



THE UNIVERSITY OF ARIZONA

**Mel & Enid Zuckerman
College of Public Health**

Spring 2024

**MPH Applied Practice Experience
Virtual Presentations
Abstract Booklet**

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Office of Student Affairs

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Virtual Presentations

We invite MEZCOPH faculty, staff, students, and alumni, as well as our wonderful preceptors and community members to view as many presentations as possible. These presentations highlight the depth and breadth of work that our students do with local, national, and global communities.

This page will be available for asynchronous viewing of student presentations until May 3rd.

Presentation website:

<https://publichealth.arizona.edu/spring-2024-mpH-presentations>

For each presentation viewed, please complete a brief survey to provide valuable feedback to the presenters. This feedback is anonymous.

Presentation Feedback form:

https://uarizona.co1.qualtrics.com/jfe/form/SV_0NBAG6M3LFFaK7r

We appreciate your participation in the Spring 2024 Virtual MPH Applied Practice Experience Conference!

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*Concentrations Designations

AE - Applied Epidemiology

BIOS - Biostatistics

EOH - Environmental and Occupational Health

EOH IH - Environmental and Occupational Health - Industrial Hygiene

EPI - Epidemiology

FCH - Family and Child Health

GLBL - Global Health

HBHP - Health Behavior Health Promotion

HSA - Health Services Administration

MD/MPH CL - Medical Doctor/Master of Public Health, Clinical Leadership

ONE - One Health

PHP - Public Health Practice

PHPM - Public Health Policy & Management

MPH Applied Epidemiology

ABSTRACTS

UNDERSTANDING RISK FACTORS FOR INFECTION AMONG CONFIRMED CANDIDA AURIS (C. AURIS) CASES MARICOPA COUNTY, 2022. Zoha Ahmed. Online. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: Maricopa County Department of Public Health – Siru Prasai MD, MPH.

Introduction: This internship was completed with Maricopa County Department of Public Health (MCDPH) to review risk factors amongst confirmed Candida auris (C. auris) reported to MCDPH in 2022. Methods: This retrospective review and descriptive analysis includes a comprehensive medical records review of the reported C. auris cases. Quantitative data on risk factors was collected and analyzed collaboratively with the healthcare-associated infection program to determine the common risk factors for the reported C. auris cases. Results: In 2022, 182 confirmed C. auris cases were reported to MCDPH. Of the total, 24 (13%) were clinical (culture positive), 143 (79%) were colonized identified via screening for C. auris colonization for potentially exposed individuals, and 15 (8%) were colonized cases that developed a clinical infection. The overall median age for all cases was 60. Intensive care unit admissions observed 13 (54%) clinical, 63 (44 %) colonized, and 13 (86%) colonized to clinical cases. Ten (41%) clinical, 67 (48%) colonized, and 8 (53%) colonized to clinical cases had past medical history (PMH) of diabetes. Similarly, 5 (20%) clinical, 41 (28%) colonized, and 8 (53%) colonized to clinical cases had PMH of chronic kidney disease. Five (21%) clinical, 23 (16%) colonized, and 4 (26%) colonized to clinical cases had both a surgery and procedure in the 30 days preceding diagnosis. One or more invasive medical devices were associated with 21 (87%) clinical, 124 (86%) colonized, and 15 (100%) clinical to colonized cases. Conclusion: The common risk factors associated with the infection or colonization was age, associated comorbidities, invasive medical devices, having surgeries/procedures, and ICU admission. Consistent adherence to infection prevention practices is vital in preventing interfacility transmission.

THE ROLE OF THE BUILT ENVIRONMENT ON HUMAN HEALTH AND WELLBEING. Erin M. Driver. Online. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: University of Arizona Institute on Place, Wellbeing, and Performance – Altaf Engineer, PhD, RA, LEED AP BD+C; Wooyoung Jung, PhD.

Introduction: The University of Arizona (UA) Institute on Place, Wellbeing, and Performance is an interdisciplinary Institute created in collaboration with the UA College of Medicine, the UA Andrew Weil Center for Integrative Medicine, and the UA College of Architecture, Planning and Landscape Architecture. The goal of the internship was to gain an understanding of the relationship between human health and the built environment through a series of structured activities including literature reviews, original research design, and data presentation.

Methods: A literature review was designed focusing on biophilic design and its relationship to human health and wellbeing during the COVID-19 pandemic. The review was supplemented with publicly available information on the United States (US) housing market via Zillow real estate marketplace and publicly available Substance Abuse and Mental Health Services Administration (SAMHSA) data.

Results: Results of the literature review revealed that increased access to spaces featuring biophilic design characteristics improved mental health and/or decreased stress. US housing market data showed the percentage of available housing units with a mountain, park, or water view categorized as for rent were $1.4 \pm 1.8\%$, whereas the for sale and recently sold categories had a higher percentage of properties with biophilic views at $12.9 \pm 13.4\%$ and $10.1 \pm 11.2\%$, respectively. Analysis of housing and SAMHSA data revealed that the percentage of rental units with biophilic views were significantly, inversely associated with the percentage of mental illness, serious mental illness, and major depressive disorder reported by state ($p < 0.05$). Conclusion: This work emphasizes how interdisciplinary studies can highlight new paths towards understanding human health.

2024 ARIZONA MEZCOPH APE CONFERENCE – A FOUR WHEELED PUBLIC HEALTH PROBLEM. Christopher A. Lessenich. Online. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: Arizona Trauma Association – Patricia Barcelo Sanders, JD.

Introduction: I am completing my internship with the Arizona Trauma Association, and the purpose of my internship was to work with my preceptor, and the board of surgeons, to assess the epidemiology of policy shortcomings in Trauma Care. Methods: The internship began by assessing the current state of Arizona Legislature, including House and Senate Bills. After weekly meetings, our group highlighted bills within the current session that may have varying impact on the Arizona trauma systems. The deliverables focused epidemiology of ATV Injuries, complete a systematic review of ATV Injuries at national and state levels, and propose any potential health policy interventions. Results: The first deliverable was a conference program designed for the STACS 2023 Conference; the second, a systematic review of currently published retrospective analyses of ATV Accidents and injury patterns and outcomes within the United States. The systematic review, began with 219 total studies from a PUBMED Search, and utilized PRISMA Guidelines to include 54 total studies within the final review. Included studies must have had >1 year of data collection; only included data from a single state and its level 1 trauma centers; studies had to include age, gender, mechanism of injury, and severity of injury characteristics. In addition to the systematic review, data from ATV incidents from 2017–2022 in Arizona was collected from the ADHS for analysis. Statistical analysis was calculated based on demographic, injury, outcome, and year. Conclusions: This internship aided my future career as a Physician–Scientist. The opportunity to utilize epidemiological research methods to disseminate national and state statistics surrounding ATV injuries, while also highlighting policy shortcomings and potential impact on Trauma Centers and Clinicians.

USING RELATIONAL DATABASES AND GEOSPATIAL ANALYSIS FOR PUBLIC HEALTH

RESEARCH. Amanda Nelson. Online. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: mySidewalk – Maggie Kauffman, MPH.

Introduction This project was completed at mySidewalk, an organization with the mission of democratizing data science, with the aim of using health equity in data visualization and geospatial analysis. **Methods** A variety of materials were developed to achieve this purpose. First, a set of three case studies were written highlighting how leaders in the field have worked to improve their community's health and vibrancy using a combination of both publicly available data and community feedback for project planning and implementation. Second, a database was developed using publicly available data from the California Health Interview Survey to provide customers a way to explore their community-specific data in conjunction with data from national public sources already available in the mySidewalk platform. Lastly, a research-backed curriculum and set of best practices was developed for the visualization of data with health equity at the forefront. **Results** A set of deliverables were developed consisting of detailed case studies, a robust database for nuanced health analysis to inform public health program implementation, and an educational curriculum advocating for equitable visualization practices. These materials culminated into a final presentation and delivered to staff at the end of the internship. **Conclusion** The largest takeaway from this project is the importance of holding an empathetic and equity-focused lens when visualizing data. Overlooking the people behind the data, suppressing/othering smaller groups, and perpetuating harmful stereotypes in public reports used for decision making are critical errors. Put simply, when reporting on data or creating a visualization, put people first.

EXPLORING GEOSPATIALLY LINKED MOBILITY AND LINKAGE TO PREP. Alejandro Serrato-Guillen. Online. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: Los Angeles County Department of Public Health Division of HIV and STD Programs – Bret Moulton, MPH / Daniel Yeung, PhD, MPH.

Introduction. As part of the Los Angeles County Department of Public Health Division of HIV and STD Programs (DHSP), we examined the relationship between geospatially linked variables and client linkage to PrEP rates. In other parts of the country, driving, compared to public transportation, has been shown to increase HIV access. Methods. The 2021 cross-sectional data from clients accessing DHSP-supported testing services was taken and linked with California Health Places Index (HPI) variables for automobile access and active commuting by zip code, yielding a final sample size of N=50,718. Univariate analysis was conducted for each of the independent variables of interest: age, gender, race/ethnicity, and insurance status, in addition to the external data from the HPI, grouped into quartiles: percent of adults with automobile access and who actively commute. Linkage to PrEP was the outcome. Logistic regression was used to identify significant interactions and generate the final model. Results. In the bivariate models, the lower three quartiles of automobile access had odds ratio significantly below 1, but for active commuting the lower two quartiles yielded odds ratios greater than one. This effect was not consistent, with the final model including interaction terms only showing decreased linkage to PrEP for the automobile access percentiles corresponding to 25.1–50% ($p=0.025$) and 50.1–75% ($p=0.0004$). Conclusion. Based on the inconsistent results using HPI variables, we recommend that DHSP add a field for automobile access to HTS testing forms to gain better fidelity to client mobility. Detailed information on client mobility will allow DHSP to better understand potential transportation-related barriers marginalized groups have reported in previous qualitative.

COVID-19 VACCINE UPTAKE AMONG INCOMING MARICOPA COUNTY REFUGEES. Jeffrey Alexander Sneed. Online. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: Maricopa County Department of Public Health – Adam Berryhill, MPH.

Introduction Vaccine uptake among refugees has important implications for public health, especially following the COVID-19 pandemic. Several factors, including language barriers and medical mistrust, lead to the reduction in vaccine uptake. This project aims to identify factors predicting the odds of Maricopa County refugees without a complete COVID-19 vaccine series to complete it post-arrival. Methods Data used for this project, including demographic and vaccine data, was collected during mandatory domestic medical screening at the Maricopa County Department of Public Health (MCDPH) for new arrivals from July 2021 and December 2023. Overall, 1359 new arrivals met the inclusion criteria of needing at least one COVID-19 vaccine and age appropriate. Logistic regression was used to identify key factors predicting COVID-19 vaccine schedule completion and refusal among new arrivals seen by MCDPH. Results Only 4.4% of those minors completed their vaccine series. All other age groups had significantly greater odds of completing their series. Among these, those 25-44 had 7.26 (95% CL 4.09, 12.88) greater odds to complete compared to those aged 5-17. Those arriving from Eastern Europe had 4.03 (95% CL 2.32, 5.99) greater odds of refusing the vaccine. Those from Southern Asia and South-East Asia had lower odds of vaccine refusal. The odds of not refusing a vaccine increases with educational attainment. Those with less than primary or primary education had 61.3% (95% CL 0.186, 0.816) and 37.3% (95% CL 0.39, 0.99) lower odds of refusing than those with no schooling, respectively. Conclusion All new arrivals referred with one vaccine dose completed their series. Completion odds increase with age and more educated individuals have lower odds to refuse.

ADVANCING ANAPHYLAXIS PREPAREDNESS IN SCHOOLS: KYAH'S EPICOURSE

NATIONALIZATION. Austin Specht. Online. MPH Internship Committee Chair: Christine Girard, ND, MPH. Site and Preceptor: Kyah Rayne Foundation – Michelle Notrica, PharmD, JD, MPH.

Introduction Epinephrine pens are vital for anaphylactic crises, yet many schools and food services lack standard anaphylaxis training. This project with the Kyah Rayne Foundation aimed to bridge the national gap in emergency allergy management, improving education on anaphylaxis and the availability of epinephrine pens. Methods Initially, state-specific anaphylaxis laws were reviewed to guide the creation of a national course toolkit. Then, sessions with stakeholders facilitated toolkit content development. Regular meetings for policy discussion and stakeholder involvement ensured materials matched diverse legal needs. The approach was multi-disciplinary, combining legal research, educational design, and public health principles. Project outcomes were driven by active collaboration and continuous feedback from key stakeholders and team members. Results The EPICourse toolkit, with bilingual resources and flexible modules for state and county health departments, was crafted. Its creation signifies a major leap in public health education for anaphylaxis in schools, highlighting its broad relevance and sustainability. Prepared for national distribution, the toolkit includes comprehensive guides for anaphylaxis management, emergency drills, and legal compliance. Its implementation aims to boost preparedness across schools, emphasizing the importance of organized emergency responses. Conclusion The project stressed the importance of evidence-based education in influencing public health policy. Expertise in legal compliance and epidemiological research was key in creating data-driven emergency training. It underscored the integration of public health insight with policy advocacy, showing the impact of interdisciplinary methods in health education.

MPH Biostatistics

ABSTRACTS

VALIDATION OF THE MICELI POINT-OF-CARE IMPEDANCE AGGREGOMETER. Tiana Silver. Tucson. MPH Internship Committee Chair: Paul Hsu, PhD. Site and Preceptor: The University of Arizona, Sarver Heart Center, ACABI Lab – Yana Roka-Moiiia, PhD, MBA.

Background: The MICELI impedance aggregometer was prototyped as an easy-to-use portable diagnostic device for the evaluation of patients' bleeding risk at point-of-care. This study was aimed at the validation of MICELI with a demographically diverse group of healthy individuals to establish a benchmark for platelet aggregation parameters in the population. Objectives: Evaluate platelet aggregation parameters in whole blood from healthy individuals; to identify the blood characteristics that affect platelet aggregation. Methods: Healthy volunteers (n=30) were recruited to donate blood and complete a demographic survey. Blood parameters (platelet count, hematocrit, and blood type) were assessed by standard lab methods. Platelet aggregation in blood was initiated by adding agonists; five aggregation parameters (initial impedance, lag-period, amplitude, velocity, area under the curve) were recorded by MICELI. Statistical analysis was done using R software. A multivariate linear model was fitted to evaluate the correlation between aggregation and blood parameters. Results: TRAP6 is the best agonist for the MICELI testing, showing the most comparable difference to other agonists used within the complex model ($p < 0.001$). Across aggregation parameters model there was a significant correlation in sex and age. We also identified a significant correlation between hematocrit and initial impedance ($p < 0.05$) and lag time ($p < 0.001$) and between platelet count and initial impedance ($p < 0.05$) and lag time ($p < 0.05$). Conclusion: We determined a significant correlation between aggregation parameters and two blood characteristics and created the complex linear regression model allowing MICELI to predict them. The MICELI aggregometer and our model could be used for quick and accurate testing of patients' bleeding risk at point-of-care.

EFFECT OF MASK WEARING ON COGNITIVE PERFORMANCE. Jonah Vega-Reid. Tucson. MPH Internship Committee Chair: Edward J. Bedrick, PhD. Site and Preceptor: Andrew Weil Center for Integrative Medicine – Jacob Hyde, PsyD.

Background As prolonged mask wearing remains a feature of everyday life, cognitive effects of various masks and respirators are a potential concern. With public health guidance recommending masks or respirators in various settings, the effect on cognitive performance has yet to be studied in individuals wearing masks for prolonged periods. **Objectives** The primary objective of this study is to determine if prolonged use of an N95 respirator or surgical mask affects cognitive performance when compared or when compared to no mask. This pilot analysis aims to provide preliminary insights and motivation for future data analysis on a complete data set from this study. **Methods** Twelve participants each wore an N95 respirator, a surgical mask, or no mask on separate occasions, resulting in a total of 27 occasions that served as data points. Data collection is still in progress. Participants initially completed a series of baseline cognitive tests, followed by a 2.5 hour period of mask wearing. Then, another round of cognitive tests was performed while continuing to wear the mask. A mixed model regression analysis was conducted to assess the impact of mask type on performance across various cognitive tasks. **Results** The analysis revealed no significant effect of mask type on performance in the mathematical reasoning task, the procedural reaction time task, or the go-no-go task. Additionally, there was no significant difference in performance between any two mask conditions when directly compared. **Discussion** Given the limited sample, these findings are not conclusive, and testing requires verification with a full set of data. Therefore, an alternative hypothesis is proposed: mean differences in cognitive performance caused by mask and respirator use are negligible.

EXPLORATORY ANALYSIS OF CLIMATE CHANGE ON DIARRHEA, CHOLERA, AND DYSENTERY CASES IN FIVE DAR ES SALAAM CITY HEALTH CENTERS, TANZANIA. Bikyeombe Byatunga Yves. Tucson. MPH Internship Committee Chair: Aminata Kilungo, PhD. Site and Preceptor: Global Health Institute (Global Health Scholars), Muhimbili University of Health and Allied Sciences, Tanzania – Hussein Mohamed, PhD.

Diarrhea, dysentery, and cholera pose significant public health threats, particularly in low and middle-income countries, significantly impacting global morbidity and child mortality rates. Inadequate access to Water, Sanitation, and Hygiene (WASH) facilities and socio-economic factors contribute to the rise of these diseases. Additionally, Climate change poses a growing risk to waterborne diseases, yet our understanding of this complex relationship remains limited. We examined the relationship between climate change and the incidence of cholera, diarrhea, and dysentery using four years of weather data as a proxy for climate data. Health data was collected from five hospitals in Dar es Salaam, while weather data was obtained from the Tanzania Meteorological Authority. We applied regression methods to assess the statistical significance of the relationship between climate factors and the occurrence of these diarrhea diseases. Our primary analysis revealed an association between climate change drivers and the incidence of diarrhea diseases ($p = 0.0024$), indicating statistical significance at the 0.05 level. After all the variables were included, our analysis showed that increasing minimum temperature was associated with increased diarrhea cases. In contrast, an increase in maximum temperatures was associated with a decrease. A negative binomial regression for our sensitivity analysis supported our primary findings. Our study uncovered variations in disease prevalence among different health centers in the city, with Kinondoni reporting the highest incidence. A particularly critical finding was the emergence of a cholera epidemic in August 2019, which highlighted the imperative need for an in-depth investigation into the underlying factors contributing to the prevalence of these waterborne diseases in our study.

