2nd Annual Midwest Public Health Innovation and Research Expo

Friday, October 28, 2022

SCHEDULE AT A GLANCE
8 AM—Continental Breakfast
9 AM—Session 1
10:15 AM—Coffee Break
10:30 AM—Session 2
12 noon—Lunch
12 noon—Session 3
1 PM—Session 4
2 PM—Session 5

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      • Promoting Public Health Communication through Team Science and Innovation
      • Global Health and Student Engagement
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### Session 1—Forging Collaboration Across Disciplines

**Chair:** Eleanor Rogan, PhD  
9:00 – 9:10 AM  

**Brandon Grimm PhD, MPH**  
Senior Associate Dean, College of Public Health, University of Nebraska Medical Center (UNMC)  
*Welcome*

9:10 – 9:20 AM  

**Shari Veil, PhD**  
Dean and Professor, Advertising & Public Relations  
University of Nebraska-Lincoln College of Journalism and Mass Communications  
*Welcome and Introduction to UNL College of Journalism and Mass Communications*

9:20-10:15 AM  

**Valerie Jones, PhD**  
Associate Professor of Advertising & Public Relations  
University of Nebraska-Lincoln College of Journalism and Mass Communications  
*The Hows and Whys of Studying Public Sentiment in Social Media*

**Ciera Kirkpatrick, PhD**  
Assistant Professor of Advertising & Public Relations  
University of Nebraska-Lincoln College of Journalism and Mass Communications  
*Increasing Diversity in Clinical Trials via Strategic Communication*

**Kelli Boling, PhD**  
Assistant Professor of Advertising & Public Relations  
University of Nebraska-Lincoln College of Journalism and Mass Communications  
*NarcanSavesLives*

**Changmin Yan, PhD**  
Associate Professor of Advertising & Public Relations  
University of Nebraska-Lincoln College of Journalism and Mass Communications  
*Let’s talk about microaggressions and mental health: Humor-based immersive storytelling of microaggressions can reduce identity-based anxiety*
Cory L. Armstrong, PhD
Associate Dean for Research and Faculty Affairs and Professor
University of Nebraska-Lincoln College of Journalism and Mass Communications
Are you watching or warning? The role of comprehension, warning time and prior experience on individual preparation of tornadic events

| 10:15 – 10:30 AM | Coffee Break |

Session 2—Public Health Advocacy and Promotion
Chair: Risto Rautiainen, PhD

- 10:30-11:00 AM
  **Brandon Grimm, PhD, MPH**
  Senior Associate Dean and Associate Professor of Health Promotion
  College of Public Health, UNMC
  *Public Health Practice Engagement, Research, and Capacity Development*

- 11:00-12:00 noon
  **Katharine Smart, MD, DTM&H, FRCPC**
  Past President, Canadian Medical Association
  *Misinformation and Social Media- Battling Emerging Threats to Health*

**AFTERNOON SESSIONS**
Theme: Public Health Problems and Solutions

| 12:00-1:00 PM | Lunch Provided |

Session 3—Poster Presentations
Chair: Cheng Zheng, PhD

- POSTERS WILL BE PRESENTED FROM 12:00-1:00 PM
  **Xiaoqing Wang**
  PharmD and MPH Student, Colleges of Pharmacy and Public Health, UNMC
  Co-Authors: Alfred Anzalone, Cheng Zheng, and Ran Dai
  *Understanding COVID-19 recurrence events using National COVID Cohort Collaborative (N3C) Enclave data*

  **Ciera Kirkpatrick, PhD**
  Assistant Professor of Advertising & Public Relations
  University of Nebraska-Lincoln College of Journalism and Mass Communications
  Co-Author: Sungkyoung Lee
  *#momlifeisthebestlife: How Social Media’s Portrayals of Motherhood are Harming New Mothers*

