Does community cohesion influence parent's perception of neighborhood safety and active commuting to school? A cross-sectional analysis of the Texas Childhood Obesity Prevention Policy Evaluation (TCOPPE) program, Meliha Salahuddin, MPH, MBBS; Eileen K. Nahme, MPH; Nalini Ranjit, PhD; Young-Jae Kim, PhD; Abiodun O. Olayomi, MS, PhD; Diane M. Dowdy, PhD; Chanam Lee, PhD; Marcia G. Ory, PhD, MPH; Deanna M. Hoelscher, PhD, RD, LD

Abstract: The prevalence of children's active commuting to school has declined in recent decades. Few studies have examined the role of the neighborhood social environment in children's active commuting to school.

This cross-sectional analysis examined baseline (2009) data from the Texas Childhood Obesity Prevention Policy Evaluation (TCOPPE) program, a 5-year evaluation of obesity prevention policy implementation in Texas. Parents of 4th grade students (n=857) attending 81 elementary schools across Texas and living within two miles from the school reported their perceptions of the neighborhood safety, community cohesion and children's school commute mode via a self-administered survey. Mixed effects logistic regression models were used to assess gender-stratified associations between perceived community cohesion and each outcome, after adjusting for covariates. A post hoc analysis examined the association between parent’s perception of neighborhood safety and children's ACS by student gender. In adjusted models, parents of boys living in neighborhood with high community cohesion were significantly more likely to perceive their neighborhood as safe compared to parents living in medium and low community cohesion neighborhoods (p-value 0.013). Community cohesion was not associated with children's ACS in adjusted models. Post hoc analysis showed that ACS was higher among boys with parents who perceived their neighborhood as safe than among boys of parents who perceived their neighborhood as not safe, after adjusting for neighborhood- and school-level covariates (p-value 0.013). No associations were observed for girls. The lack of significant association between community cohesion and ACS, despite the association of both with parent's perception of neighborhood safety and children's ACS by student gender, suggests a direct relationship between community cohesion and ACS may be complex. The observed associations for boys imply that different intervention strategies may need to be targeted for boys and girls to increase children’s ACS.

Objective: This study examined the association between community cohesion and 1) parent’s perception of neighborhood safety for walking and biking and 2) children’s active commuting to school (ACS).

Title/Author(s): Motivational Interviewing Fidelity Predicts Short-Term Criminal Justice Outcomes, Stephanie Spohr, MA; Scott T. Walters, PhD; Mayra Rodriguez, MPH; Faye S. Taxman, PhD

Abstract: Substance use is common among people involved
in the U.S. criminal justice system. However, treatment initiation while under community supervision remains an ongoing obstacle. Few studies have examined how the principles of motivational interviewing (MI) apply to offenders under community supervision. This study used data from substance using clients participating in a clinical trial of MI in a probation setting. We analyzed 124 MI counseling sessions using the Motivational Interview Treatment Integrity (MITI) instrument, a rating system for documenting MI fidelity. The MITI includes five global scores assessing MI consistent clinician behaviors and five utterance counts for MI consistent and inconsistent behaviors. Mean MITI summary scores suggested that probationers who initiated treatment in the first 60 days had significantly higher ratings of clinician empathy and MI spirit than clients who did not initiate treatment, (t = 2.08, p < .05) and (t = 2.35, p < .05) respectively. In a logistic regression, MI spirit ratings significantly predicted two-month treatment initiation (χ2 (1) = 4.10, p < .05, R2 = .05). With every one point increase in counselor MI spirit ratings, probationers were 2.82 times more likely to initiate treatment. The MITI is feasible for measuring counselor fidelity to MI in a criminal justice setting. Clinician empathy and MI spirit predicted client treatment initiation at two months. Counselor MI consistent skills appear to be an important predictor of client treatment initiation and should be the focus of training and fidelity efforts in community corrections settings.

**Objective:** Determine which motivational interviewing counselor consistent behaviors are most important for early positive probation efforts (i.e., substance use, treatment initiation).