MPH Environmental and Occupational Health
ABSTRACTS

ASSESSMENT OF ASSOCIATIVE RELATIONSHIPS BETWEEN SOCIAL DETERMINANTS OF HEALTH AND HEALTHCARE ACCESS AND UTILIZATION IN SOUTHERN ARIZONA. Leesa Lyons. Tucson. MPH Internship Committee Chair: Aminata Kilungo, PhD. Site and Preceptor: University of Arizona College of Public Health Hum Lab – Chris Lim, PhD.

Healthcare access and utilization are integral metrics needed to promote health and wellness, and are often limited due to present social determinants of health (SDOH). SDOH are conditions of one's environment that affect many health outcomes and quality of life indicators. This APE aimed to investigate the relationship between these conditions and healthcare access and utilization behaviors in southern Arizona communities (Pima, Cochise, Pinal county). Methods: This APE concluded with the creation of two deliverables, a literature review and a digital map. The literature review established a basis of understanding of prevalence of SDOH and the impact that they pose to access and utilization. The review specifically explored concepts related to health literacy, socioeconomic status, social vulnerability, community walkability, provider shortages and heat. The digital map was created using R and publicly accessed spatial data on health care facilities overlaid with census tracts and sociodemographic data across Arizona. Results: Distance disparities were identified upon qualitative analysis of distance to care centers (hospitals, specialty care and outpatient facilities that are open for use by the general population from centroids (areas of population density). The literature review supports an association between extended distance (greater than 10 miles) to care and poorer access and satisfaction with healthcare services. Conclusions: There are extended distances required to reach primary and specialty care services, and many in these counties are vulnerable populations of greater risk to not seek regular primary care services because of distance barriers.

INVESTIGATING MENTAL HEALTH SYMPTOMS, PARENTING STRESS, AND QUALITY OF LIFE IN CHILDREN WITH ASD BEFORE AND AFTER THE SARS COV-2 PANDEMIC. Jack Lansing Picton. Tucson. MPH Internship Committee Chair: Kelly Reynolds, MSPH, PhD. Site and Preceptor: Johns Hopkins University – Kennedy Krieger Institute – Ji Su Hong, MD.

Background: The abrupt onset of the COVID-19 pandemic has caused many psychosocial complications in the population level. Among the different subgroups in the population, vulnerable individuals have experienced more problems with mental health, life stress, and quality of life. There remains a lack of understanding for the long-term impact of COVID-19 on mental health, especially for children with autism spectrum disorder (ASD) and their families. Methods: The study population was identified by confirmed diagnosis of ASD and completion of intake forms at the Center for Autism and Related Disorders (CARD) at the Kennedy Krieger Institute between June 2017 and December 2022. Data was chosen by patient intake form parameters set by KKI physicians. Results: Child Behavior Checklist (mental health) scores remained unchanged. Physical issue scores were higher (3.8) during the pandemic than before (3.5). Autism Parenting Stress Index (parenting stress) scores were lower during and after the pandemic (8.1) compared to before (8.7). Child and Family Quality of Life (quality of life) scores were higher after the pandemic (15.7) than before (14.9). Conclusion: There was no significant difference ($p > 0.05$) in the mental health symptoms of children with ASD before and after the pandemic. There was a significant difference in parenting stress ($p < 0.001$) and quality of life in children with ASD and their families ($p = 0.006$) before and after the pandemic. However, although these results are statistically significant, their effect size is small. Further research is needed to investigate the patient rates of historically disadvantaged groups and the impact of telehealth on accessibility.

**MPH Environmental and Occupational Health
Industrial Hygiene Track**

ABSTRACTS

A COMPREHENSIVE REVIEW AND ASSESSMENT OF OCCUPATIONAL HAZARDS AT THE UNIVERSITY OF ARIZONA. Reagan Conner. Tucson. MPH Internship Committee Chair: Jeff Burgess, MD, MS, MPH. Site and Preceptor: University of Arizona Research Laboratory and Safety Services (RLSS) – Maggie Murphy, MS, CIH, CSP.

During the Fall 2023 semester, I completed my internship with the University of Arizona Research and Laboratory Safety Services. The purpose of this internship was to learn a wide range of skills by shadowing and working under certified industrial hygienists. The primary activities included drafting ventilation performance testing work instructions, conducting a toxicological review of chemicals and drugs used in animal research laboratories, and conducting sampling of silica and respirable dust. Each of these activities allowed me to grasp the expected Master of Public Health foundational and concentration competencies. However, the sampling of silica and respirable dust was the only activity with quantitative measures to report. Personal and area sampling took place at the Controlled Environment Agriculture Center during soil sieving, mixing, and potting processes. We chose to sample these agents as they are the most common hazards associated with soil processing. Results of all samples revealed that employee exposure did not meet or exceed the occupational exposure limits. Although the other activities did not have quantitative measures to report, they still provided me with valuable and applicable skills. The activities chosen for the internship are commonly encountered in the field of industrial hygiene. Overall, the knowledge and skills gained through this internship have better prepared me for a future career in industrial hygiene.

MPH Epidemiology

ABSTRACTS

PATIENT FACTORS RELATED TO BREAST CANCER STAGING AT DIAGNOSIS IN KUMASI-GHANA. Roselyn Salomey Amamoo. Tucson. MPH Internship Committee Chair: Yann Klimentidis, PhD, MS. Site and Preceptor: Cancer Epidemiology Education in Special Populations (CEESP) – Dr Amr Soliman MD, MPH, PhD.

Background: Breast cancer currently ranks first in the number of incident cases of all cancers worldwide. In Ghana, it constitutes about a third of all female cancers. Sub-Saharan Africa (SSA) disproportionately records higher late-stage diagnosis of breast cancer, which results in worse prognosis. Patient factors such as low educational level and the use of traditional medicine may contribute to the delay of diagnosis in this region. This study investigates the patient factors related to breast cancer staging among patients at the Komfo Anokye Teaching Hospital (KATH) in Kumasi-Ghana. Methods: A case-case study was conducted at KATH to explore patient factors related to breast cancer staging using interviewer-administered questionnaires. A multivariable logistic regression model adjusting for a priori confounders was used for the primary analysis, and an ordinal logistic regression model was used in the sensitivity analysis. Results: About 80% of the participants had advanced breast cancer. The most common initial symptom was noticing a breast lump. Significant patient factors associated with late breast cancer staging were the use of traditional medicine prior to diagnosis and being unemployed. The use of traditional medicine was the only significant patient factor associated with late-stage breast cancer after adjusting for a priori confounders in the primary analysis [OR 4.14 (1.30,13.15)] and sensitivity analysis [OR 3.94 (2.02,7.69)]. Conclusion: Patients with breast cancer at KATH have considerably higher odds of receiving a late-stage diagnosis if they used traditional medicine prior to diagnosis. Patients may resort to this type of medicine due to its cheaper cost. However, the use of traditional medicine may delay hospital treatment, which increases the risk of complications that could have been prevented.

COCHISE COUNTY HEALTH ASSESSMENT. Jamie Chapman. Tucson. MPH Internship Committee Chair: Heidi Brown, PhD, MPH. Site and Preceptor: Cochise County Health & Social Services – Rachael Rawlings, MPH.

My applied practice experience was completed with staff at the Cochise County Department of Health and Human Services over the summer of 2023. During this experience, I performed data analysis and generated a recommendations report for the upcoming community health needs assessment. A Community Health Assessment (CHA) is an essential tool for public health organizations to create meaningful policy and improvements to the health of county residents. To meet this goal, data was sourced and collected by the site preceptor regarding topics of interest for the rural county's CHA. I used each of the resources and built a comprehensive report about the health status of Cochise citizens. After analysis of these data sources, a recommendations report was constructed to inform County staff of associations that should be addressed by the upcoming CHA and resulting improvement plans. Included in the report are summary statistics, odds ratios, and excessive risk for different groups per each health category defined by the county. The deliverables presented meet the required competencies provided by the Mel & Enid Zuckerman College of Public Health.

MOSQUITO SURVEILLANCE IN PIMA COUNTY, SUMMER 2023. Katherine Coleman. Tucson. MPH Internship Committee Chair: Robin Harris, PhD, MPH. Site and Preceptor: Pima County Health Department – Nicholas Ramirez, RS.

Introduction: The incidence of mosquito-borne illnesses is rising. Vector surveillance strategies are imperative to monitor mosquito abundance and specific virus activity while informing control measures. This internship with the Pima County Health Department, Consumer Health and Food Safety Division (CHFS), sought to understand vector surveillance activities. Deliverables include 1) a mosquito surveillance activity summary and 2) the development of arbovirus education materials suitable for the community. Methods: The first deliverable took place Summer of 2023, and includes mosquito surveillance trapping, fieldwork, and identifying mosquito species for testing. Data recorded from this activity served as the base of the report. The second deliverable required reviewing existing arboviral education and prevention materials to construct effective educational materials focusing on messaging for Dengue and Malaria. Results: A total of 403 traps were investigated with 45.0% of the traps containing adult mosquitoes. However, no mosquito pools tested positive for West Nile virus in Summer 2023. Mosquito populations were relatively low given the dry and hot climate and delayed start to the monsoon season. A summary report of mosquito surveillance was developed for Pima County. Health education materials (including social media posts) were designed for Dengue and Malaria since Pima County had no specific materials. Postings were reviewed by CHFS's Division Manager. Conclusion: This internship project addresses the importance of vector surveillance and public awareness by evaluating current surveillance practices in the county. The community dissemination of arboviral health education materials is a step toward fostering interaction between the public and the county and encouraging preventative practices at home.

IMPACT OF FOOD INSECURITY ON COVID-19 SEVERITY OF COVHORT PARTICIPANTS. Chidera Maryjane Ejike. Tucson. MPH Internship Committee Chair: Kristen Pogreba-Brown, PhD, MPH. Site and Preceptor: CoVHORT Study, University of Arizona. – Kacey Ernst, PhD, MPH.

Prior work had demonstrated that the COVID-19 pandemic increased food insecurity for individuals across the nation, particularly during the pandemic. However, little is known about the link between food security and acute COVID-19 symptoms. This internship project aimed to examine the severity of COVID-19 infection among food-insecure and food-secure participants in the Arizona CoVHORT. A comprehensive review of relevant literature was employed to inform the selection of factors influencing exposure and outcomes. Initial analyses explored the correlation between food insecurity and acute COVID-19 severity. Descriptive analyses were conducted to assess the severity of COVID-19 among participants categorized as food secure (FS) or food insecure (FIS) at 15-, 21-, and 27-months following entry into the COVHORT study. A two-item food security scale was used (Q1: “We worried whether our food would run out before we got money to buy more” and Q2: “The food we bought just didn’t last and we didn’t have money to get more”). The severity of COVID-19 disease reported at initial COVID-19 onset was assessed using self-reported symptom histories. Individuals who were FIS in Q1 more commonly reported severe COVID-19 disease; 21%, 37%, and 25% than FS individuals 12%, 14%, and 24% at 15, 24, and 27 months, respectively. Similarly, in Q2, more of the individuals who were FIS also reported severe COVID-19 disease; 18%, 40%, and 20% than FS individuals 12%, 14%, and 25% at 15, 24, and 27 months. Many participants reported experiencing food insecurity after COVID-19 onset, as data was collected 15 months after the onset. This study underscores a potential relationship between COVID-19 severity and Food insecurity. More research is needed to understand how COVID-19 affects vulnerable populations and find ways to prevent adverse outcomes.

TIMING FROM INITIAL DIAGNOSIS TO CONFIRMATION OF CERVICAL CANCER IN LUSAKA, ZAMBIA: A RETROSPECTIVE ANALYSIS. Rachael Hinkel. Tucson. MPH Internship Committee Chair: Leslie Farland, ScD, MSc. Site and Preceptor: Cancer Epidemiology Education in Special Populations (CEESP)-Lusaka, Zambia – Mulele Kalima, MPH.

Introduction: Cervical cancer remains a significant global health challenge, particularly in countries like Zambia where high incidence rates and late-stage diagnoses persist despite screening efforts. In collaboration with the Cancer Epidemiology Education in Special Populations (CEESP) Program and cancer specialists in Zambia, this research aimed to analyze why cervical cancer rates and late-stage diagnoses remain high in the country. Methods: A retrospective data analysis using survival analysis was conducted to investigate the impact of screening specificity at various facilities and the influence of HIV status on the time taken to confirm cervical cancer diagnosis and the stage at confirmation. Results: The analysis revealed that the facility where screening took place and the HIV status of individuals were statistically significant factors affecting the time taken to confirm cervical cancer diagnosis and the stage at which cancer was confirmed. The survival analysis indicated notable differences in rates of late-stage cervical cancer diagnoses and extended time-to-confirmation, primarily due to varying rates of false and true positive screening results across facilities and between women living with HIV and those without. Conclusion: Cervical cancer screening infrastructure and HIV status significantly contribute to the incidence of late-stage cervical cancer and associated mortality in Zambia. Enhancing educational outreach on cervical cancer and improving screening training for healthcare providers could alleviate the burden of cervical cancer among women in low- and middle-income countries like Zambia. Further research is necessary to fully understand the impact of various risk factors on cervical cancer rates and mortality in Zambia.

FOOD-BORNE DISEASES FROM A HEALTH EQUITY LENS. Meccah Bendenia Jarrah. Tucson. MPH Internship Committee Chair: Kristen Pogreba-Brown, PhD, MPH. Site and Preceptor: ADHS: Infectious Disease Control (Food/waterborne program) – Joli Weiss, BA, MS; PhD.

Salmonella and Campylobacter are the primary bacterial causes of diarrheal illnesses worldwide and in Arizona. As an intern for the Food/Waterborne team, I developed a social media calendar in collaboration with the food safety team and conducted data analysis on Salmonella and Campylobacter using MEDSIS data, utilizing a health equity lens. Methods: The study involved two main tasks: data analysis and social media calendar development. SAS OnDemand was used for analysis, assessing interview completeness, including variables for race/ethnicity, counties, and hospitalizations. Descriptive statistics identified missing values. Cases were marked 'completed' if 'yes' was selected in MEDSIS for the standard completed variable. Only cases with completed or attempted interviews were analyzed. The social media calendar centered on significant holidays and topics. Results: The calendar was completed. Interview attempts doubled in Gila, Maricopa, and Mohave counties for Salmonella, and in Coconino and Maricopa counties for Campylobacter. Asian/Pacific Islander had the lowest hospitalization rate for Salmonella, and Unknown had the lowest for Campylobacter. Conclusion/Limitations/ Suggestions: Identified issues (e.g., uncleaned variables, small sample sizes, incomplete data) hinder valid conclusions on health equity. Data quality issues hamper comprehensive analysis. Recommendations: improve data collection, (e.g., expand race/ethnicity categories in MEDSIS, improve communication with case subjects, explore medical records for hospitalized cases) for more robust analysis and informed decision-making.

A SYSTEMATIC REVIEW ON THE ASSOCIATION BETWEEN HUMAN IMMUNODEFICIENCY VIRUS(HIV) AND HEPATOCELLULAR CARCINOMA (HCC). Ivan Kamali. Tucson. MPH Internship Committee Chair: Leslie Dennis, PhD, MS. Site and Preceptor: The University of Arizona Mel and Enid Zuckerman College of Public Health – Meghan, Murphy, MS.

Background and Aims: My internship was performed at the University of Arizona through the Mel & Enid College of Public Health through a group conducting a large meta-analysis on hepatocellular carcinoma (HCC). My role was to conduct a systematic review of the association between human immunodeficiency virus (HIV) and HCC in North America. HIV is a virus that attacks the body's immune system and can lead to AIDS if not treated. HCC occurs when a tumor grows on the liver. Methods: I conducted a comprehensive search on PubMed data to identify relevant studies by utilizing a combination of keywords related to HCC, HIV, and countries in North America. Articles were irrelevant based on exclusion criteria, such as missing HIV data exposure and no exposure, missing HCC data outcome and no outcome, if countries are not from North America, HIV cohort, HIV Cohort studies, HCC cohort studies, and NASH. Results: Of the 160 articles identified through the comprehensive search conducted, some were excluded based on the title, 38 articles were reviewed in depth. We qualitatively synthesized the findings of seven qualified studies by extracting data for nine study metrics: 1) place, 2) 1st author and year published, 3) study design, 4) source of data, 5) date of HCC diagnosis, 6) HIV confirmation, 7) Cases/Controls, 8) confidence of intervals for effect sizes, and 9) adjustments/matching. Among the 7 articles the crude RR estimates ranged from 1.7–4.2 but was much lower among the 3 that adjusted for more than age and sex. Conclusion: The present systematic review found few articles on the association between HIV and HCC, but more research is needed.

A THEMATIC ANALYSIS OF YOUTH ENGAGEMENT DURING COVID-19 PANDEMIC DECISION-MAKING IN THE STATE OF ARIZONA. Kavina N Kamkhanthee. Tucson. MPH Internship Committee Chair: Heidi Brown, PhD, MPH. Site and Preceptor: The Arizona Center for Rural Health (AzCRH) – Mona Arora, PhD, MsPH.

The 2019 pandemic of Coronavirus Disease (COVID-19) put a great pause on everyone's lives due to the uncertainty of the situation. As of February 11, 2024, there have been over 774.6 million confirmed cases of COVID-19 globally whilst school closures, shutdowns in various countries, and decrease in employment resulted in increasing risk of families falling into poverty.[1] Specifically, Arizona's unemployment rate from March 2020 to April 2020 drastically increased from 4.9% to 13.8% and Governor Doug Ducey of Arizona declared statewide school closures during March 2020.[2,3] As the health departments were categorizing individuals into levels of COVID-19 risk based on status of health and environment, the youth community, which consists of individuals between the age of 15 to 24 years, were labeled as low risk of COVID-19 as they are less prone to symptoms and were the last few to receive the COVID-19 vaccines.[4] Though low risk of COVID-19, youth are at a high risk of disruption in their education and their future opportunities. Youth have been underrepresented in many aspects of the pandemic and decision making which could lead to inaccurate analysis in cases and numerical analysis. Various youth focused studies have evaluated modes of engagement and safe space implementations to discuss the need and strategies for youth's voice to be acknowledged by decision-making regarding the effects of the pandemic. To further understand the scope of youth engagement, this paper will examine the following themes that arise throughout the analysis of peer-reviewed articles: a) impacts on their mental health and well-being, b) the sense of agency and control, and c) the sense of uncertainty within their attitudes toward the future, in addition to evaluating survey implementations for youth engagement.