  **Raheleh Mohammadi**
  MPH/PhD Student, Epidemiology, College of Public Health, UNMC
  Co-Authors: Krishtee Napit, Pratap Shrestha, Anil Kumar, and Arun Ranjan Napit
  *Factors associated with adolescents’ resilience: a survey-based study among Nepalese adolescents*
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<tr>
<td>Jessica Walsh, MA</td>
<td>Assistant Professor of Journalism</td>
<td>University of Nebraska-Lincoln College of Journalism and Mass Communications</td>
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<td><em>What’s with the water: The nature of reporting on the problem of nitrates in Nebraska</em></td>
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<td>Julie Lubisi</td>
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<td>College of Public Health, UNMC</td>
<td>Co-Authors: Iftikher Mahmood, Wael ElRayes, Md Golam Hafiz, Farhana Ul Hoque, and Shireen Rajaram</td>
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<td>Co-Authors: Wael ElRayes, Iftikher Mahmood, Md Golam Hafiz, and Farhana Ul Hoque</td>
<td><em>Predicting Apgar Score Outcomes with Midwife Antenatal Care Among Infants Born to Rohingya Refugees in Cox’s Bazar</em></td>
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<td>Krishtee Napit, MPH</td>
<td>Doctoral Student, Epidemiology</td>
<td>College of Public Health, UNMC</td>
<td>Co-Authors: Pratap Shrestha, Anil Kumar Singh, Arun Ranjan Napit, Louis Fok, Suraj Adhikari, and Shinobu Watanabe-Galloway</td>
<td><em>Association between resilience and smoking, alcohol and drug use among secondary school level adolescents of Jaleswor municipality, Nepal</em></td>
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<td>Joseph Williams, MPH</td>
<td>DO Student, College of Osteopathic Medicine</td>
<td>Kansas City University</td>
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<td>(Bryan) Ming Wang, PhD</td>
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<td>University of Nebraska-Lincoln College of Journalism and Mass Communications</td>
<td>Co-Author: Martin Herz</td>
<td><em>Health Misinformation in an Alternative Social Media Ecosystem: Sharing and Framing Anti-Vaccine Content on Telegram</em></td>
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<td>Niran Tamrakar</td>
<td>MPH Student, Epidemiology</td>
<td>College of Public Health, UNMC</td>
<td>Co-Authors: Daisy Dai, Athena Ramos, Tzeyu Michaud, and Kendra Ratnapradipa</td>
<td><em>School-based e-cigarette education curriculum, “T.E.A.M No Vaping”: Impact on knowledge of e-cigarettes, harm perception, and media literacy among middle/high school students</em></td>
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<td>Taelyr Weekly, MPH, BSN, RN-BC</td>
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<td>Co-Author: Brandon Grimm</td>
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<td>Yadi Liu</td>
<td>MPH Student, Biostatistics, College of Public Health, UNMC</td>
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<td>PharmD Student, College of Pharmacy, UNMC</td>
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<td>Co-Authors: Troy Puga, Andrew Kochvar, and Daisy Dai</td>
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<td><em>Additive genetic and environmental effects to the lifetime and current use of tobacco</em></td>
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<td>Xinyu Sun</td>
<td>Doctoral Student, Biostatistics, College of Public Health, UNMC</td>
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<td>Co-Author: Su Chen</td>
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<td><em>Do we need multiple testing adjustment in both discovery and replication cohorts?</em></td>
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**Session 4—Special Topic Breakout Rooms**

- **BREAKOUT ROOMS WILL TAKE PLACE FROM 1:00-2:00 PM**

**Room #1: Promoting Public Health Communication through Team Science and Innovation**

**Chairs:**
- Shannon Maloney, PhD  
  Assistant Professor of Health Promotion  
  College of Public Health, UNMC
- Shari Veil, PhD  
  Professor and Dean  
  UNL College of Journalism and Mass Communications

**Panelists:**
- David Palm, PhD  
  Associate Professor of Health Services Research & Administration  
  College of Public Health, UNMC
- Regina Idoate, PhD  
  Assistant Professor of Health Promotion  
  College of Public Health, UNMC
- Sharon Medcalf, PhD  
  Associate Professor of Epidemiology  
  College of Public Health, UNMC
- (Bryan) Ming Wang, PhD  
  Associate Professor of Advertising & Public Relations  
  University of Nebraska-Lincoln College of Journalism and Mass Communications
- Daisy Dai, PhD  
  Associate Dean for Research and Professor of Biostatistics  
  College of Public Health, UNMC
### Room #2: Global Health and Student Engagement