AN ANALYTICAL REPORT ON THE RE-ACCREDITATION OF PIMA COUNTY HEALTH DEPARTMENT BY PUBLIC HEALTH ACCREDITATION BOARD. Mohammad Shrabon Mahmud. Tucson. MPH Internship Committee Chair: Yann Klimentidis, PhD, MS. Site and Preceptor: Pima County Health Department, Tucson, Arizona – Joanne Martin, MPH.

Introduction: Pima County Health Department is one of the 364 health departments accredited nationally by the Public Health Accreditation Board (PHAB). PCHD received its re-accreditation in August 2023 after the initial accreditation was approved in 2016. The health department was committed to upholding its recognition of providing quality public health services through re-accreditation by PHAB. This analysis endeavors to explore different milestones that PCHD had to achieve to succeed in the re-accreditation process. Purpose: The purpose of this report is to demonstrate the key standards in 12 domains that were essential to satisfy the requirements for re-accreditation by PHAB. It will serve as a helpful resource for other health departments in their re-accreditation process. Methods: An organization-wide initiative was undertaken to inform the staff about the re-accreditation tasks that would include a virtual site visit by PHAB officials. They would assess whether specific standards have been met through interviews and review of submitted documents. The Cross-functional Operations Division played a pioneering role in coordinating the entire process. PHAB set up specific questionnaires covering 12 domains that were required to be completed based on the operational achievements of the health department. Division-wise training modules were designed to give the responsible personnel a detailed understanding of the relevant questions. The virtual site visit consisted of further inquiries from PHAB on communicable disease control, community outreach, and epidemiology case surveillance. Result: The health department substantially met the standards in 10 domains and partially met the other two. PCHD was re-accredited for the next five years from August 2023.

UNDERSTANDING PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) PREDICTORS IN FIREFIGHTERS USING DATA FROM THE FIREFIGHTER CANCER COHORT STUDY (FFCCS) AND FIREFIGHTER COLLABORATIVE RESEARCH PROJECT (FCRP). Joseph Mirabito. Tucson. MPH Internship Committee Chair: Katherine Ellingson, PhD. Site and Preceptor: Firefighter Cancer Cohort Study – Jeff Burgess MD, MS, MPH.

Firefighters are routinely exposed to Per- and polyfluoroalkyl substances (PFAS) through Aqueous Film Forming foam used in both firefighting and training scenarios. The Environmental Protection Agency (EPA) has identified certain PFAS chemicals as carcinogens for firefighters, potentially contributing to their increased rates of cancer and overall PFAS exposure compared to the general population. The objective of this internship is to identify the factors influencing blood serum PFAS levels among Arizona firefighters, aiming to minimize their exposure risks. Blood serum PFAS levels and demographic data were collected from 545 firefighters participating in the Firefighter Collaborative Research Project (FCRP), an intervention sub-study of the Firefighter Cancer Cohort Study (FFCCS). Sampling for water quality was also performed across 21 Tucson Fire Department stations to assess potential exposure to PFAS contaminants. All the firefighters tested above the level of detection (LOD) for 7 of the 21 reported blood serum PFAS compounds. The average age of the firefighters is 41.1 years (SD = 8.8 years), and most of the firefighters were from Phoenix Fire Department and Tucson Fire Department, 140 and 91 respectively. Further linear and logistic regressions will be conducted to identify the main predictors of specific PFAS compounds in Arizona firefighters. This study aims to discern which demographic factors place firefighter at highest risk of elevated PFAS levels. These insights can contribute to understanding elevated cancer rates among firefighters compared to the general population. Furthermore, findings from this study can establish valuable evidence for healthcare providers, potentially expanding coverage for various types of cancers within firefighter healthcare policies.

HEAT-RELATED ILLNESS: A SPECTRUM OF FARMWORKER HEAT-RELATED ADVOCACY AND PROTECTIONS. Alfonso Trujillo. Tucson. MPH Internship Committee Chair: Katherine Ellingson, PhD. Site and Preceptor: Larson Assistance Services – Alice C. Larson, PhD.

Background: Only four states have formally adopted heat standards to protect outdoor agricultural workers including Washington, Oregon, California, and Colorado. However, states with the greatest number of extreme heat events lack policy protections. Farmworkers are a vulnerable population for heat-related illness (HRI) given cultural and linguistic barriers and fear of retaliation for reporting HRI. Methods: A literature review was employed to identify gaps in the evidence base and study designs for studies to understand differences in the classification of HRI, measured symptoms and risk factors, and identified barriers. A qualitative analysis aimed to identify HRI concerns among farmworkers in Yuma, Arizona and to report findings from key informant interviews regarding partnerships between farm labor unions, legal services, public health personnel and researchers in policy development and dissemination. Results: Farmworkers who reported having worked in a state with a heat standard law reported better treatment for HRI within the literature. Interviews conducted with partners reported the complexity within the social climate as a barrier in implementing heat standards. Policy protections lack congruence within neighboring states, thereby affecting the level of knowledge that may be considered correct. Discussion: Partnerships with knowledgeable stakeholders of farmworker health may provide an avenue to assist in policy dissemination for state heat standards. Heat standards have been revised multiple times; therefore, the implementation of a seasonal protection may be the best method to initiate a heat standard. Implementation of a federal heat standard may provide the most uniform coverage that will benefit farmworkers who work in multiple states and farm owners who operate farms across the country.

ASSESSING BARRIERS TO MODEL ADOPTION AMONG VECTOR CONTROL AGENCIES IN THE UNITED STATES AND EUROPE. Kaitlyn Wolfe. Tucson. MPH Internship Committee Chair: Heidi Brown, PhD, MPH. Site and Preceptor: The University of Arizona and Lancaster University – Luigi Sedda, PhD.

Objective: To examine the current gaps in vector-borne disease surveillance across the United States and Europe. Methods: A qualitative analysis of transcripts was performed using interviews from 11 vector control organizations in the United States and 14 Vector control organizations in Europe. A total of 31 subject matter experts were interviewed between June 21st and November 13th, 2023. Interviews were conducted over Zoom or Microsoft Teams. Results: Of all vector control agencies interviewed in the US, only 25% incorporated modeling into their day-to-day work beyond historical trends and the vector index. While nearly all of them (92%) worked closely with academics, the models generated proved to be hard to incorporate into daily practice. Conclusion: There is a disconnect between academics designing statistical models and the actual adaptation of these models into practice. In general, vector control agencies wanted models that were easy to use and could provide real-time recommendations for their region. Many agencies saw modeling as a way to become aware of various factors that may influence mosquito populations and disease incidence but generally relied on historical trends and experience to make decisions for control measures.

STRATEGY 2—CREATION OF A HEALTH EQUITY DATA SYSTEM AT THE PIMA COUNTY HEALTH DEPARTMENT. Erin Woods. Tucson. MPH Internship Committee Chair: Katherine Ellingson, PhD. Site and Preceptor: Pima County Health Department – Amanda Sapp, MPH.

Background: Race, ethnicity, geographic location, and other demographics are predictors of disproportionate burden of COVID-19 morbidity, mortality, and access to testing and vaccinations. As the COVID-19 Disparities Intern at the Pima County Health Department (PCHD), my work has focused on illuminating these disparities retrospectively in Pima County, culminating in the creation of a health equity data system. Methods: A two-pillar approach was used to create a health equity data system at PCHD: 1) analysis and visualization of COVID-19 case and testing demographics using R and use of mySidewalk informatics to incorporate denominators; and 2) creation of a best practices document for equitable collection of Race, Ethnicity, and Language Spoken at Home (REAL) data and Sexual Orientation and Gender Identity (SOGI) data. Categorical variables were analyzed using Pima County population denominators, assuming one infection/test per person per year to describe disparities given population level data. Results: A report for cases and testing was generated by year for years 2020–2022. Disparities in percentage of race/ethnicity groups with COVID-19 were identified across all years. Gaps in collection of demographic testing data and sex/gender data in cases, as well as missingness of follow-up data were identified. These findings, in combination with new federal recommendations, supported creation of a guide to facilitate equitable data collection and survey standardization to guide teams at PCHD. Discussion: Through retrospective disparities analysis of COVID-19 data and development of standard operating procedures for collection and visualization of data in real time, PCHD will be able to readily analyze trends in disparities for other diseases and respond to emerging diseases through an equity lens in a prospective manner.

MPH Family and Child Health

ABSTRACTS

HEALTH EQUITY CAPACITY ASSESSMENT FOR RAPE PREVENTION AND EDUCATION/SEXUAL VIOLENCE PREVENTION PROGRAMS IN ARIZONA (SVPEP). Oluwayemisi O. Ayode. Tucson. MPH Internship Committee Chair: Aminata Kilungo, PhD. Site and Preceptor: Arizona Department of Health Services and Mel and Enid Zuckerman College of Public Health (MEZCOPH), University of Arizona – John Ehiri PhD, MPH, MSc.

Objective: Sexual violence (SV) affects over half of women and nearly one-third of men, leading to varied health risks (CDC,2022). The objective of the project is to evaluate the organizational and program equity within existing initiatives through a semi-structured questionnaire and to assess the capacity of current programs in addressing SV, with a focus on social & systemic determinants of health. Methods: Using the CDC Stop SV (CDC,2016), the study: a)Developed/ tested an interview guide based on the CDC equity framework (Appendix A). b)Collected demographic data via a pre-interview survey. c)Conducted qualitative interviews with staff from Sexual Violence Prevention and Education Programs (SVPEP) grantee organizations, evaluating staff capacity, training, technical assistance, data utilization, partnerships, and program focus. d)Analyzed transcripts to identify both gaps and successes. e)Assessment products produced include a presentation report and a framework analysis chart summarizing individual interviews. Results: The assessment of organizational capacity to integrate health equity into SVPEP reveals moderate to high knowledge among the six organizations interviewed, but minimal strategic alignment with health equity. While awareness exists, it is predominantly at the individual and group levels, lacking integration into all determinants of health. The absence of intentional alignment hampers innovation, compounded by limited funding and oversight, restricting activities beyond the inner layers of the socioecological model. Conclusion: Addressing the issue of SV in Arizona demands a comprehensive approach rooted in awareness and understanding by all stakeholders. Dismantling the "culture of violence," starts by acknowledging the problem and working collaboratively to create a safe & compassionate community.

ADAPTIVE SPORTS IN SCHOOLS (ASIS). Ty Coen. Tucson. MPH Internship Committee Chair: Burris Duncan, MD. Site and Preceptor: Arizona Adaptive Athletics – Peter Hughes MEd.

Introduction: Over 10% of the population within Pima County lives with a disability. The ASIS program was developed to educate Pima County youth on the disabled community, and effect change in social perceptions through adaptive sports. Methods: To effect social change, ASIS holds Physical Education (PE) takeover events at K-12 schools in Tucson Unified School District. These events included lessons on wheelchair sports, and time for students to practice in sport wheelchairs. My role within the ASIS program was to create promotional material and help build the framework for the program to conduct an evaluation. Results: My work culminated in two primary deliverables. The first was a promotional flyer for the program to use to reach out to new schools. The second was an evaluation toolkit complete with a stakeholder description, logic model, and sample surveys. Conclusion: Working with this program has taught me a lot about the implementation process for a new public health program. There are many different factors that go into creating a successful public health program, and I had a role to play in nearly all areas. This experience will be invaluable as the needs of public health are constantly changing, so the programs designed to fulfill those needs will also need to be adapted.

NON-CONSENSUAL SEXUAL EXPERIENCES AND ASSOCIATED FACTORS OF ADULTS IN METROPOLITAN LIMA, PERU: A QUANTITATIVE ONLINE SURVEY. Micaela Paulina Gámez. Tucson. MPH Internship Committee Chair: Mary Koss, PhD. Site and Preceptor: Universidad Privada San Juan Bautista (UPSJB) Lima, Peru – Segundo R. León, MPH.

Introduction: Non-consensual sexual experiences are a subject rarely addressed in the discourse amongst people in Lima, Peru, indicating a notable gap in societal awareness regarding this matter. The purpose of the internship was to create materials to collect data on the non-consensual sexual experiences of adults in Metropolitan Lima. The internship was conducted through a collaboration between the Universidad Privada San Juan Bautista (UPSJB) in Chorrillos, Lima, Peru, and the University of Arizona. Methods: The Sexual Experiences Survey-Victimization (SES-V) is an existing measurement of non-consensual sexual experiences. Given that Spanish is the national language of Peru, the SES-V underwent translation from English to Spanish and was published on an online survey platform to ensure accessibility. A range of tailored advertisements with a scannable code and website link to promote survey participation were created. The UPSJB research team shared the advertisements amongst a range of outlets to garner the attention of adults in Metropolitan Lima. Results: The Spanish version of the SES-V was successfully adapted and deemed satisfactory by respondent debriefings. The survey remains open to data collection at this time. The advertisements underwent several edits to ensure effectiveness and continue to be utilized for people in Lima to access and take the survey. The Latin American Spanish SES-V is now accessible for all to use on Open Science. Conclusion: There is great knowledge to gain in participating in the early stages of a study and working with international populations to enhance public health skills on a global scale. It is imperative to conduct thorough research on subjects, such as non-consensual sexual experiences, to advance awareness and develop effective interventions to address critical issues.

EVALUATION OF PRIMARY PREVENTION MOBILE HEALTH UNIT OUTREACH IN GRAHAM, GREENLEE, AND COCHISE COUNTY. Erin Mills. Tucson. MPH Internship Committee Chair: Maia Ingram, MPH. Site and Preceptor: Primary Prevention Mobile Health Unit – Tucson – Sheila Soto, DrPH, MPH.

Introduction: The Primary Prevention Mobile Health Unit (MHU) plays a vital role in addressing the healthcare needs of underserved communities in Arizona, particularly densely populated Latinx communities. The MHU provides preventative health screenings and education to under- and uninsured individuals and helps them access a primary care home and other social services. This project aims to develop a survey tool for individuals living in Cochise, Graham, and Greenlee counties. The final deliverable will be a recommendation brief for the MHU.

Methods: An online survey included various questions to identify preferences for community engagement, determine community needs, and measure client satisfaction with MHU staff and services. MHU clients residing in the target counties received flyers with QR codes leading to the English and Spanish survey. Community partners were engaged in stakeholder interviews to inform community engagement and formulate recommendations.

Results: The stakeholder interviews generated valuable insight into strategies for the MHU to enhance outreach, services, and fulfillment in the target communities. Preliminary survey results indicate a need for chronic disease education, family planning, and addiction services, and social media and word of mouth are often cited as the best forms for information sharing.

Conclusion: Findings serve as a guide for ensuring that the MHU aligns with the county's specific needs whenever possible and facilitating the inclusion of external collaborators. These recommendations can enhance the MHU's positive impact, further addressing healthcare gaps in underserved rural and border regions.

ADVERSE CHILDHOOD EXPERIENCES AND MULTI-GENERATIONAL TRAUMA AFFECTING COMMUNICATION AMONGST FIRST-GENERATION CHILDREN AND IMMIGRANT PARENTS. Sandy Nguyen. Tucson. MPH Internship Committee Chair: Elise Lopez, DrPH, MPH. Site and Preceptor: Arizona Youth Partnership – Sara Sherman, MPA.

Background: Adverse Childhood Experiences (ACEs) are traumatic events that occurred during childhood (i.e. emotional/physical/sexual abuse, violence, or family dysfunction). Among adolescents of 12–24 years of age, the prevalence of at least 1 ACEs is roughly 85%. ACEs and multi-generational trauma are large factors to first-generation children are having difficulty communicating with Immigrant parents. Children addressing the trauma with parents are seeking to heal the generational trauma. The purpose of the presentation is to report the findings and bring awareness to multi-generational trauma of ACEs that effects communication and available prevention and treatment measures. Methods: The literature was searched using keywords First-generation Children, Immigrant parents, ACEs, Prevention + Treatment, and multi-generational trauma. Databases used were PubMed, Google scholar. The focus is households with first-generation children ages 12–24 years of between 2007 and 2023. A total of 22 articles were read, but only 15 were used. Results: Acknowledging the different levels of ACEs and the multi-generational trauma, interpersonal relationship communication begins to develop between parent and child. First-generation children struggle with expressing thoughts and emotions, causing a disconnect between immigrant parent and children. Personal and interfamily therapy has shown to be both a preventative measure against ACEs in the next generation, and treatment to heal past multi-generational trauma. Out of the 15 articles, 7 described preventative and treatment measures. Conclusion: There are preventions and treatments measures for ACEs and multi-generational trauma. Addressing ACEs and multi-generational trauma improves communication and relationships of Asian and Hispanic households.

EMPOWERING FUTURES: A MENTORSHIP PROGRAM BASED ON COLLEGE AND CAREER READINESS. Fernanda J. Palafox, BA. Tucson. MPH Internship Committee Chair: Martha Moore-Monroy, EdD, MA. Site and Preceptor: Apollo Middle School, Sunnyside Unified School District – Thad Dugan, PhD.

At Apollo Middle School, a Title 1 school based in South Tucson, the University of Arizona College of Public Health graduate and undergraduate students collaborated in creating a mentorship program based on college and career readiness. This project addresses the critical need for promoting resilience and future planning among students of low socioeconomic status (SES) in Title-I schools, particularly those living in high-stress environments. Recognizing that this student demographic is mainly underserved, the project aims to inspire and empower these students to envision and plan for their futures. In collaboration with the school's administration, teachers, and support staff, the program's objectives were to reflect how best to support a student's educational journey while understanding that a student's life can significantly impact their schooling. Using mentors to educate and inform the students of different college and career paths within this program was essential to ensure the representation of students with similar or other educational experiences. The mentor's primary focus is to encourage and emphasize the students' academic strengths and potentially discuss alternatives to the traditional college system. Some topics discussed include career and technical education, scholarships, trade schools, and dual enrollment courses. By introducing college and career planning earlier, students can become more aware of the different educational options available and start planning on overcoming adversity. Addressing the needs of this underserved population during their formative years is essential in the intervention that aims to inspire confidence, resilience, and a sense of purpose in the pursuit of academic and professional success.