**Chairs:**
- **Wael ElRayes, MBBCh, PhD, MS, FACHE**
  Co-Director, Center for Global Health and Development, and Assistant Professor of Health Services Research & Administration, College of Public Health, UNMC
- **Joseph Fauver, PhD**
  Assistant Professor of Epidemiology, College of Public Health, UNMC

**Panelists:**
- **Julie Lubisi**
  PhD Student, Health Promotion, College of Public Health, UNMC
- **Nancy Tahmo**
  MPH Student, Epidemiology, College of Public Health, UNMC
- **Vickie Doss**
  MPH Student, Epidemiology, College of Public Health, UNMC

### Room #3: College of Public Health Admissions and Degree Programs

**Chair:**
- **Jessica Tschirren, MPA**
  Assistant Dean for Student Affairs, College of Public Health, UNMC

**Co-Chair:**
- **Eric Brabb, MBA**
  Admissions & Recruitment Specialist, Office of Educational Services, College of Public Health, UNMC

### Session 5—Research Innovation

**Chair:** Ronnie Horner, PhD

- **2:00-2:45 PM**
  **Karsten Bartels, MD, PhD, MBA**
  Professor, Vice Chair of Research, and Robert Lieberman Endowed Chair of Anesthesiology
  College of Medicine Department of Anesthesiology, UNMC
  *Observational, Quasi-Experimental, and Pragmatic Research in Perioperative Medicine*
  - **2:45-3:05 PM**
    **Tzeyu Michaud, PhD**
    Assistant Professor of Health Promotion
    College of Public Health, UNMC
    *A Framework for Conducting Multi-Leveled Economic Analysis of Evidence-Based Interventions & implementation Strategies*
  - **3:05-3:25 PM**
    **Abraham Mengist, PhD**
    Assistant Professor of Epidemiology
    College of Public Health, UNMC
    *Evaluation of the Performance of the Pooling Technique for Determining the Prevalence & Intensity of Schistosoma haematobium infection at a population*
Jesse Bell, PhD
Claire M. Hubbard Professor of Health and Environment
College of Public Health, UNMC
Overview of the Water, Climate and Health Program
  o  3:45-4:15 PM
Award Ceremony
Chambers Summer Global Health Fellowship Award
Presented by Wael ElRayes, MBBCh, PhD, MS, FACHE, and Ward Chambers, MD
College of Public Health Student Research Conference
Presented by Daisy Dai, PhD
Midwest Public Health Innovation and Research Expo Poster Awardees
Presented by Cheng Zheng, PhD

PROGRAM ABSTRACTS

SESSION 1: FORGING COLLABORATION ACROSS DISCIPLINES

Valerie Jones, PhD
Associate Professor of Advertising & Public Relations
University of Nebraska-Lincoln College of Journalism and Mass Communications
The Hows and Whys of Studying Public Sentiment in Social Media

Dr. Jones will provide an overview of some proprietary software used in the UNL College of Journalism & Mass Communication’s Public Insight Lab can be employed to understand public opinion and sentiment, particularly as it relates to public health and mental health.

Ciera Kirkpatrick, PhD
Assistant Professor of Advertising & Public Relations
University of Nebraska-Lincoln College of Journalism and Mass Communications
Increasing Diversity in Clinical Trials via Strategic Communication (Slam Abstract)

The lack of diversity among clinical trial participants is an obstacle to achieving health equity. Without adequate representation of minority populations, it is difficult to test and approve treatments that could improve these groups’ health. Prior research has identified specific barriers that keep racial and ethnic minority populations from participating (e.g., a psychological barrier for Black Americans resulting from their historical mistreatment in research settings). During this talk, we’ll discuss how messages in the media can be strategically designed to address these barriers and, in turn, improve attitudes toward clinical trials and increase intentions to participate in trial opportunities.