MPH Global Health

ABSTRACTS

SEXUALLY TRANSMITTED INFECTIONS AMONG IMMIGRANTS IN PERU.. Meredith Brewer. Tucson. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: Universidad Privada San Juan Bautista (UPSJB), Peru – Segundo R. León, MPH, MT (ASCPi).

Introduction: The migration of Venezuelan citizens to Peru has surged in recent years, raising concerns about the rise of HIV and sexually transmitted infections (STIs) based on UPSJB's 2020 quantitative study, SexFlow. My internship project with UPSJB SexFlow2 aimed to understand the risk factors, behaviors, and attitudes of Venezuelan migrants toward HIV and STIs. Methods: This study used mixed-method qualitative research to explore the social, individual, and collective factors that affect STI and HIV risk among migrants. Project deliverables include creating an interview guide, promotional materials, and two PowerPoint presentations for stakeholders. The interview guide aided the research staff during semi-structured interviews. It also helped with data analysis and Dedoose software. The second deliverable provided two health education flyers for participants, while the third deliverable was for me to reflect on my experience in Peru and the project's status. All deliverables are in Spanish. Results: The study was conducted among 20 Venezuelan migrants who had previously participated in the SexFlow study and resided in Lima neighborhoods. The preliminary results suggest that the risk of sexually transmitted infections (STIs) and HIV among migrants is influenced by a complex interplay of factors, such as social and cultural perceptions and treatment of migrants by Peruvians, as well as economic pressures leading them to engage in sex work for income. Conclusion: This study sheds light on STI and HIV transmission dynamics among migrants in Peru. The findings underscore the importance of tailored public health interventions that address migrant populations' unique needs and experiences.

UNDERSTANDING THE IMPACT OF CLIMATE CHANGE ON THE GLOBAL PREVALENCE OF MOSQUITO BORNE DISEASES TO DETERMINE HOW TO IMPROVE MOSQUITO SURVEILLANCE AND DISEASE AWARENESS IN PIMA COUNTY. Gabriel J Cardenas. Tucson. MPH Internship Committee Chair: Halimatou Alaofè, PhD, MSc. Site and Preceptor: Pima County Health Department – Amanda Anderson, MPH, RS.

Introduction: Mosquito surveillance programs are crucial to prevent vector-borne disease outbreaks, especially in communities that are vulnerable to the detrimental effects of climate change. The Consumer Health and Food Safety Division (CHFS) located in the Pima County Health Department (PCHD) conducts food, aquatic, and other health inspections, as well as vector surveillance in Pima County. Mosquito populations rise twice a year, once in the Spring and once in the fall. CHFS conducts vector surveillance during both timeframes. Climate change has the potential to upset global weather patterns and alter the length of mosquito seasons in Pima County thus increasing the risk of exposure to vector-borne diseases for residents. Methods: A literature review was conducted to understand the global impact of climate change on the prevalence of mosquito-borne diseases, and how it will affect vulnerable communities. After conducting routine aquatic inspections, assisting in mosquito population monitoring around Tucson, evaluating Pima County Arc-GIS mosquito trapping maps, and creating vector-borne disease handouts it is clear that mosquito populations pose a risk to the health of Tucsonans currently and in the future as climate change creates a more ideal environment for mosquitoes to thrive. Results: Without a greater investment in mosquito surveillance in Pima County, specifically in neighborhoods that have higher rates of low-SES, as climate change worsens the risk of mosquito-borne diseases will increase. Conclusion: Expanding CHFS vector and non-food team, creating further awareness on how to mitigate mosquito populations around one's own home, and increasing mosquito trapping around communities that are currently under monitored are steps that will aid in decreasing the future and current risk of mosquito-borne diseases.

PROGRAM EVALUATION OF THE STUDENTS ARE SUN SAFE PROJECT. Trevor Centeno–Hall. Tucson. MPH Internship Committee Chair: Priscilla Magrath, PhD. Site and Preceptor: Skin Cancer Institute – Dylan Miller, MPH.

Introduction. The internship was conducted with the support of the UofA Skin Cancer Institute (SCI), a part of the UofA Cancer Center. The SCI's goal is to prevent and cure skin cancer through cancer prevention, research, clinical care, education and community outreach. Their Students are Sun Safe (SASS) project was developed by the SCI to train UofA students to provide sun safe lessons to local students. Although SASS has been primarily focused on students, these lessons could help underserved Hispanic populations in Arizona. This internship goals were to conduct a program evaluation of prior SASS lessons and based on this evaluation to develop a culturally and linguistically appropriate Spanish curriculum for a broader audience. Methods. Component 1: The program evaluation component consisted of analyzing 338 pre- and post-lesson surveys using SAS software to measure the effectiveness of SASS lessons to increase skin cancer prevention knowledge in local high school students. Component 2: The second component focused on learning about skin cancer prevention and receiving training to become a skin cancer ambassador. This training consisted in learning how to present health information to community members. I then adapted the SASS curriculum to be more culturally and linguistically appropriate for Hispanic populations in southern Arizona. I did this in partnership with local stakeholders. This modified Spanish SASS lesson was conducted in person at a community event in Yuma. Conclusion. The SASS project is vital to increasing skin cancer awareness. Modifying the SASS lesson plan for a greater audience represents a crucial step towards addressing engagement and understanding of skin cancer awareness in underrepresented communities in Southern Arizona.

SEXUAL & REPRODUCTIVE HEALTHCARE IN LATIN AMERICA: ACCESS TO CONTRACEPTIVES FOR MIGRANT WOMEN & SOCIAL MEDIA AS A TOOL FOR EDUCATION IN MEXICO CITY. Rachel Wesenberg. Tucson. MPH Internship Committee Chair: Burris Duncan, MD. Site and Preceptor: Instituto Nacional de Salud Pública– Cuernavaca, Mexico – Dr. Rene Leyva–Flores.

Introduction: The first internship deliverable was a literature review about migrant women's access to contraceptives. Women make up just half of migrants worldwide, but much is unknown about their usage of and access to contraceptives while in transit. This topic is important, because women often have an unmet need for contraceptives, and they face unique vulnerabilities during migration including sexual violence. The second deliverable for this experience was editing five pre-recorded video messages from providers at a clinic in Mexico City with the goal of spreading sexual health messages via social media. The videos invite the audience to visit the clinic for services such as HIV testing. Methods: For this experience I partnered with the Instituto Nacional de Salud Pública in Cuernavaca, Mexico to conduct a literature review and edited promotional videos for a partner clinic in Mexico City, Clínica Especializada Condesa. Results: The literature review revealed that migrant women in Latin America use a variety of birth control methods, with condoms having the highest prevalence. Factors such as age, marital status, and indigeneity influence which method women use. The leading barriers to access were discrimination, cost, and confusion about the healthcare system. While the promotional health videos have not yet been posted to the clinic's social media pages, they align with the clinic's desire to empower people to make informed decisions about their sexual health. Conclusion: The literature review highlighted adjacent trends that warrant further investigation, including forced sexual encounters during transit and contraceptive usage and access for transgender migrant women. The use of social media as a tool to spread sexual health messages will continue to grow in importance in an increasingly technological society.

MPH Health Behavior Health Promotion

ABSTRACTS

TRAINING AND PROGRAM IMPLEMENTATION GUIDES FOR THE EAT, SLEEP, & CONSOLE PROGRAM. Elizabeth P. Abrams, RDN, IBCLC. Online. MPH Internship Committee Chair: Christine Girard, ND, MPH. Site and Preceptor: Banner – University Medical Center Tucson – Lisa Grisham, MS, NNP-BC.

Introduction: The Eat, Sleep, and Console Program empowers parents with substance use disorder (SUD) to breastfeed and actively participate in the care of their substance-exposed newborn. However, they experience many challenges and face stigma from healthcare providers. Methods: A literature search was conducted to review current guidelines related to breastfeeding with SUD. The literature search included the benefits of breastfeeding, the safety of breastfeeding with SUD, toxicology testing for birthing parents and infants, trauma-informed care, and the stigma that birthing parents with SUD face. Additional information was gathered on local outpatient breastfeeding support including breastfeeding counseling and peer breastfeeding support. The existing program implementation guide for healthcare providers was then reviewed and assessed for outdated terminology and outdated information. Results: The first deliverable created was an evidence-based training guide for healthcare providers on how to support breastfeeding for birthing parents with SUD. The training guide is comprised of six training modules. Additionally, a handout for families on local breastfeeding resources and support was created. The third deliverable was an updated program implementation guide to be utilized by the interdisciplinary team of healthcare providers who work with birthing parents with SUD. Conclusion: Additional research is recommended to evaluate the program implementation guide and to assess the knowledge and attitudes of healthcare providers before and after completion of the training guide. These evaluations will provide insight into the efficacy of the training and areas for modification and improvement.

HOSPITAL-BASED EVALUATION OF PALLIATIVE CARE AMONG PATIENTS WITH CANCER AT THE KOMFO ANOKYE TEACHING HOSPITAL(KATH), KUMASI-GHANA. Rosemond Sussana Amamoo. Tucson. MPH Internship Committee Chair: John Ehiri, PhD, MPH, MSc. Site and Preceptor: Komfo Anokye Teaching Hospital, Kumasi-Ghana – Amr Soliman, MD, PhD.

Cancer incidence and mortality rates are increasing globally, with low- and middle-income countries having a greater share of cancer deaths primarily due to late-stage detection of the disease. Palliative care is offered to patients with advanced cancer to improve their quality of life. In 2015, Komfo Anokye Teaching Hospital (KATH), a referral hospital in Kumasi, Ghana, established a Palliative Care Unit to provide care to patients who were referred by their primary care physicians. Patients receiving treatment at KATH sometimes use traditional medicine simultaneously. The primary objective of this study was to assess the knowledge and attitudes of cancer patients who received palliative care at KATH, as compared to cancer patients who received radical treatment. The secondary objective was to assess the perceptions of traditional medicine in the treatment of cancer among cancer patients who used traditional medicine in addition to their treatment at KATH. This study was conducted at the Oncology and Palliative Care Unit of KATH from May to August 2023. Less than 50% of participants in the palliative treatment group knew their treatment was not to achieve cure. All the participants of this study were willing to recommend the type of treatment they were receiving at KATH to someone with their condition. Most participants in this study were at least satisfied with their current treatment. The use of traditional medicine reduced after patients started treatment at KATH. Only 15% of participants agreed that the use of traditional medicine improved their condition. Overall, patients had a positive impression of their treatment at KATH. There is however the need to educate patients on their treatment goals, so they can make informed life decisions and realistic expectations about their care.

COMMUNITY SETTINGS APPROACH TO PREVENTION, EDUCATION AND SCREENING RESEARCH PROGRAM (CAPES). Trevon Brooks. Tucson. MPH Internship Committee Chair: Nicole Yuan, PhD, MPH. Site and Preceptor: University of Arizona Cancer Center – Kelly Palmer, PhD, MHS.

Introduction: The CAPES Lab at the University of Arizona is centered on the experiences and perspectives of underserved racial and ethnic minority populations while examining the social and political determinants of health disparities using community and asset-based approaches. Methods: The 1st deliverable was a literature review using current research from several databases to identify the complex relationship between HPV infection and cervical cancer development focusing on the disparities faced by African American women. The 2nd deliverable was a methods paper of a previous study done by the CAPES Lab aimed at addressing social isolation and loneliness among older Black church members exacerbated by the COVID-19 pandemic. The paper was synthesized from the grant proposal and intervention protocols. Results: The lit review summarized the disparities in HPV-associated cervical cancer burden among African American women, promising solutions to address research gaps, and challenges regarding awareness, acceptance, and sustainability of current interventions. The methods paper outlined the study intervention process which included VR orientation training, pre-post assessments, and regular check-ins over a two-month period, with participants encouraged to engage in live VR experiences to foster social interaction and support. Conclusion: The current internship identified strategies for reducing health disparities among African American and Black communities. The literature review provided recommendations for future interventions at non-clinical sites to address the gap in cervical cancer prevention among African American women. The VR study manuscript highlighted the importance of culturally sensitive interventions in promoting social connectedness and improving health-related quality of life in vulnerable populations.

BUILDING CAPACITY FOR CANCER PREVENTION CONTROL WITH CAMPESINOS SIN FRONTERAS AND NOSOTROS COMPROMETIDOS A SU SALUD. Alejandra Hernandez. Tucson. MPH Internship Committee Chair: David O. Garcia, PhD. Site and Preceptor: Nosotros Comprometidos A Su Salud – Adriana Maldonado, PhD.

Introduction: Migrant and seasonal farmworkers are at an increased risk for obesity-related cancers such as prostate and liver cancer. To bring awareness to these cancers and their associated risk factors, Nosotros Comprometidos A Su Salud collaborated with Campesinos Sin Fronteras to build capacity for cancer prevention and control efforts for migrant and seasonal farmer workers in Yuma, AZ. Methods: An environmental scan was done to assess prostate cancer prevention programs for Mexican-origin men in Yuma County, AZ. In addition, a photovoice study was conducted to understand what farmworkers perceived as risk factors for non-alcoholic fatty liver disease (NAFLD), a known risk factor for liver cancer. Seven women participated in three weekly two-hour reflection sessions where photos were discussed based on the SHOWED method (i.e., What do you see?; What is happening?; How does it relate to our lives?; Why does this Exist?; and What can we Do about it?). Results: To date, no prostate cancer interventions are taking place in Yuma County. There is also a lack of prostate cancer prevention resources for Spanish speaking Mexican-origin men. Photovoice study results included farmworkers expressing multiple factors that could affect their NAFLD and cancer risk in multiple ways. These factors included: economic status, accessibility to grocery stores/health foods, built environmental, interpersonal barriers, culture, and lifestyle behaviors. Discussion: The overarching goal of this work was to raise awareness of prostate and liver cancer among farmworkers in Yuma, AZ. Results from the environmental scan and photovoice highlight the need to create multicomponent interventions to promote prostate cancer screening and the prevention and treatment of NAFLD for farmworkers in Yuma.

UNDERSTANDING THE HEALTH NEEDS OF WOMEN ENGAGING IN MEDICAL TOURISM IN SOUTHERN ARIZONA AND NORTHERN SONORA. Brianna P. Herrera. Tucson. MPH Internship Committee Chair: Martha Moore–Monroy, EdD, MA. Site and Preceptor: Ginecología Oncológica de Sonora and Centro Medico – Rogelio Robles–Morales, MD.

The Arizona–Sonora border, located just south of Tucson, is a hub for international travel and economic activity on both sides of the border. This region plays a significant role in facilitating trade, tourism, and cultural exchange between Arizona in the United States and Sonora in Mexico. One main use of the border includes facilitating medical tourism – the flow of individuals from one side of the border to the other to obtain healthcare services. In a survey conducted by Homedes et al. (1994), researchers found that in Nogales, Arizona, 14 percent of women who were of childbearing age went to Mexico for their regular primary healthcare services. Despite this study providing information on trends in the early 1990s, little is known about the current trends of US residents seeking women’s reproductive healthcare services across the border. My research project focused on assessing the current personal characteristics and motivations of individuals seeking healthcare across the Arizona–Sonora border. To achieve this, an English–Spanish bilingual survey was developed and administered in collaboration with Dr. Robles–Morales to quantitatively assess the data. Physical and electronic versions of the survey were administered to participants of 6 clinics affiliated with Centro Medico de Sonora, S.C. Additionally, a standard operating procedure manual was created for medical assistants to consistently administer the survey to patients, ensuring the reliability and validity of the responses. The preliminary data from this study will help illustrate the patterns, trends, and motivations underlying the healthcare–seeking behaviors of individuals receiving women’s reproductive health services across the Arizona–Sonora border.

STEPPING TOWARDS WELLNESS: IMPLEMENTING THE STEP COUNT CHALLENGE USING THE TRANSTHEORETICAL MODEL AT THE PIMA COUNTY HEALTH DEPARTMENT. Sailor Hutton. Tucson. MPH Internship Committee Chair: Patricia Haynes, PhD, CBSM, DBSM. Site and Preceptor: Pima County Health Department – Matthew Kopec, BA.

This report focuses on the design, implementation, and evaluation of the Step Count Challenge, a workplace-based physical activity intervention at the Pima County Health Department (PCHD). The challenge was structured as a competition between divisions within PCHD, aiming to promote physical activity among employees while leveraging the Transtheoretical Model to facilitate behavior change. This project's goal was to engage PCHD employees in a fun and competitive way, aligning with the department's commitment to employee wellness. The challenge was advertised to all employees, encouraging participation and divisional rivalry from February 1st to the first week of April. Through the implementation of the Step Count Challenge, the project sought to move participants along the stages of change outlined in the Transtheoretical Model, from precontemplation to action, by promoting daily physical activity. By framing the intervention within this theoretical framework, the aim was to facilitate sustained behavior change among participants. The competition aspect of the challenge fostered social support among employees while promoting physical activity. Participants self-recorded their weekly step counts via Microsoft forms, which was then exported to an Excel file for analysis, allowing for examination of participation rates and step count rankings for each division. This report details the process of planning and executing the Step Count Challenge, including strategies for recruitment, social incentives, and communication with participants. This Step Count Challenge serves as an example of using a structured intervention, rooted in behavior change theory, to promote health and wellness in the workplace. The report concludes with recommendations for future implementation and suggestions for further research in this area.

SUSTAINING COMMUNITY HEALTH WORKERS: A PROGRAM EVALUATION PLAN, COST-BENEFIT ANALYSIS TOOL, AND REVIEW OF THE AHCCCS CHW REIMBURSEMENT POLICY. Kerry Johnson. Tucson. MPH Internship Committee Chair: Maia Ingram, MPH. Site and Preceptor: Southeast Arizona Health Education Center (SEAHEC) – Gail Emrick, MPH, MA.