Kelli Boling, PhD
Assistant Professor of Advertising & Public Relations
University of Nebraska-Lincoln College of Journalism and Mass Communications
#NarcanSavesLives
On average, someone dies from an opioid overdose every eight minutes. In 2021, the CDC reported that annual drug overdose deaths in the U.S. had increased 28.5% from the year before. Naloxone (brand name Narcan) is an opioid antagonist, available without a prescription, used to rapidly reverse an opioid overdose. The hashtags #NarcanSavesLives and #NaloxoneSavesLives have been used almost 20,000 times, reaching over 50 million people since 2015. We’re examining social media’s role in communicating and promoting Narcan as a harm reduction tool. Who is posting, what are they saying, and why are they choosing to tell others about Narcan?

Changmin Yan, PhD
Associate Professor of Advertising & Public Relations
University of Nebraska-Lincoln College of Journalism and Mass Communications

Let’s talk about microaggressions and mental health: Humor-based immersive storytelling of microaggressions can reduce identity-based anxiety.

Microaggressions can be subtle but painful for marginalized groups. Such indignities, intentional or unintentional, communicate “hostile, derogatory or negative racial slights and insults that potentially have harmful or unpleasant psychological impact on the target person or group” (Solorzano, Ceja, & Yosso, 2000). The mental health impacts of microaggressions are real and long-lasting among the target group. As described by a group of lesbian, gay, and bisexual (LGB) youths, subtle LGB discriminations felt like “death by a thousand cuts” (Nadal et al., 2011). In addition, racial microaggressions are linked to psychological distress and elevated risks of heart disease among African Americans (Hicken et al., 2014). Yet, discussions about microaggressions can be uncomfortable. Perhaps laughter can help. Co-mingling humor-based storytelling and immersive video, this study investigates two main questions: “1. Does exposure to a humor-based immersive video about microaggressions reduce identity-based anxiety?”; “2. What are some of the mediating factors for the hypothesized anxiety reduction?”. In a 3-week pre-post study, 176 participants were exposed to a 7-minute 360-degree video developed by the research team to cover five themes of microaggressions, including gender, language/nationality, race, disability, and culture. Participants’ identity-based anxiety, perceived psychological presence, video-induced emotions, multicultural awareness, knowledge, and skills were measured both at the first-week baseline and at the end of video viewing in the third week. All participants reported prior experience with at least one of the five microaggression themes featured in the video and some level of identity-based anxiety during week 1’s baseline assessment. In addition, there was significant identity-based anxiety reduction from the baseline. Mediation analysis indicates partial mediations of identity-based anxiety reduction through perceived psychological presence, video-induced discrete emotions, multicultural awareness, knowledge, and skills. In sum, results from the present study suggest that humor’s rhetorical functions coupled with the latest immersive media technology can provide relief from identity-based anxiety.

Cory L. Armstrong, PhD
Associate Dean for Research and Faculty Affairs and Professor
University of Nebraska-Lincoln College of Journalism and Mass Communications

Are you watching or warning? The role of comprehension, warning time and prior experience on individual preparation of tornadic events

This study examines how prior experience with tornados and warning times may impact one's ability to take protective action. A survey of 679 mid-south residents provided insight into their perceptions of warning language and events. Results indicated that experience and warning time had an interactive effect on protective behaviors, and that rural and urban residents respond differently. Finally, definitions of “tornado “warning noted that more than half of participants correctly identified its meaning.

SESSION 2: PUBLIC HEALTH ADVOCACY AND PROMOTION

Brandon Grimm, PhD, MPH
Senior Associate Dean and Associate Professor of Health Promotion
College of Public Health, UNMC
Public Health Practice Engagement, Research, and Capacity Development

Public health practice is the strategic, organized, interdisciplinary application of knowledge, skills, and competencies necessary to perform public health core functions. The College of Public Health at UNMC has made practice a priority in how we prepare our current students, build the capacity of our existing workforce, and translate data into action. This session will highlight the importance of engagement, capacity development, and research in public health practice. It will also explore the practice portfolio that has been developed and how faculty can be successful with a practice and engagement focus.

Katharine Smart, MD, DTM&H, FRCPC
Past President, Canadian Medical Association
Misinformation and Social Media- Battling Emerging Threats to Health

Misinformation is posing an increasing threat to health. In March 2020 the global COVID-19 pandemic was declared. We underestimated how the pandemic would put the misinformation movement on steroids and create a parallel infodemic. The rise of misinformation during the pandemic was coupled with increasing political polarization, decreasing civil discourse and threats to democracy itself.

Many factors contributed to the spread of medical misinformation: declining trust in institutions, the changing media ecosystem, deepening political polarization, and worsening economic inequalities. These trends changed how our societies arrive at a common understanding of truth. Undoubtedly, the spread of misinformation, intensified by increasing social media use, impacts everyone.

Equipping people with the skills required to recognize and combat misinformation is critical. Three types of interventions have been shown to be effective: prebunks, nudges
and debunks. Together these techniques can increase societal resilience against misinformation.

The changing information ecosystem calls on physicians and other healthcare professions to evolve and show a presence on social media to educate and impart their knowledge about health, medicine, and science to the public. If we do not other less-qualified, non-medical individuals will and we will see “celebrity” and “wellness” influencers continue to co-opt and dominate the health space. COVID-19 misinformation threatens not only our health but also our social cohesion and the functioning of democratic systems and institutions. There has never been a more important time for healthcare professionals to provide leadership and engage with the public. We must no longer think of our patients as only the person in front of us but extend that view beyond our offices to our communities and nations.

SESSION 3: POSTER PRESENTATIONS

Xiaoqing Wang
PharmD and MPH Student, Colleges of Pharmacy and Public Health, UNMC
Understanding COVID-19 recurrence events using National COVID Cohort Collaborative (N3C) Enclave data

Background and objective - The ongoing global COVID-19 pandemic has been impacting the United States and the whole world for more than three years. Many efforts have been put into understanding the disease in process of infection, severe condition development, and its impacts on people with different demographics, comorbidities, and socioeconomic conditions.

Methods - In this poster presentation, we use the National COVID Cohort Collaborative (N3C) data to identify COVID-19 related recurrent events; and investigate the relationship between COVID-19 recurrence and factors such as demographic, comorbidity, and COVID-19 waves. N3C is an NIH-supported centralized, secure enclave to store and study vast amount of medical record data from people diagnosed with coronavirus disease across the country. The data set includes patient-level information such as demographics, symptoms, lab test results, procedures, medications, medical conditions, physical measurements, and so forth.

Results - We find that being old, Non-Hispanic ethnicity, smoking and multiple comorbidities are associated with higher risks of recurrence of COVID-19 related hospitalization. The death rate for the first visit is higher than later visits. The hospital length of stay is longer in the first visit.

Application to the field/ research - With this presentation we also demonstrate the advantages and statistical challenges of using the N3C data to understand COVID-19 related questions.
#momlifeisthebestlife: How Social Media’s Portrayals of Motherhood are Harming New Mothers

Background and objective - Social media is home to countless “picture-perfect” portrayals of motherhood. These portrayals, from both social media influencers and everyday mothers, idealize the motherhood experience by showcasing only the positive aspects of parenting and leaving out mention of the difficulties that come along with motherhood. It has been suggested that these portrayals may have harmful effects on the mental health of new mothers as comparisons to these portrayals may cause mothers to feel as though they do not measure up to what is portrayed online. This study was designed to seek evidence of a causal relationship between the posts’ content and negative effects on new mothers’ health.

Methods - An online within-subjects experiment was conducted in which 464 new mothers (defined as mothers with a child aged 3 or younger) in the United States were exposed to 20 real Instagram posts varying in idealization (i.e., idealized vs. non-idealized portrayal) and source (i.e., posted by a mommy influencer vs. an everyday mother).

Results - The participants reported greater social comparison and perceived similarity to the motherhood portrayals that were non-idealized (vs. idealized), as well as greater social comparison and perceived similarity to the portrayals that were from everyday mothers (vs. mommy influencers). While the idealized portrayals resulted in less social comparison, they were found to increase levels of envy and state anxiety. The idealized portrayals of motherhood increased envy and state anxiety, regardless of whether the portrayals were coming from a mommy influencer or everyday mother on social media.