Introduction: Community Health Workers (CHWs) are vital to the Arizona healthcare system, yet experience financial instability when grant-funded, and their scope of services complicates impact evaluations. State legislation may offer sustainable funding, but more guidance is needed. Methods: Using participatory evaluation and the Stages of Change theory, I co-designed a program evaluation plan for a CHW-facilitated mental health program with seniors in Nogales, Arizona. Adapting best-practices to fit this program model, we also designed a cost-benefit analysis (CBA) tool. Collaboration with facilitators and iterative testing throughout was core to our approach. I then reviewed AHCCCS/Medicaid policies, interviewed representatives of state health agencies, and estimated annual reimbursements. Results: Piloting the materials demonstrated that evaluation surveys and activities were accessible for seniors with limited abilities, feasible to implement, and culturally and linguistically appropriate. The CBA tool was feasible and adaptable to the agency's needs. The program evaluation and CBA will monitor the number of referrals made to healthcare providers; the number and types of health behaviors adopted; changes in self-efficacy to manage their mental health; readiness to help others; knowledge of local resources; program costs; changes in health-related quality of life; and the projected number of life years gained from new health behaviors. The policy brief estimated returns and recommended program adaptations to be eligible for AHCCCS reimbursement. Conclusion: This project built internal capacity for SEAHEC CHWs to assess and articulate the benefits of their program. CHW program evaluation results can help justify program costs to funders, build trust with communities, and elevate the sustainability of CHW services.

DATA ANALYSIS AND PROGRAM EVALUATION FOR THE FIRST THINGS FIRST PROJECT WITH THE COMMUNITY RESEARCH, EVALUATION AND DEVELOPMENT (CRED) TEAM. Emma Logan. Online. MPH Internship Committee Chair: Christine Girard, ND, MPH. Site and Preceptor: Community, Research, Evaluation and Development (CRED) – Terrace Ewinghill.

Title: Data Analysis and Program Evaluation for the First Things First Project with the Community Research, Evaluation and Development (CRED) Team Introduction: The CRED team conducts research and evaluation to support programs and policy decision-making with information about the well-being of Arizona residents. This Applied Practice Experience included working with the CRED team on their State Needs Assessment (SNA) report about child health and well-being in Arizona for the First Things First (FTF) program. Methods: Data visualization was completed using Microsoft Excel's various functions available to customize graphs. The graph type chosen depended on the data and the intended impact of the visualization. A literature review consisting of several topics under the umbrella term of "Child Health" was conducted. Articles were collected from reputable sources and public databases such as PubMed. They were then utilized to create a written report to contextualize accompanying data. Results: Deliverables included data visualization of the health and well-being of children in Arizona and a literature review on a variety of specific child health topics to contextualize the data and its importance. These two deliverables were included in CRED's FTF 2023 SNA report and sent to the FTF staff. A review of the report was completed by the FTF staff to provide feedback and specific requests, and responses to the feedback and the fulfillment of requests were given in writing and report edits. Conclusion: Data visualization tells a story in ways that writing is unable to. It can also be used for quick reference in planning or decision making. Collecting and synthesizing literature into a contextualizing report is vital in aiding the comprehension of complex issues for people who need to make decisions regarding their improvement.

PREVENTING OUT OF HOME (OOH) TREATMENT ESCALATION FOR INTERMOUNTAIN HEALTH CENTERS. Rabia Mahmood. Online. MPH Internship Committee Chair: Christine Girard, ND, MPH. Site and Preceptor: Intermountain Health Centers – Matthew Soto.

Introduction: Intermountain is a health center that provides services through primary medical care, behavioral health care, and special education services. I conducted a quality improvement project by analyzing two de-identified data sets of members who have Out of Home (OOH) treatment vs. those who do not have OOH treatment. When a patient is a danger to self, other, or property, the legal guardian is unable to continue to care for the child/patient and that leads patients to OOH treatment facilities. Methods: I analyzed the two de-identified data sets of patients that are enrolled with Intermountain Health Centers who have (OOH) treatment anywhere in the US vs those who do not. I compared their diagnosis to see which would most likely escalate to OOH treatment. Other methods involved assessing, analyzing, critiquing, and improving outpatient current processes to bring improvements to Intermountain as a whole. Results: I found that trauma, psychotic disorder, and opioid use diagnoses can lead to the risk of OOH treatment. I made beginning recommendations to Intermountain so they can take their first steps to develop a program to prevent clients from not having OOH treatment to escalating to OOH treatment. Conclusion: Based on the results of my internship, I recommend that Intermountain develop a program that emulates best practices from the Child Mind Institute. This program will help parents understand how to reduce the risk of OOH treatment.

EXPLORING FOOD INSECURITY AND HYPERTENSION AMONG FARMWORKERS IN SOUTHERN ARIZONA: A CROSS-SECTIONAL STUDY. Miguel A. Meza Balbin. Tucson. MPH Internship Committee Chair: Adriana Maldonado, PhD. Site and Preceptor: Nosotros Comprometidos A Su Salud – David O. Garcia, PhD.

Introduction: Hispanics are disproportionately burdened by hypertension-related disparities and farmworkers, the cornerstone of our food systems, are at increased risk. Food insecurity has been linked to chronic disease development among under-resourced individuals. Farmworkers are exposed to food insecurity at disproportionate rates; with studies showing rates of 45%. However, whether food insecurity influences farmworker's risk for hypertension remains to be determined. Methods: Data were collected from farmworkers at the Southern Arizona border region. Recruitment was done in partnership with Campesinos sin Fronteras. Food insecurity was determined using the USDA 10-item survey. Hypertension was defined using AHA hypertension guidelines, having a blood pressure reading of 130/80(mm Hg) or higher. Participants completed a demographic survey. Informed consent was obtained prior to data collection. Participants were compensated for their participation and travel to the data collection site. Results: In a sample of 151 farmworkers (90 women and 61 men), 41.7% of participants were food insecure. Majority of participants were born outside the US (90.8%) and 59% indicated having access to health insurance. We identified 66 individuals (43%) with hypertension. The proportion of food insecurity was higher among participants without hypertension (n=36, 55%) compared to their counterparts (n=30; 45%) and no statistically significant differences were observed between groups ($\chi^2=0.67$; $p=0.41$.) Food insecurity was not associated with hypertension ($p>0.05$); however, BMI (OR =1.08; $p=0.02$) and age (OR=1.06; $p=0.005$) were associated with higher odds of hypertension. Conclusion: Future research should explore environmental factors associated with the occupation, as well as modifying factors that can directly address BMI.

PIMA JTED: DEVELOPMENT OF CHW PROGRAM OUTREACH PLAN. Brenda O. Sanchez. Online. MPH Internship Committee Chair: Christine Girard, ND, MPH. Site and Preceptor: Pima JTED – Beth Francis, RN, MS.

Introduction: Pima JTED is a public Career and Technical Education District that collaborates with businesses, industry, and local public school districts. My internship aims to design and implement a promotional campaign for the Community Health Worker program. Deliverables will support JTED in expanding its current healthcare program reach, opportunities for high school students, and visibility in the community. Methods: I connected the healthcare program to key stakeholders in the community. This expansion in partnerships opened up opportunities to current and future students. I also created a recruitment presentation and handouts that were used throughout the school year. We attended junior classrooms, presented about the CHW program, and shared what Public Health is, to inspire students to choose CHW as their senior pathway. We also tabled at community events presented on the program and engaged with community members about the opportunities that are available to youth. Results: Products include an expanded partnership network within the Tucson, Pima County, and Southeastern Arizona communities. Current students had the opportunity to participate in various learning activities with newly established partners. As well as the development of promotional materials for the program including a PowerPoint, posterboard, flyers, and social media posts. Conclusion: The internship was rewarding, contributing to the expansion and promotion of the CHW program. By connecting with stakeholders and fostering partnerships, we opened opportunities for students. I am proud to have played a role in increasing the program's visibility and reach, benefiting the local community and its youth. I recommend continuing to seek community-based opportunities for students.

CRAFTING AN IMPACTFUL EVALUATION PLAN AND INFORMATION SHARING GUIDE FOR THE 'NOVEL STRATEGIES TO INCREASE AWARENESS ABOUT MELANOMA PROJECT'. Mayra G. Vargas. Tucson. MPH Internship Committee Chair: Kelly Palmer, PhD. Site and Preceptor: New Home Baptist Church – Querida Walker.

The 'Novel Strategies to Increase Awareness about Melanoma Project', is a collaborative effort between New Home Baptist Church, the University of Arizona Skin Cancer Institute, Arizona Cancer, and Mayo Clinic's Community Outreach and Engagement Program. The project aims to enhance melanoma awareness in people of color within Maricopa County, ultimately contributing to the reduction of cancer burdens in the community. An educational flyer tailored for people of color was developed and strategically distributed through the church's networks, barbershops, and salons. The internship associated with this project focused on two key deliverables. Firstly, an evaluation plan was crafted to assess the effectiveness of the melanoma awareness flyer in increasing awareness, knowledge, and behavior change among community members. The second deliverable involved the creation and delivery of an oral presentation to the project leadership team, highlighting best practices for reporting back and sharing information with project participants and community members ensuring effective communication channels and promoting sustained engagement.

MPH Health Services Administration

ABSTRACTS

BINATIONAL EARLY ASTHMA AND MICROBE STUDY: ADVANCING THE BEAMS TEAM COMMUNICATION, COLLECTION PROCESS AND PARTICIPANT RESOURCES. Monica Bautista. Tucson. MPH Internship Committee Chair: Karl Krupp, PhD. Site and Preceptor: BEAMS at University of Arizona – Carolina Quijada and Emma Gallardo.

Introduction: The overall prevalence of childhood asthma has increased significantly over the past decade. It has been observed that there are differences that are four times higher in prevalence among Mexican–American children living in Tucson, AZ than children living in Nogales, Sonora, Mexico. The BEAMS project enrolled 250 pregnant mother/offspring dyads of Mexican descent in each city, to further assess the following: environmental microbial exposure, maternal gut microbiota and microbial gene expression, maternal immune markers and meconium microbiome. Methods: The internship project involved creating various thorough training guides in both Spanish and English, for each respective team of the BEAMS project. Additionally, resources were created for project participants based on thorough research, using scholarly resources and information. Results: The creation of the various training guides allowed communication gaps to be bridged among the Mexico and Tucson teams. The training guides highlighted proper collection processes that are crucial to the project, in the teams’ respective language. The resources created for study participants, in Spanish and English, allowed participants to familiarize themselves with what is available for them in their respective country. The promotional materials also contained information on the study itself, and information on childhood asthma. Conclusion: The topic of increasing prevalence in childhood asthma remains ongoing. The creation of different materials from this internship project will help aid the project teams in successfully collecting more data for further research as well as aid in informing study participants on valuable resources to improve overall health for themselves and their children.

A SCREENING AND TREATMENT STRATEGY FOR STEMMING THE PREVALENCE OF CHLAMYDIA AMONG ADOLESCENTS. Ariana Hess, MD. Phoenix. MPH Internship Committee Chair: Gail Barker, MBA, PhD. Site and Preceptor: Phoenix Children's – Melissa Parks, DO, MPH.

Introduction: The prevalence of chlamydia reached a peak at 1.7 million cases in 2017. Two-thirds of infections were among those ages 15 to 24. Annual screening is only recommended in sexually active females under age 25. In 2021 the treatment recommendations for chlamydia changed from 1 gm of azithromycin once to 100 mg of doxycycline twice a day for a week. This change reintroduced old concerns with non-adherence. The goal of this project was to formalize a screening and treatment strategy for chlamydia among youth. Methods: A focused review of the literature for screening and treatment of chlamydia among youths was conducted. Seventeen articles were included. The recommendations were based on the findings. Results: Two models showed that screening high risk males for chlamydia was a cost effective strategy for decreasing chlamydia prevalence. Expedited partner therapy (EPT) for female partners of chlamydia-positive males further reduced prevalence. Based on tracking with a medication event monitoring system, only 33% of patients correctly adhere to the doxycycline regimen. Non-adherence with the doxycycline regimen among males with rectal chlamydia was associated with a nine fold higher risk of treatment failure. Integrating a test of cure reduced reinfection rates within a high risk population. Conclusion: Without evidence prioritizing the risk of treatment failure with azithromycin against non-adherence with doxycycline, the researcher's experience was incorporated into the recommendations. All sexually active youths should be offered chlamydia screening based on route of sexual activity. Driving youths should be offered treatment with doxycycline while non-driving/ high risk youths should be treated with azithromycin. EPT should be prescribed. A test of cure four weeks after treatment should be arranged.

DATA ANALYSIS AND POLICY BRIEF ON THE FEASIBILITY AND USEFULNESS OF BABY CARRIER INTERVENTION FROM THE NEWBORN WELLNESS AND ATTACHMENT STUDY FOR INFANTS AT RISK OF NEONATAL ABSTINENCE SYNDROME. Cassandra S. Leedom. Online. MPH Internship Committee Chair: Christine Girard, ND, MPH. Site and Preceptor: Newborn Wellness And Attachment Study – Lela Rankin PhD.

Title Data Analysis and Policy Brief on the Feasibility and Usefulness of Baby Carrier Intervention from the Newborn Wellness And Attachment Study for Infants at Risk of Neonatal Abstinence Syndrome Introduction The Newborn Attachment and Wellness Study (NAW) has gathered longitudinal data on caregivers of infants who have been exposed to opioids in utero. The mission of the lab is to study attachment, bonding, and bettering outcomes for caregivers of infants at risk for Neonatal Abstinence Syndrome. One area of focus within the lab has been feasibility of babywearing from the perspective of caregivers. Methods Seventy-seven de-identified, transcripts of caregivers were qualitatively coded utilizing excel. Waves 1, 2, and 3 were all coded, corresponding to infant ages newborn, 3 months old, and 6 months old. Upon completion of the individual coding being done, a summary comparison table was created for the final data analysis report, identifying themes amongst caregiver experience. Utilizing the data analysis created for NAW and a literature review, a policy brief with recommendations on implementing babywearing as a tool for caregivers was provided to the lab. Results The internship focused on analyzing the data the lab has gathered over five years and looking for themes of caregiver attitudes when babywearing was an intervention offered. Comparisons were drawn between those who had training with carriers and those who consistently wore. Themes were observed around usefulness, feasibility, and barriers for caregivers. A policy brief was also provided to NAW. Conclusion NAW was supplied with information about babywearing attitudes. By referring to this, they will be able to explore themes that can further inform their research. The policy briefing provides a document reference for the lab on the topic of babywearing.

LONGITUDINAL RANDOMIZED CONTROL TRIAL OF MINDSET2.0: A CLINIC DECISION-SUPPORT TOOL FOR EPILEPSY SELF-MANAGEMENT. Tsion Menberu Meles. Tucson. MPH Internship Committee Chair: Refugio Sepulveda, DrPH. Site and Preceptor: Banner University Neurology Clinic – David Labiner, MD.

Introduction: MINDSET (Management Information Decision Support Epilepsy Tool) is an evidence-based decision support tool designed to improve epilepsy self-management (ESM) behaviors for people with epilepsy (PWE). MINDSET2.0 was redesigned as an internet-accessible version of MINDSET to combine the tailored approach of face-to-face clinical and public health interventions. Purpose: the purpose of this longitudinal RCT is to test the efficacy of MINDSET2.0 over two clinic visits. Methods: Eligible patients were recruited from the Banner University Neurology Clinic and randomly assigned to the treatment or control group. Both groups provided demographic information and completed the first part of MINDSET (an assessment of their ESM, social determinants, and quality of life). The treatment group selected goals for improvement and received an Action Plan to discuss with their healthcare providers (HCPs). Patients in the control group did not receive feedback regarding ESM behaviors that could be improved, did not select goals, or received an Action Plan; instead, they continued with their regular clinic visits. These actions will be repeated for a second visit (ongoing). Results: A total of 100 patients were recruited (50 randomly assigned to treatment and 50 to control). Baseline data was collected between August 2023 and March 2024. The second visits are ongoing and expected to be completed by August 2024. To date, reports suggest that HCPs find that MINDSET prompts patients to discuss topics with them and that patients appreciate learning about ESM. A social resource sheet was provided to support any SES barriers reported by patients. Conclusion: Preliminary data for the ongoing RCT has shown promising results in assessing and improving ESM behaviors and commitment to improving PWE's health and overall quality of life.

ADVANCING RURAL HEALTHCARE DELIVERY AT MAYO CLINIC HEALTH SYSTEM –
MANKATO. Hayley Michel. Tucson. MPH Internship Committee Chair: Amanda Sokan, PhD,
MHA, LL. B. Site and Preceptor: Mayo Clinic Health System (MCHS) – Sara Gagnon, MS.

Introduction: Healthcare faces challenges in keeping up with the needs of patients as well as expanding access to many people who have not previously received health care. Rural settings face distinct challenges in providing quality care and access to healthcare. This includes challenges in attracting a trained, qualified workforce and concerns regarding the proximity of care. This project aimed to optimize healthcare delivery in rural settings through the investigation of creative healthcare delivery and workforce development so that systems remain operational and increase healthcare accessibility and utilization for patients. Methods: The project involved a thorough analysis of administrative practices and processes and management principles, including financial report auditing, recruitment and operational planning, and workflow mapping, based on literature reviews and stakeholder meetings. Best practice guidance, implementation strategies, and evaluation measures were studied to inform decision-making. Results: The alternative operation and recruitment plans and playbooks highlighted interdisciplinary collaboration, health outcomes and utilization volumes, administrative decision-support tools, and continuing training and communication needs. Recommendations included establishing alternative provider residency training programs, leveraging community connections, and redirecting resources and care in response to population health needs. Conclusion: By focusing on community health needs and recommendations developed in the deliverables, MCHS can work towards improving health outcomes of rural patients and enhance MCHS's capacity for healthcare delivery to meet the needs of surrounding rural areas. Thinking creatively and differently about healthcare delivery is vital for long-term success and improvement at MCHS.

IMPLEMENTATION OF A SURVEY AND SUBSEQUENT MEASURES TO ADDRESS AN IDENTIFIED HEALTH CARE DISPARITY IN A RURAL HOSPITAL: A QUALITY IMPROVEMENT PROJECT. Shantel Tori Tenijieth. Online. MPH Internship Committee Chair: Christine Girard, ND, MPH. Site and Preceptor: Indian Health Service – Whiteriver Service Unit – Roy Morehead, MPH.