Application to the field/ research - This study was the first to show a causal relationship between social media motherhood portrayals and mental health outcomes of new mothers. These findings have important practical implications for health care professionals and strategic communicators. We suggest that health care professionals ask about their patient’s social media use to see if their social media habits are playing a role in their mental health. This could be especially important when engaging with patients who have anxiety and/or postpartum depression. We also suggest strategic communicators create messaging that communicates the dangers of social media to new mothers and offers suggestions for mitigating these effects.

Factors associated with adolescents’ resilience: a survey-based study among Nepalese adolescents

Background and objective - Resilience is defined as the process of overcoming adversity exposures in life successfully. Being exposed to a broad range of adversity events during
adolescence includes physical, sexual maturity, hormonal-emotional, and psychological and cognitive changes. The transition from childhood to adulthood and its auxiliary changes may lead adolescents to experience health problems and affect their mental and physical health. Thus, an important objective is to understand risk factors associated with adolescents’ resilience to cope with stress-causing conditions. This research aims to evaluate the impact of sociodemographic characteristics, social support, and educational performance on adolescents’ resilience in coping with stress-causing events.

Methods - We performed a self-administered questionnaire among 9th to 12th-grade students through a two-stage cluster sampling of schools within Jaleshwar municipality. The questionnaire is designed based on the Global school-based student health survey (GSHS) for health risk behaviors. The level of resilience is measured through the Connor-Davidson Resilience Scale-10 (CD-RISC-10). Overall, 508 students were included in the analysis. The linear regression method was performed to examine the linearity between direct and indirect sociodemographic characteristics with the level of individual resilience. Direct sociodemographic variables are educational grade level, family and friend support, student grade evaluation, and school type. Indirect sociodemographic variables are parents’ education and occupation. Both models included age, sex, ethnicity, and religion to control the effect of confounding at a statistical significance of p <0.05.

Results - Model one demonstrated a significant existence of a linear association of the mean resilience score with friend support (p<0.0001), family support (p=0.001), student grade evaluation ( p<0.0001), and school type (p=0.0009). Model two demonstrated a significant linear association between the mean resilience score and the mother's occupation (p=0.0062).

Application to the field/ research - The mean resilience of adolescents is linearly associated with individuals' family and friend support, school type, student's grade evaluation, and mother's occupation after adjusting for age, sex, ethnicity, and religion.

Jessica Walsh, MA
Assistant Professor of Journalism
University of Nebraska-Lincoln College of Journalism and Mass Communications
What’s with the water: The nature of reporting on the problem of nitrates in Nebraska

Background and objective - Journalist/journalism researcher

Methods - Qualitative

Results - Abstract: This article examines how 22 Nebraska newspapers and a wire service covered nitrate contamination in Nebraska’s groundwater over nearly four years. We found coverage lacked depth and examined few solutions even though 88% of Nebraskans get drinking water from the ground. Reliance on fertilizer and irrigation for crop production leads to groundwater contamination, making this a concerning coverage gap as climate change impacts promise to make farming more challenging and increase environmental risks. Keywords: Reporting techniques, agenda setting, community
Application to the field/ research - Inform and understand environmental reporting in the Midwest

Julie Lubisi  
PhD Student, Health Promotion, College of Public Health, UNMC  
*Evaluation of the GBV Response among the Rohingya Refugees in Bangladesh*

Background and objective - About 1.2 million Rohingya live in 34 camps in Cox's Bazar region, Bangladesh, who are considered by the Bangladeshi Government to be Forcibly Displaced Myanmar Nationals (FDMN). Rohingya women and girls are at high risk for gender-based violence (GBV), either before migrating to the camp or since their arrival. Research published in 2019 shows that an estimated 58,700 Rohingya women and girls have experienced sexual violence. Barriers to accessing care to address GBV include limited awareness and available services and social and cultural norms. Comprehensive screening and timely referral are critical to identifying and mitigating the impact of GBV among Rohingya women and girls. Hope Foundation for Women and Children, a local NGO, operates a field hospital in the camps and serves over 57,000 Rohingya women annually. The field hospital has a screening and referral process to address GBV. However, the implementation of this process has not been studied. University of Nebraska Medical Center College of Public Health and Hope conducted a participatory evaluation study to assess the field hospital's GBV screening and referral process to determine strengths and areas for improvement and innovation.