Title: Implementation of a Survey, and Subsequent Measures to Address an Identified Health Care Disparity in a Rural Hospital: A Quality Improvement Project Introduction: The Indian Health Service, an agency within the Department of Health and Human Services is responsible for providing federal health services to American Indian/Alaskan Natives (AI/AN). The Whiteriver Service Unit (WRSU) serves AI/AN in the geographical area. This quality improvement project identified and addressed a health disparity present at the WRSU, a rural hospital. Methods: A survey was designed based on existing literature, tools, and methods to help identify and address a health disparity. Through the WRSU Performance Improvement department and the WRSU patient advocate, qualitative and quantitative de-identified data from patients were collected via telephone. Data were compiled into a spreadsheet and were made into data visuals for a presentation slide. A quality improvement plan was initiated using the methodology of Plan, Do, Study, Act (PDSA) to improve differences in the healthcare delivery process. Collaboration with the Patient Advocate led to continued monitoring of data collection using spreadsheets. Results: Three deliverables were created which included designing an appropriate survey, collaborating with various departments in the hospital, and implementing a PDSA cycle for an improvement plan. Conclusion: The WRSU would benefit from continuous collection of data using the health-related social needs (HRSN) screening tool of a determined sample population. The most feasible method of collecting data is through the Patient Advocate, who understands and speaks the Apache language. The organization could then address the health disparity directly by referral to appropriate resources or indirectly by a modified treatment plan.

QUALITY IMPROVEMENT AND DEVELOPMENT OF A KANBAN INVENTORY SYSTEM UTILIZING LEAN METHODOLOGY TO SUPPORT ACADEMIC LABORATORY AGENCY. Jose R. Vasquez. Online. MPH Internship Advisor: Christine L. Girard, ND, MPH. Site and Preceptor: University of Arizona, Department of Surgery, Gurtner Laboratory – Jenne Stensland, PA, MHA.

Introduction: The Gurtner Laboratory operates as a high-productivity academic research agency, supporting a wide range of projects at varying stages of complexity, including bench work and surgical studies. The agency has lacked a standardized inventory management system and an efficient method for reordering essential materials. This Applied Practice Experience serves as a quality improvement initiative to address existing issues, improve overall efficiency, and introduce a reorder system that aims to minimize overstocking and undersupply of materials over time. Methods: A literature review of lean methodology, Six Sigma, Agile, and SCRUM management systems for best industry practices was conducted. Information was obtained through interviews with current lab members and managers. A review of the current laboratory inventory was conducted and accounted for. Investigation into Kanban cards design, dashboard format, and reorder forms was conducted. Results: The gathered information was used to create a dashboard that offers a medium to manage inventory flow. A reorder system was implemented that utilizes reorder forms initiated via mobile QR codes. For essential materials, Kanban cards were created to include key product information, including reorder levels. Conclusion: The new additions improved the management of inventory within the agency. However, limitations were identified with this system, particularly a concerning lack of automation that may impede adoption in the long run.

MD/MPH – Clinical Leadership

ABSTRACTS

THE IMPORTANCE OF BODY IMAGE IN COLLEGIATE ATHLETES. Bayley Keiko Leonahe Brennan. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: CATS Clinical Psychology – Dr. Rachel Webb, EdD, LPC, CMPC.

Participation in collegiate sports, while rewarding, can also pose significant physical and mental challenges to athletes, especially when it relates to body image and body satisfaction. This project aimed to further define risk factors, adverse effects, and preventive measures about body dissatisfaction. The goal of the project was to raise awareness regarding body image in collegiate athletes. A literature review performed using PRISMA guidelines with the databases SPORTDiscus and PubMed with combinations of the terms “body image,” “self-image,” “body dissatisfaction,” and “collegiate athletes” evaluated current evidence, documented in a spreadsheet. After analysis, a presentation discussing the importance of the awareness of body image and its potential negative impacts on mental health and other physical manifestations that might occur was given during mental health awareness week aimed at collegiate athletes and coaches at UArizona. Additionally, a flyer outlining the importance of body image recognition was posted in the athletic locker room. A post-program survey to determine the efficacy of the presentation was also distributed. Through the literature search, themes impacting body image in collegiate athletes were sociocultural expectations, relationships with coaches, peers, family and sport, self-expectations, and relationships with food. Specifically, cultures with less emphasis on physical appearance, positive relationships with coaches, family, and peers, disassociating worth with athletic performance, and a positive relationship with food were found to be associated with a positive body image, while the opposite contributed to body dissatisfaction. The adverse effects identified with body dissatisfaction were emotional distress, compensatory behaviors to alter appearance, and sport dropout.

LGBTQ+ MEDICINE AND COMMUNITY HEALTH CENTERS. Marcus J. Childs. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Wesley Community & Health Centers – Jesselyn Gaona, MD.

Importance: This project was completed in conjunction with Wesley Community & Health Centers to investigate and improve the quality of care for the LGBTQ+ patient population. Objective: There were two objectives for this project. First, to determine if there was any relationship between HIV status and Social Determinants of Health (SDOH). Second, to identify gaps in LGBTQ+ care at Wesley and close those gaps. Design: A retrospective cohort study assessing HIV status and SDOH needs was conducted at all 5 Wesley clinic locations including their mobile health clinic. Participants: Study participants were selected based on having completed an HIV screening or having a positive HIV diagnosis in their history at Wesley as well as a completed SDOH survey called PRAPARE. Exposure(s): For the retrospective cohort study, the main exposure was SDOH factors. There are 15 validated SDOH factors on the PRAPARE survey. Main Outcome(s) and Measure(s): Measured outcomes would be any statistically significant association between a SDOH and HIV status using a Chi Square test and P value $<.05$. Results: Of 10,877 subjects, 10,654 had SDOH concerns >0 and 17 of those patients were HIV +, the rest were HIV negative. Relative Risk (RR=1.20), Chi-Sq Test ($X^2 = .711$), and P value ($p=.399$) and $\alpha = .05$. Conclusions and Relevance: This study attempted to show any SDOH factors that could be associated with an increased risk of + HIV status. The observation is not statistically significant with a low n of 17 for HIV positive patients so this claim cannot be made. A Beta value was calculated to be 16% the statistical difference had there been one.

EMPOWERING MEDICAL STUDENTS: INTEGRATING CIVIC ENGAGEMENT AND ADVOCACY IN HEALTHCARE. Annapurna Chitnavis. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Vot-ER & University of Arizona College of Medicine - Phoenix - Ricardo Correa, MD, ES.D .

Introduction: Vot-ER is a nonprofit organization dedicated to integrating voter registration into healthcare settings. They provide innovative tools such as QR-coded badges which allow patients to easily register to vote or request a ballot during a healthcare encounter. Medical students in particular often lack such opportunities for patient-centered civic engagement and receive minimal training in advocacy skills. Methods: This internship project with Vot-ER aimed to address this gap by implementing two key deliverables. Firstly, as the Vot-ER Healthy Democracy Campaign Captain throughout medical school, I spearheaded the distribution of Vot-ER badges to medical students, facilitating their use at clinical sites. I co-created a training module to teach medical students how to effectively utilize these Vot-ER materials. Secondly, I developed an advocacy toolkit to equip medical students with fundamental advocacy skills such as engaging with legislators, crafting persuasive one-pagers, and composing impactful op-eds. Results: The initiatives yielded promising outcomes, with nearly 200 patients successfully registered to vote during my tenure as Healthy Democracy Captain. Furthermore, the Vot-ER training module and advocacy toolkit will be integrated into the curriculum for medical students enrolled in the Leadership and Advocacy Certificate of Distinction at the University of Arizona College of Medicine - Phoenix, ensuring sustained impact and incorporation into medical education. Conclusion: By integrating voter registration efforts and advocacy training into medical education, we can foster a new generation of healthcare professionals equipped not only with clinical expertise but also with the skills necessary to advocate for systemic change and promote health equity within their communities.

BREASTFEEDING EDUCATION PROGRAM AT A FEDERALLY QUALIFIED HEALTH CENTER IN ARIZONA. Jessica Dong. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Wesley Community & Health Centers – Mandy Boltz, MD, MPH, IBCLC.

Introduction: Wesley Community & Health Centers (WCHC) are Federally Qualified Health Centers that provide primary care services at four locations across the Phoenix metro area, including prenatal care to 120 patients per year. They serve a primarily uninsured/underinsured and Spanish-speaking population. This project aims to increase breastfeeding education among patients and medical student volunteers, by engaging trained medical students in structured discussion of breastfeeding topics with patients during prenatal care visits. Methods: To establish the breastfeeding education program at WCHC, a curriculum was developed consisting of a series of presentations along with promotional materials, including a flier and a brochure, to increase patient awareness of breastfeeding support available and the importance of breastfeeding. Results: This program was implemented during medical student volunteer prenatal clinic nights, and medical students were recruited and trained to help provide one-on-one educational sessions to patients at their prenatal visits. Patients were presented one presentation at each of their prenatal visits, with the goal of completing the curriculum before they delivered their baby. A total of 39 women have received breastfeeding education with the program, and 6 medical student volunteers have been recruited and trained to provide education to the prenatal patients. Conclusion: Through this program, patients were able to receive education on breastfeeding before giving birth, providing them with the tools necessary to feel comfortable breastfeeding right after birth. Patients were generally enthusiastic about receiving extra breastfeeding support, and medical students were also able to learn about lactation and breastfeeding by providing education to patients.

THE PUBLIC HEALTH CLUB: A PUBLIC COMMUNICATIONS PROJECT. Taylor Elinski. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: University of Arizona College of Medicine – Phoenix – Kathleen Brite Hillis, MD.

Background: Public health misinformation, particularly regarding COVID-19, spreads on social media. Those who interact with posts containing misinformation, with no knowledge to counteract it, are more likely to believe it and less likely to participate in protective health behaviors, such as social distancing and vaccination. Purpose/Goals: This project aimed to combat and “debunk” common topics of online public health misinformation through creating and sharing evidence-based Instagram posts. Project Design: Posts were created on a biweekly basis. Topics were identified by researching misinformation on the news and online. Literature reviews were conducted for each topic and the findings were translated into easily accessible posts aimed at a low-health literacy audience. Post engagement statistics were tracked using built-in Instagram features. Results: 17 public health posts and 3 stories regarding misinformation were created, each with an associated literature review. An additional post was created to signify the account’s transition from COVID-19 to other public health topics. Topics spanned from COVID-19, to other infectious disease, mental health, and systematic issues (e.g. healthcare, climate change). The number of accounts reached increased significantly over time ($r = 0.54$, $p = 0.02$), but the number of shares and saves did not significantly change. Post likes decreased significantly over time ($r = -0.51$, $p = 0.03$). Posts regarding COVID-19 had significantly less reach and engagement than posts on other topics. Conclusions: Ways to utilize social media to combat misinformation online requires more research, as well as ways to create account engagement early and consistently to increase the reach of the posts. Posts about public health crises like COVID-19 may have to combat information burnout.

SEVERITY AND OUTCOMES OF NON-ACCIDENTAL HEAD TRAUMA IN OBSTETRIC

PATIENTS. Sofia Fabrega. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Banner University Medical Center – Phoenix – Robert Bina, MD.

Introduction: Trauma is the leading non-obstetric cause of maternal death in pregnant people; however, there is currently no literature describing trends in severity and outcomes of non-accidental neurotrauma (NAnT) in this vulnerable population. Objective: To describe severity and outcomes in pregnant populations with abusive NAnT using the National Trauma Data Bank (NTDB). Methods: Pregnant and non-pregnant females aged 18–55 diagnosed with head trauma in 2019–2021 were identified from the NTDB. Patients were grouped by pregnancy status and accidental or non-accidental mechanism of injury. Descriptive statistics, univariate analysis, and multivariable logistic regression were performed. Results: A total of 165,300 female patients with neurotrauma were identified of which 1,333 were pregnant; 142 obstetric patients experienced NAnT. Pregnant patients were more likely to be subjected to NAnT compared to nonpregnant patients ($p < 0.0001$) (Table 1). Among all patients with head trauma, regardless of pregnancy status, those with NAnT were more likely to be diagnosed with severe TBI ($p < 0.0001$) and had higher mortality rates ($p < 0.0001$) than those with accidental neurotrauma (Table 2). Mortality rates also trended higher, though not reaching statistical significance ($p = 0.09$), in pregnant patients with NAnT compared to accidental injuries (Table 3). Pregnant patients who were assaulted were less likely to have private insurance ($p < 0.001$). Conclusion: Pregnant patients are especially vulnerable to NAnT and patients who are assaulted have worse outcomes compared to accidental trauma patients, according to our data. Nearly one in five pregnant women experience some form of abuse; consequently, further investigation is critical to identify patterns of injury, risk factors, and methods for safe reporting.

IMPLEMENTATION AND EXAMINATION OF OPIOID STEWARDSHIP PROGRAMS (OSPS). Nicole Falls. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: AZ Center for Rural Health – Dr. Bridget Murphy DBH, M.ED.

The opioid epidemic continues to have devastating effects on our communities. One promising solution to this public health crisis is the development of opioid stewardship programs (OSPs). The goal of this experience was to gain a better understanding of the impact that OSPs have on patient safety and care coordination in urban and rural healthcare settings. We also aimed to update and enhance the current OSP implementation guidelines for rural healthcare organizations based off of current literature review. With the assistance of the Arizona Health Sciences Librarian, we conducted a literature review. Analysis of outcomes of interest demonstrated that effects on care coordination were more likely to be reported than adverse events. The effects of care coordination were mostly limited to changes in prescribing habits. There was an overall lack of adverse event reporting in the literature analyzed in this study, and a lack of studies on OSP implementation in rural settings. There are several reasons why this might be the case, including inadequate staffing, lack of funding, or lack of knowledge of OSPs. The facilitation of a standard OSP implementation tool may make it easier to guide implementation in lower access settings and encourage further research in these understudied areas. In addition to developing a manuscript of our literature review findings, the OSP Site Implementation Guide was revised. This includes information on the promising nature of OSPs for pain/addiction and the impact of OSPs in the setting of physician burnout and resilience in healthcare teams. Finally, an abstract was submitted to the AzPHA that outlined the work that the Arizona Center for Rural Health has done to enhance the quality of care for opioid use disorder in the state of Arizona.

THE PUBLIC HEALTH CLUB: A PUBLIC HEALTH COMMUNICATIONS PROJECT. Claire Faulkner. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: University of Arizona College of Medicine-Phoenix – Kathleen Brite-Hillis, MD.

Through The Public Health Club: A Public Health Communications Project, I was able to effectively communicate public health topics with the public in a timely, accessible, and evidence-based fashion. In the age of misinformation and the COVID-19 pandemic, this internship allowed me to practice addressing public health issues through the creation and dissemination of accessible, evidence-based modules through social media. My posts were centered around evidence-based medicine, by which I found a public health topic and took a deep dive into the literature to better understand it, then created a module to explain it to the general lay person. I posted on the The Public Health Club Instagram account as part of the “Evidence-Based Medicine Wednesdays” series and completed a total of 14 posts on a variety of topics, including COVID-19 boosters, gun violence, environmental justice, and monkeypox vaccines. Through this project, I was able to engage social media users with my posts and clarify misinformation surrounding confusing public health issues we face as a society. This internship allowed me to gain experience with public health risk communication, while keeping up to date on current public health topics and the primary research behind guidelines and public health recommendations.

AMPLIFYING THE EFFECTS OF BABYWEARING FOR NEONATAL WITHDRAWAL. Catherine Ingbar. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: School of Social Work Tucson, Arizona State University – Lela Rankin, PhD.

Social touch through infant carrying (babywearing) decreases infant distress and promotes secure attachment. C-tactile afferents (CT fibers), nerve fibers that carry affective sensory information, can be activated by babywearing to build the bonds of social touch. By optimizing CT fiber activation, we can reap the physiological benefits of this nervous pathway, particularly among infants with Neonatal Opioid Withdrawal Syndrome (NOWS). NOWS is a spectrum of clinical symptoms, including elevated heart rate, associated with withdrawal from intrauterine opioid exposure. Optimizing babywearing provides a non-pharmacologic adjunct in the treatment of NOWS. This Applied Practice Experience (APE) sought to understand how babywearing can be optimized to reduce NOWS-associated autonomic dysfunction. The purpose of Dr. Rankin's present study is to compare the physiologic effects of babywearing with dynamic activation (head stroking) of CT fibers and babywearing with static touch for infants in the Neonatal Intensive Care Unit (NICU) with NOWS. It was found that dynamic touch significantly lowered infant and caregiver heart rates when compared with static touch. Activation of CT fibers is an important mechanism in babywearing and in the symbiotic role of parent-infant attachment. I wrote a manuscript incorporating findings from my literature review and the results from the present study. To apply public health communication skills, I created a data report summarizing the physiologic effects of babywearing and CT activation on caregivers. To promote the benefits of babywearing for the mother-infant dyad, I developed a provider factsheet summarizing key evidence for this low-cost intervention, with the hope that providers will discuss this non-pharmacologic NOWS treatment modality with their patients.

PUBLIC HEALTH COMMUNICATION AMONGST ACADEMIC SURGEONS. Eshaan Kashyap. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Arizona Trauma Association – Michelle Notrica, PharmD, JD, MPH.

This internship with the Arizona Trauma Association offered opportunities to practice public health messaging in both written and oral form. The final deliverables included the organization and evaluation of a poster session at the annual regional conference Southwest Trauma and Acute Care Symposium (STACS), the editing of a quarterly newsletter, and production a substantial draft of a white paper in support of Senate Bill 1186 of the Second Regular Session of the Fifty-Sixth Legislature in Arizona. These exercises necessitated a literature review of the clinical consequences of a regulation gap of a synthetic cannabinoid in Arizona, in addition to the strategic decision-making of tailoring a particular health policy message for an audience of academic surgeons; the deliberate construction of a scientific-writing approach into a persuasive argument. Challenges include communication with the partners within the organization, but would be rewarding for motivated medical students seeking practice with engaging in political discussions.

EXPANDING A REFUGEE HEALTHCARE ORIENTATION PROGRAM IN A FEDERALLY QUALIFIED HEALTH CENTER (FQHC). Ritwik Keshav. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Wesley Community and Health Centers – Shahrzad Saririan, MD, MPH.

Introduction FQHCs deliver comprehensive primary care and help overcome barriers that refugees face, leading to improved health outcomes. Maricopa County had an increase in refugees admitted from 4,400 to 6,022 over the last two years. Targeted education and training on cultural humility and trauma-informed care are key to improving health outcomes of this community. Methods: A staff education program and comprehensive reference manual was expanded to educate FQHC staff about health programs that refugees face. The presentation included pre- and post-orientation surveys, which were administered to assess baseline knowledge, and to evaluate the efficacy of the intervention. Results: A refugee orientation handbook was published internally for healthcare workers at the FQHC. Key components of this included: (1) education about refugees and the resettlement process, (2) guidance provided by the Maricopa County Department of Public Health and the Centers for Disease Control and Prevention, (3) cultural humility training and trauma-informed care. A repository of translated patient education handout materials was created comprising many common diseases, healthy living, and guidance. Additionally, a database of local resources was compiled, including financial/food assistance, English/GED classes, mental/dental health services, and community organizations. A total of 26 participants completed both pre- and post-orientation surveys the intervention significantly improved median survey scores ($p < .0001$) by 50.0% Conclusions: The implementation of this program was successful in improving the knowledge and understanding of refugee health care among staff. The creation of internally published documents could potentially lead to sustained improvements over time.

ENHANCING REFUGEE MENTAL HEALTH SCREENING AND CULTURAL COMPETENCY AT WESLEY CLINIC. Alexis Montoya, MMS. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Wesley Community & Health Center at Golden Gate – Shahrzad Saririan, MD, MPH.

Importance: Identifying emotional distress in refugees is crucial for intervention. This study addresses completion of the Refugee Health Screener-15 (RHS-15) and evaluates its importance compared to the Patient Health Questionnaire-2 (PHQ-2). Objectives: Evaluate if positive PHQ-2 screenings necessitate RHS-15 completion. Assess clinic workflow for RHS-15 administration improvements. Increase cultural sensitivity awareness among staff and medical students. Design: EHR search of RHS-15 completion from March 2023 to March 2024. A PowerPoint presentation of cultural sensitivity and RHS-15 completion was created. Setting: Wesley Golden Gate outpatient refugee clinic in Phoenix, AZ. Participants: 122 eligible participants (aged 14 and above). Interventions: Researcher presence in clinic and preceptor's efforts in RHS-15 completion. A PowerPoint presentation post-study to improve cultural sensitivity and RHS-15 understanding. Outcomes: Completion of PHQ-2 and RHS-15 screening surveys. Pre-data hypothesis was that RHS-15 completion is inadequate and needs improvement at this site. The completion of PHQ-2 was used to identify if that alone suffices for emotional distress screening or if RHS-15 should also be completed. Results: 122 refugees included, mainly women (n=79). Participants from Afghanistan (n=90), Iran (n=7), Central African Republic (n=7), DRC (n=2), Indonesia (n=4) and Burma (n=3) of the known countries of origin. Pre-intervention PHQ-2 completion 63%, RHS-15 11%. Post-intervention PHQ-2 80%, RHS-15 45%. A significant improvement in post-intervention RHS-15 completion was found (Z score -3.6125, $p < 0.05$). Conclusions: Data supports completion of RHS-15 screening independent of PHQ-2 result. Relevance: Refined refugee mental health screening, ensuring comprehensive care at Wesley Clinic.

RISK FACTORS AND OUTCOMES OF ABUSIVE NEUROTRAUMA IN GERIATRIC PATIENTS: A NATIONAL TRAUMA DATA BANK ANALYSIS. Tracy Okonya. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Banner University Medical Center – Robert Bina, MD.

Introduction: The World Health Organization reports as many as 14.1% of older adults experience physical abuse. Assault related injuries are associated with worse outcomes in older adults. Recognizing risk factors for abusive neurotrauma is pivotal for early detection, intervention, and preventing further harm. This study aims to identify risk factors and outcomes of abusive neurotrauma in older adults using the National Trauma Data Bank (NTDB). Methods: Patients over age 65 with neurotrauma from 2019 to 2021 were extracted from the NTDB, stratified by abusive (e.g., physical abuse, maltreatment, neglect, abandonment) or accidental injury mechanisms. Descriptive statistics, univariate analysis, and multivariable logistic regression were performed. Results: 430,026 patients were included, of which abuse was reported in 194 (0.05%). Abusive neurotrauma resulted in a significantly higher proportion of subdural hematomas (SDH) compared to accidental (37% vs 30%; $p < 0.05$). In a multivariate model, risk factors associated with abusive neurotrauma were: female sex (1.91; 95% CI 1.17–3.11), black race (4.12; 95% CI 2.29–7.42), domestic residence (2.24; 95% CI 1.25–3.99), and dementia (2.74; 95% CI 1.52–4.93). There was no significant difference in mortality between groups, when controlled for severity of injury. Conclusion: Geriatric victims of abusive neurotrauma present with lower GCS and higher rates of subdural hematomas than those with accidental trauma. This analysis reveals a low rate of abusive head trauma; however, physical elder abuse is known to be underreported and may be underrepresented in the NTDB. Awareness of risk factors may help physicians identify and intervene in cases of abuse. Female sex, black race, domestic residence and dementia should raise suspicion for abusive mechanisms of injury.

REFUGEE WOMEN'S HEALTH LITERACY PROJECT. Thane Rosette. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Wesley Community and Health Center at Golden Gate – Shahrzad Saririan, MD, MPH.

Importance: Many women refugees arrive in the United States with reduced screening rates and limited knowledge of breast and cervical cancer screening. Improving the health literacy of this population through educational interventions has been shown to improve screening rates. Design: This study utilized a pre-post intervention to assess the effectiveness of implementing a one-on-one educational intervention aimed at improving the health literacy of refugee women regarding breast and cervical cancer screening. Female participants over the age of 21 were recruited from the Wesley Community and Health Center at Golden Gate located in Phoenix, Arizona. Intervention – Deliverable 1: Educational handouts were developed to provide clear and accessible information on breast and cervical cancer screening. The one-on-one education of the handouts was provided in the patient's preferred language. Outcome – Deliverable 2: A pre-post test was designed. Pre-test assessments were conducted before the distribution of educational materials, while post-test assessments were administered immediately following the intervention. Quantitative data on participants' pre-post test scores were collected. Results: Nine women participated in the pre-post test. The average pretest score was 9.7%, while the average post-test score significantly improved to 73.6%. Statistical analysis using a paired t-test indicated a p-value of less than 0.0001. Further data collection is ongoing. Conclusions: The findings of this study showcase the efficacy of one-on-one health education interventions for enhancing the health literacy of refugee women regarding breast and cervical cancer screening. These findings demonstrate the importance of culturally sensitive educational initiatives in addressing healthcare disparities among refugee populations.

ELECTRONIC DASHBOARD TO IMPROVE OUTCOMES IN PEDIATRIC PATIENTS WITH TYPE 1 DIABETES MELLITUS. Lily Kathleen Sandblom. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Phoenix Children's Hospital – Steward Goldman, MD.

Background and Objectives: Incidence of type 1 diabetes mellitus (T1DM) is increasing, and these patients often have poor glycemic control. Electronic dashboards summing patient data have been shown to improve patient outcomes in other conditions. Further, patient education in T1DM has been shown to improve glycated hemoglobin (A1C) levels. We hypothesized that using data from the electronic dashboard to monitor diabetes management would improve patient outcomes. Methods: This study compares population endpoints before and after implementation of the electronic dashboard. Inclusion criteria included patients aged 0–18 at PCH with T1DM. Patient data was collected via the electronic dashboard. Primary outcome was the percentage of T1DM patients with non-severe A1C levels (<8%). Secondary outcomes were the percentage of patients that received diabetes education within the past year, attended recommended number of appointments, and received follow-up within 40 days of hospital admission. Results: This study revealed that following implementation of the electronic dashboard, the percentage of patients receiving appropriate education increased from 50% to 82% (Z-score=23.55, $p<0.0001$), the percentage of patients attending the appropriate number of appointments increased from 50% to 68.2% (Z-score=13.39, $p<0.0001$), and the percentage of patients receiving follow-up care within 40 days after a hospital admission increased from 43% to 70% (Z-score=18.87, $p<0.0001$). Median A1C decreased from 9.1% to 8.2% (Z-score=-6.74, $p<0.0001$). Conclusions: This study shows with the implementation of an electronic dashboard, we were able to improve outcomes for our pediatric patients with T1DM. This tool can be used at other institutions to improve care and outcomes for pediatric patients with T1DM and other chronic conditions.

SUPPORTING PSYCHOLOGICAL READINESS TO RETURN TO PLAY AFTER INJURY IN COLLEGIATE ATHLETES. Kendall Schwartz. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: University of Arizona Athletics Clinical and Sports Psychology – Rachel Webb, EdD, LPC, CMPC.

Introduction: Return to play from injury is a challenging experience for athletes. This period is physically and mentally strenuous with significant daily life changes. Prior research has demonstrated benefits of psychological intervention on return to sport. The purpose of this project was to identify key components that athletes struggle with the most and to create a guide to give to injured athletes to assist with their psychological readiness to return to play. Methods: A literature search was conducted utilizing PubMed and Google Scholar to gather further evidence for the efficacy of psychological interventions, to identify key elements to center the guide around, and common struggles that athletes face. The guide was subsequently developed based on the findings from the review and the themes that were identified to benefit athletes. Results: 33 articles were identified: 36.4% were considered high-quality, 33.3% moderate quality, and 30.3% low quality. Six key skills were found: visualization practices, stress management, growth mindset, gratitude, identity exploration, and social support. The guide consists of handouts focused on each skill, including general information, why it is important, and how to include these factors in the recovery process. Information about struggles faced when going through an injury is also provided to normalize common experiences. Discussion: This guide will benefit injured athletes by offering tangible resources to practice psychological wellness during a difficult time in their careers. It will be delivered alongside counseling, providing both guided and independent methods to improve psychological factors influencing return to sport. Future directions include examining the efficacy of this guide on successful return to play from injury as well as the overall recovery process.

LITERATURE REVIEW OF LONG-TERM PROFESSIONAL OUTCOMES OF MD/MPH DUAL DEGREE GRADUATES. Ankedo Warda. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: Mel and Enid Zuckerman College of Public Health – Irene Alexandraki, MD, MPH.

The MD/MPH dual degree program has emerged as a pivotal pathway in medical education to supplement the traditional MD training. The MD/MPH programs generally integrate clinical training with public health principles to address complex health challenges affecting patients and their communities. However, comprehensive understanding of the long-term professional outcomes and career paths of MD/MPH graduates remains limited. This literature review aims to explore existing literature on the professional trajectories of MD/MPH dual degree graduates, drawing upon historical context, and better understand how the integration of medical and public health education was applied to their career paths. By systematically examining peer-reviewed articles, dissertations, and grey literature, this study seeks to identify gaps and patterns in the available evidence regarding career pathways, leadership roles, and contributions to healthcare delivery and public health practice. The findings will inform the development of a survey tool tailored to capture nuanced aspects of MD/MPH graduates' professional experiences not fully explored in existing literature. This study could be helpful in the optimization of MD/MPH dual degree programs and the advancement of healthcare workforce planning, education, and policy in public health.

THE PUBLIC HEALTH CLUB: LEVERAGING SOCIAL MEDIA TO COMBAT HEALTH

MISINFORMATION. Maxine Yang. Phoenix. MPH Internship Committee Chair: Douglas Campos-Outcalt, MD, MPA. Site and Preceptor: University of Arizona College of Medicine Phoenix – Katie Brite Hillis, MD.

Introduction: The Public Health Club, previously identified as the Anti-Covid Covid Club, is a social media platform which was established to disseminate accessible, reliable health information amidst the COVID-19 pandemic. The initiative addresses the formidable challenge of online health misinformation, with a specific focus on reducing health disparities and institutional barriers to care. Methods: Systematic literature reviews and thematic Instagram posts were disseminated biweekly under the "FAQ Fridays" series. Most literature were obtained from authoritative sources including the NIH, PubMed, and CDC. References were integrated within posts and via the Linktree in the account's biography. Content creation was facilitated through Canva. Engagement metrics on Instagram were quantified through Pearson's correlation coefficient calculations. Results: The significant correlations are found between time from first post and accounts reached, $r(6)=0.99$, $p<0.00001$, and time from first post and non-follower engagement, $r(6)=0.0.93$, $p=0.00082$, with p-value significant < 0.05 , indicating the importance of account longevity. There is no significant change in engagement with followers over time. Conclusion: Social media platforms offer a vital avenue for patient education and outreach. In a digitized world where individuals increasingly turn to social media for guidance, it is imperative for public health departments and healthcare services to establish their online presence promptly for maximum outreach. By nurturing critical appraisal skills among the public, this project seeks to empower individuals with the essential tools to discern and challenge misinformation, thereby potentially fostering advancements in population-level health outcomes.

MPH One Health

ABSTRACTS

POR TU SALUD Y NUTRICIÓN INTERNAL REVIEW FOR NARRATIVE AND SURVEY CREATION TOWARDS ONE HEALTH FRAMEWORK. Raleigh Addington. Tucson. MPH Internship Committee Chair: Katherine Ellingson, PhD. Site and Preceptor: Por Tu Salud y Nutrición – Lic. Alma Rosa.

This internship commenced following a border health service–learning course where partnerships were built between the University affiliates and Por Tu Salud y Nutrición I. A. P (PTSYN). The internship addressed the request by PTSYN to create a database to inform and improve ongoing work with chronic illness and nutrition. The collaborative efforts of Border Health Service–Learning Course of Spring 2023 students and Community Health Workers (CHWs) of PTSYN gathered information that will inform future programs through a One Health lens. PTSYN’s goal is to educate, empower, provide balanced nutrition, and care for the health of those with chronic illness. To support that goal, our combined team implemented 3 pilot surveys of 33/~80 households in Mesa Rica, Sonora, Mexico in Spring–Summer of 2023. The results include data on demographics, access to resources, perspectives on climate change, and overall health. Household resources included water, where 14/33 households reported that they purchased “drinkable” water due to safety concerns of the potable water supply. The purchases of water ranged from “50 pesos every three days” to “520L/month for 260 pesos”. Furthermore, 15/33 released gray water into the open air and 19/33 used gray water to actively water plants to clean their patios. Human health found that 12/33 households with some form of diabetes and 11 with high/low blood pressure. There is also a perceived decrease in extreme rainstorm frequency with an increase in extreme heat frequency (<49 C) over time lived. Themes which emerged from the surveys include climate change adaptation and healthcare with data to support ongoing PTSYN projects. This information may further assist PTSYNs ongoing programs by also addressing additional factors that further exacerbate at risk populations with a One Health lens.

ONE HEALTH ARIZONA WORKFORCE DEVELOPMENT PROJECT. Josue Cruz. Tucson. MPH
Internship Committee Chair: Frank von Hippel, PhD. Site and Preceptor: UofA, MEZCOPH –
Yevheniia Varyvoda, PhD.

The One Health Arizona Workforce Development Project is intended to enhance the One Health skills and knowledge of health professionals by establishing an Arizona center of excellence for education, training, and workforce counseling. During the internship, I assisted the program manager and other staff to effectively communicate and create the foundation for the One Health model within the Arizona workforce. The internship included the creation of a One Health Arizona workforce development guide, a One Health policy brief, and a needs assessment regarding One Health and its incorporation within the workforce. The primary objectives of the internship were too: 1) facilitate One Health career opportunities for Arizona health professionals; 2) design and deliver training and education programs aimed at enhancing the competencies of health professionals in the One Health field; and 3) establish and sustain partnerships with individuals, government agencies, and organizations operating in the domains of human, animal, and environmental health in Arizona. Through the internship, I learned about knowledge gaps within One Health in the Arizona workforce and about the integration of many occupations and industries with the state. The internship highlighted the importance of integrating the One Health concept within the Arizona workforce and the role of One Health among different industries within the state. The internship provided an in-depth view and understanding of challenges associated with maximizing the impact of One Health in the Arizona workforce.

EVALUATION OF PIMA COUNTY'S ONE HEALTH CLINIC: A CLIENT AND PROVIDER PERSPECTIVE. Shayla VerSchave. Tucson. MPH Internship Committee Chair: Katherine Ellingson, PhD. Site and Preceptor: Pima County Health Department – Cedar Mitchell, MSPH, PhD.

Introduction: Pet owners experiencing housing instability often prioritize the needs and health of the pet over their own. One Health Clinics utilize the human–animal bond by creating integrated human and animal health care for housing–insecure populations. This approach can reduce barriers to services and improve human and animal health but has yet to be formally evaluated. In October 2023, the Pima County Health Department and other community partners started Tucson's first One Health Clinic. The aim for this internship project was to evaluate the clinic from the client, human health provider, and veterinarian perspectives. Methods: Surveys containing discrete choice and open–ended survey questions were developed for clients and providers, programmed into REDCap, disseminated at 6 clinics, and analyzed. The aim of the client survey was to understand and evaluate client and pet demographics, client acceptability/attitudes, and barriers/benefits to owning a pet. Results: The median age of client respondents was 38 (range=18–90) years old, 43% were White and 41% were Hispanic/Latino. Client's indicated high agreeance and likeliness to acceptability statements. The most utilized services were animal and human vaccinations. The primary barrier to pet ownership was housing restrictions. Benefits of owning a pet included companionship, protection, and emotional support. The primary barrier reported by providers was lack of communication between providers, and the primary facilitator was onsite navigators at the clinics. Conclusion: Acceptability of Pima County's One Health Clinic was high, and attitudes were mostly positive. Future clinics should consider methods to enhance provider communication. This survey can serve as a blueprint for future evaluations of One Health Clinics across the nation.

PILOTING A ONE HEALTH TICK COLLECTION AND SURVEILLANCE SYSTEM WITH SHELTER DOGS: A NOVEL APPROACH AT PIMA ANIMAL CARE CENTER. Jamie Lynn Young. Tucson. MPH Internship Committee Chair: Kristen Pogreba–Brown, PhD, MPH. Site and Preceptor: The University of Arizona Department of Entomology – Kathleen Walker, PhD.

Introduction: The Brown Dog tick is the most common hard tick in Arizona. It transmits several diseases including canine ehrlichiosis, canine babesiosis, and Rocky Mountain Spotted Fever (RMSF) in both dogs and humans. If left untreated, RMSF can have a mortality rate of up to 30% in humans. This internship piloted a novel One Health tick collection and surveillance system at Pima Animal Care Center (PACC) to assess tick presence in shelter dogs and establish a future means for monitoring and mapping tickborne disease trends in humans, animals, and the environment within Pima County. Methods: Dogs admitted to PACC were systematically examined for ticks during the shelter intake process. Dogs with ticks had as many specimens removed from their body as the animal would allow, and key demographic information such as sex, age, and the location the animal came from were recorded on a data collection form created for this project. Ticks were removed using an original standardized operating procedure which outlined how to safely interact with the animal during collection, and how to collect specimens without destroying them or harming the host. Results: On average, 6 ticks were collected per collection event. In total, 179 Brown Dog ticks from all stages of the species life cycle were collected from 28 shelter dogs on 21 separate days over the 93–day pilot period. The 28 dogs from which specimens were collected came from locations representative of PACC’s jurisdictions throughout Pima County. Conclusion: The pilot data reflects the promising nature of a One Health approach to conducting widespread tick monitoring. It will serve as a foundation for future projects like pathology testing of tick specimens and spatial mapping of tickborne diseases like RMSF within humans, animals, and the environment across Pima County.

MPH Public Health Policy and Management

ABSTRACTS

PIMA COUNTY HEALTH DEPARTMENT AUTOMATED DASHBOARD AND SURVEY DESIGN. Ruby Kerwin, MAS-GIS. Tucson. MPH Internship Committee Chair: Daniel Derksen, MD. Site and Preceptor: Pima County Health Department – Amanda Sapp, MPH.

The objective of this internship was to apply technical Geographic Information Systems (GIS) and data analysis skills to projects working to increase public health equity in Pima County Arizona. Specifically, the work of this internship is rooted in addressing the critical need for timely, accurate COVID-19 data within the community and accessible menstrual products. I design of a workflow through ArcGIS Interoperability to automate COVID-19 dashboards, ensuring real-time data dissemination and enhancing the efficiency of pandemic response efforts. I also built qualitative and quantitative data collection tool that incorporated GIS mapping technology to gather insights the distribution and coverage of menstrual products in Pima County. The COVID-19 dashboard automation led to a significant reduction in the time required to update pandemic data, facilitating more effective community response and resource allocation. The implementation of these tools not only addressed immediate health concerns but also established a model for future pandemic responses. The menstrual product data collection tool is collecting real time data to identify areas in the county that need increased menstrual product distribution to improvement in the accessibility of menstrual products across the county. In conclusion, this project achieved its objectives by enhancing the accessibility of essential health products and improving the efficiency of pandemic response through innovative data collection and dashboard automation. It underscores the potential of integrating technology with public health efforts and policy development, offering tools to address public health equity in Pima County, Arizona.

CENTER FOR MENTAL HEALTH. Riley Nelson. Tucson. MPH Internship Committee Chair: Joe K Gerald, MD, PhD. Site and Preceptor: Universidad UNIMINUTO Bogotá, Colombia – Cesar Nieto, MBA, MA.

Introduction: The goal of this internship project was to found the Center for Mental Health in Universidad UNIMINUTO in Bogotá, Colombia. This Center's mission was to introduce mental health interventions and awareness programs in Bogotá because access to mental health services in Colombia is limited. There are only 1.3 therapists for every 100,000 Colombians, which is less than any other Latin-American country. Method: The project was performed within a 5-step framework called La Ruta de Innovación Social which included 1) Preparation 2) Understand/Analyze, 3) Create, 4) Implement, and 5) Scale-up. To inform my team on the current status of mental health in the Bogotá area, I performed literature reviews of hundreds of scholarly articles, an evaluation of existing public/private mental programs, and a stakeholder analysis. Results: My literature reviews confirmed the need for action on behalf of the local government and health sector to diminish barriers to mental health services. This confirmation propelled us to establish a collaborative relationship with the local government and a mental health clinic in Bogotá. Another intern and I developed an application designed to connect users to professional mental health services and to post articles/podcasts about mental health. Conclusion: The team and I laid a foundation for the Center to address the social determinants of health that prohibit access to mental health services. Future evaluation of the Center's effectiveness is needed. This project served as a model for collaborating with key stakeholders to increase mental health access.

RURAL/SMALL LIBRARIES AND PUBLIC HEALTH RESOURCES. Angelina Oteng–Quarshie. Tucson. MPH Internship Committee Chair: Leila Barraza, JD, MPH. Site and Preceptor: Arizona Center for Rural Health: Library Champions Project (LCP) – Laura Schweers, MSW.

Background: Rural/small libraries are great collaborators with local health organizations, government agencies, and community groups to address specific health concerns and initiatives. This project took place at the Arizona Center for Rural Health (AzCRH), and evaluated the 2021 Advancing Health Equity, Addressing Disparities (AHEAD AZ) mini-grant recipients for the Library Champions Project (LPC). The intention is to outline the numerous ways rural/small libraries provide innovative services, programs, and resources to address the gap when it comes to accessing health services. Objective: Investigated the role of rural libraries in the promotion of public health through a comprehensive analysis of emerging literature, public data sources, asset mapping, and a policy recommendation. Methods: Looked at 29 libraries from 11 Arizona counties and utilized a multi-faceted approach through qualitative analysis to review the evolving literature, publicly available data, and policy gaps that impact rural/small libraries. 1–2 counties were selected to display the rural/small libraries and available community health assets on a map. Furthermore, the assessment of the literature, publicly available data, and asset mapping will inform a policy recommendation. Conclusion: While the project is still ongoing, the initial findings indicate that rural/small libraries carry the responsibility of ensuring their communities have access to health information, services, and resources, such as vaccines, nutrition education, mental health services, telehealth resources, etc. Moreover, these initial findings provide insight into developing a policy recommendation designed to advocate for a service that will benefit rural/small communities and libraries.

ARIZONA'S HEALTH PROFESSIONS PATHWAYS: STRATEGIES TO SUPPORT TRAINING. Jack Ringhand. Tucson. MPH Internship Committee Chair: Daniel Derksen, MD. Site and Preceptor: Arizona Center for Rural Health – Bryna Koch, DrPH.

Background: Arizona faces significant healthcare workforce shortages exacerbated by the maldistribution and under-supported racial and ethnic diversity of its health professionals. Health professions pathway programs and community-based preceptor tax credits are strategies that support training of rural and racially and ethnically underrepresented health professions students. Aim 1: Identify and summarize common and best practices of health professions pathway programs in support of the Arizona Department of Health Services (ADHS) Arizona Health Improvement Plan (AzHIP). Methods: Conducted a peer-reviewed literature review of pathway programs and disseminated a report to stakeholders. Results: Common instructional services include academic enrichment, mentorship, clinical skill development, and admissions preparation. Financial support is primarily provided through stipends and scholarships to address academic, housing, and travel costs. Aim 2: Assess and summarize current Arizona policy regarding clinical preceptor support and the utility of community-based preceptor tax credits. Methods: Performed a 50-state survey of preceptor tax credit policies and synthesized findings into a policy brief. Results: Seven states provide preceptor tax credits. Arizona's Preceptor Grants Program will be repealed in 2027, while appropriations to the fund end in 2025. Conclusion: Sustained financial support that targets the fiscal barrier faced by students is a critical component of many health professions pathway programs. Instructional support appears most promising when aligned with program goals. Community-based preceptor tax credits represent a feasible policy tool to strengthen Arizona's primary care provider pathway.

MPH Public Health Practice

ABSTRACTS

UNDERSTANDING SUN SAFETY EDUCATION STRATEGIES AND BEHAVIORS IN ARIZONA. Emily Albert. Phoenix. MPH Internship Committee Chair: Amanda Soka, PhD, MHA, LL. B. Site and Preceptor: Arizona Department of Health Services – Mya Davis, MPH & Hsini Lin, MSPH, ScD.

Background: The Arizona Department of Health Services SunWise Program works to prevent skin cancer in Arizona through sun safety education and outreach. The goal of this project was to evaluate current research on teen and young adult adherence to sun safety strategies in a literature review format and transfer the findings into an accessible teaching guide and engaging promotional materials for sun safety champions to utilize. Methods: A literature review of resources relating to skin cancer, the impacts of tanning beds, teenage and young adult sun safety behaviors, and best practices for health promotion among adolescents was conducted using information gathered from the SunWise curriculum, trusted government organizations, and peer-reviewed journals. Lessons and concepts gathered from the literature review were used to create an infographic about the risks of indoor tanning, a new program logo, social media posts, and an educational bookmark. The remaining deliverable included a teaching guide that combines program curriculum and resources, new education, and recommendations for providing sun safety presentations to different age groups. Results: The literature review demonstrated interventions that use topics and media relevant to adolescents that are communicated informally are more effective in creating behavior change in teens and young adults. The promotional materials and teaching guide will be available to the public for educational use on the SunWise website and by email request. Social media content will continue to be published every month. Conclusion: The literature review emphasizes the importance of adherence to sun safety recommendations for people of all ages. The provided deliverables will support future efforts to engage with and educate teens, young adults, and educators.

PRIMARY AND SECONDARY PREVENTION OF INFECTIOUS DISEASES AT LAIQ MEDICAL SCREENING CENTER. Rifah Anwar Assadi. Arizona International, Ajman–Gulf Medical University, Ajman, UAE. MPH Internship Committee Chair: Gabriela Valdez, PhD. Site and Preceptor: LAIQ Medical Screening Center. Dr. Riaz Hussain Abro.

The internship at LAIQ – SKMCA was structured around creating a Patient Education Tool focused on respiratory hygiene and constructing a Feasibility Analysis Model for potential new health services, such as a mobile screening service. Objectives included applying epidemiological methods, evaluating current research, discussing policy-making processes, and designing cost-effective, small-scale interventions for global health issues. Through collaborative research, development, and pilot testing, the intern successfully produced a visually appealing and informative patient education tool and a comprehensive feasibility analysis model. Additional activities included budget preparation, coordinating a flu vaccine campaign, and leading team-building exercises. These tasks demonstrated the development of core public health competencies such as critical thinking, collaboration, and adaptability. The internship's outcomes contributed to enhanced health literacy, informed decision-making in health services development, and increased disease prevention awareness, aligning with broader public health goals. Challenges were addressed through strategic planning and stakeholder engagement, resulting in practical solutions that enhanced the effectiveness of public health initiatives. This experience highlights the importance of integrating theoretical knowledge with practical application in addressing real-world public health challenges.

DEVELOPMENT OF CONTINUING EDUCATION UNIT CURRICULUM FOR AMERICAN INDIAN HEALTH–AREA HEALTH EDUCATION CENTER. Shawna Nelson. Phoenix. MPH Internship Committee Chair: Terry Urbine, PhD. Site and Preceptor: American Indian Health – Area Health Education Center – Tashina Machain, MPH.

Introduction: This internship was conducted through the American Indian Health – Arizona Health Education Center. The purpose of this internship project was to utilize tribal health curricula to design and implement a continuing education division. Methods: To achieve the purpose of the internship, I researched tribal health programs and resources for their continuing education unit (CEU) contents. Best practices in coordinating and managing CEU content were gathered from Arizona health resources. Discussions about adopting the University of Arizona’s College of Nursing curriculum and the Arizona Advisory Council on Indian Health Care’s cultural competency curriculum into the CEU library. Sustainability practices were researched by key stakeholders to establish CEU accreditation interest for AIH–AHEC. Results: My efforts yielded presentations and curriculum that healthcare professionals to educate and advocate for tribal populations. Conclusions: Overall, there are numerous topics identified that can be included in AIH–AHEC’s continuing education unit library. An established coordinator should continue the accreditation process and manage the growth of the CEU library. By providing tribal health content on various topics for healthcare professionals, we help improve the quality of relationships in tribal healthcare settings.

ADVANCING PUBLIC HEALTH SKILLS AT ADPHC. Nafeesa Abdul Kareem. Arizona International, Ajman–Gulf Medical University, Ajman, UAE. MPH Internship Committee Chair: Gabriela Valdez, PhD. Site and Preceptor: Abu Dhabi Public Health Center. Dr. Rajeh Rafiq Al Fahel.

This executive summary describes the intern’s experience at the Abu Dhabi Public Health Centre (ADPHC) from June 6, 2023 to July 13, 2023. The 225–hour internship provided hands–on experience across various departments at ADPHC. Two major deliverables were completed to demonstrate competency achievement: 1) a literature review and recommendation report on cancer in the UAE, fulfilling competencies related to assessing population needs and designing interventions; and 2) a social media marketing plan for ADPHC to improve its online presence and public health messaging. Additional deliverables included documents on strategic partnerships, pest control regulations, sample size calculations, nutrition guidelines, health communication, and a pilot study proposal. Through this internship, the student gained valuable real–world public health experience as well as skills in communication, time management, public speaking, teamwork, and more. Overall, the internship provided practical preparation for a future career in the public health field.

INTEGRATION OF HIV CARE AND CERVICAL CANCER SCREENING IN SUB-SAHARAN AFRICA. Jennifer Strozewski. Phoenix. MPH Internship Committee Chair: Gail Barker, MBA, PhD. Site and Preceptor: Jos University Teaching Hospital (JUTH) – M. Habila, MPH, PhD.

Introduction: This project aims to enhance cervical cancer screening uptake among women in Nigeria by integrating it with HIV care. This was a qualitative analysis of interview data collected at Jos University Teaching Hospital (JUTH), which delivers healthcare to patients across Nigeria, including women living with HIV (WLHIV). JUTH healthcare providers (HCPs) describe the current care model as integrated because no-cost screening is available within the same facility as HIV care services; however, screening uptake remains suboptimal. **Methods:** Deidentified interview transcripts of 83 WLHIV and 15 HCPs were coded and summarized with Dedoose qualitative data software. Thematic analysis allowed for the identification of the primary facilitators and barriers to cervical cancer screening. **Results:** Preliminary findings indicate facilitators were primarily interpersonal (recommendations from friends or providers) and organizational (integration within the clinic and the absence of cost to patients). Barriers to screening included fear of the procedure or results and its optionality. Additionally, some patients expressed reluctance to screen because financial barriers preclude later treatment. **Conclusion:** JUTH's integrated care model should be maintained and strengthened. Recommendations to enhance screening uptake and improve patient outcomes include shifting from 'opt-in' to 'opt-out' screening, implementing a community-based buddy system to address patient fears, providing patient education on low-cost treatment options, and improving results communication protocols.

ANALYSING THE EFFICACY OF SUICIDE PREVENTION INTERVENTIONS FOR INDIGENOUS POPULATIONS AND IMPLEMENTING SOCIAL MEDIA STRATEGY AT THE SOUTHWEST INSTITUTE FOR RESEARCH ON WOMEN (SIROW). Rebecca Sustayta. Phoenix. MPH Internship Committee Chair: Kirin Goff, JD, MS. Site and Preceptor: Southwest Institute for Research on Women – Josephine D. Korchmaros, PhD.

SIROW is a nonprofit that addresses issues such as gender, equality, and social injustices through evidenced-based research and programs throughout the nation. The internship included three deliverables. Qualitative data analysis and a report were done through the suicide prevention initiative “Project Lifeline,” while the other was a social media marketing plan. Project Lifeline is an interactive workshop designed to educate, raise awareness, and allow access to a variety of resources for UA students and personnel in preventing suicide. It also includes a survey given to participants both immediately after the workshop and again 3 months later. Coding, categorization, and interpretation of the survey data was done through excel, uncovering themes, such as: confidence in navigating conversations around suicide, identifying warning signs, and the ability to provide support to peers, and recommendations for improvement. I also reviewed literature and drafted a report examining potential strategies to increase participation from Indigenous communities, as that was the target population identified in the grant for the project. The report involved synthesizing findings from the qualitative data analysis from all five years of Project Lifeline, while also researching relevant literature and initiatives with similar goals. It encompassed actionable strategies tailored to enhance organizational performance, improve methodology, and maximize stakeholder engagement. Finally, the social media marketing strategy was successfully implemented after conducting a review of industry competitors and practices. As easy implementation was imperative, LinkedIn was selected as the primary platform. With a goal to reach underrepresented populations through better collaborations with stakeholders, over 90 pieces of content created.

A COMPARISON OF TWO VACCINE INJURY COMPENSATION PROGRAMS IN THE CONTEXT OF COVID-19. Megan Wade. Phoenix. MPH Internship Committee Chair: Janet Foote, PhD. Site and Preceptor: University of Arizona – Leila Barraza, JD, MPH.

Introduction: The Vaccine Injury Compensation Program (VICP) and Countermeasures Injury Compensation Program (CICP) both fill a critical need in managing the financial risk and burden of liability created by serious injuries and deaths sustained due to new treatments and vaccines. Both programs provide vital coverage for vaccine manufacturers protecting them from lawsuits and encouraging continued development. The COVID-19 vaccine currently falls under the CICP, and has created an unprecedented public health dilemma for lawmakers as the vaccine far surpassed the number of doses administered of any other covered vaccine under the CICP. This review compares the two vaccination coverage programs, analyzes the current COVID-19 vaccination data, and covers current legislation relating to the CICP and VICP.

Methods: This internship focused on four deliverables. The first was a literature review which analyzed the historical context of both compensation programs and the reason why each was created. The second deliverable, promotional materials, focused on using the raw data from each program, and creating visual summaries as tables and graphs for easy review. The final deliverables, a journal article including a quantitative analysis, explained in-depth the history and current legislation surrounding each of the programs. Results: The CICP award rates are 7.13% compared to 35.10% with the VICP. COVID-19 vaccine injury claims comprise 93.23% of all claims ever filed under the CICP. Conclusion: As the programs currently stand, the CICP program is a less effective compensation program when mass public vaccination is required for the health of the public. The CICP is vastly different from the VICP in several ways that ultimately render it less reliable, less available, and less beneficial to the public it is meant to serve.

The MPH Applied Practice Experience

From the inception of the Master of Public Health Program in 1993, the Applied Practice Experience (previously known as the Internship) has been one of the most impactful and practical part of the program's curriculum.

Since its establishment, the MPH APE/Internship Conference has grown in stature and significance to the Mel and Enid Zuckerman College of Public Health (MEZCOPH). The College uses this event as a public health networking tool by inviting public health practitioners, partners, and alumni throughout the state to view student presentations.

Through contributions they have made and the benefits they have gained, the Conference reflects the indelible handprint of MEZCOPH students on public health projects and agencies throughout the world.



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