Methods - We used a mixed-methods research approach that involved focus groups and semi-structured interviews with key informants within the organization, including administrative staff, healthcare professionals, and community outreach workers. Additionally, we analyzed the alignment of Hope’s screening and referral process with key humanitarian and organizational protocols to address GBV.

Results - Our presentation will highlight key findings from the evaluation, including strategies to address barriers to care, trauma-informed approaches, and culturally appropriate practices.

Application to the field/ research - These findings will help inform future studies within HOPE’s field hospital and other clinics within humanitarian settings. By highlighting successes that can leverage international support and identifying areas for improvements and opportunities for innovation, our presentation will provide attendees a contextual understanding of key themes including the impact of GBV within humanitarian settings and an evaluation of a practical intervention among one of the world’s most disenfranchised populations.

Nancy Tahmo  
MPH Student, Epidemiology, College of Public Health, UNMC  
*Forest populations in the Congo basin and their threat pathogen experience*
Background and objective - As human-animal-environment interactions change, the threat of infectious diseases shifts too. 61% of emerging infectious diseases have animal origins, and their reemergence is driven by factors like urbanization and climate change. Indigenous rainforest communities in the Congo Basin suffer worse health outcomes as a result; Pygmies have a life expectancy of 22 years less than neighboring Bantus.

Methods - The Chambers summer project combined the MAPP strategic planning tool and One Health approach by identifying and leveraging existing community infrastructure and partnerships like the Centre for Research in Infectious Diseases. Between February and May, we registered a systematic review protocol in PROSPERO (CRD42022333059). In June, we effected field visits to tribal chiefs, people, and health centers, across five rainforest regions of Cameroon. Using semi-structured guides, we talked with these stakeholders to understand their cultural/economic/social contexts, probed on risky health practices, symptoms they experienced, health-seeking behaviors, reported diseases, and influence of the changing demographics (refugees, IDPs, foresters, miners). We met with stakeholders at the national level: Centre Pasteur in Cameroon, National Program for the Prevention and Fight Against Emerging and Re-emerging Zoonoses, Military Health Research Center, Centre for Research on Emerging and Re-Emerging Diseases, National Veterinary Laboratory, CDC Cameroon-Global Health Protection Program.

Results - There was a dependence on bush meat as a source of protein and household income. Though they experienced acute febrile illnesses with negative malaria diagnoses, health centers were not equipped with the necessary diagnostic tools, although they had a list of reportable diseases from the MoH. Overall, the stakeholders expressed a need to be empowered through health education, included in project planning/implementation, and to hold forestry companies in these areas accountable (corporate social responsibility). It was evident that the health center staff lacked expertise with zoonoses, unlike yaws, onchocerciasis, and other tropical diseases.

Application to the field/ research - Our work is especially relevant as we bring together published data, national zoonoses databases, and actual community experience with zoonotic diseases. There is clearly some discordance as concerns community awareness, local healthcare team capacity, and passive/active surveillance. With our locally identified collaborators, we hope to strengthen the health system of these communities by fostering regional interactions and promoting health behavior initiatives.

Vickie Doss
MPH Student, Epidemiology, College of Public Health, UNMC

Predicting Apgar Score Outcomes with Midwife Prenatal Care Among Infants Born to Rohingya Refugees in Cox’s Bazar

Infant mortality and morbidities have been associated with maternal malnutrition. Apgar scores evaluate a neonate's survival during birthing and transition to extrauterine life. The
literature supports a relationship between Apgar scores <7 with high neonatal morbidity and mortality rates.

The World Health Organization recommends at least four antenatal care visits (ANCV) for significantly improving birth and neonatal outcomes. This study assessed and evaluated the adequate number of antenatal visits to increase Apgar scores and to understand the efficacy of midwife antenatal care in improving Apgar scores in neonates born to malnourished mothers. It was hypothesized that there is a positive association between antenatal care and Apgar score. A prospective cohort study of 140 Rohingya refugee women who recently gave birth was done through a medical chart review to assess the number of ANCV and five-minute Apgar scores of infants of at least 36 weeks gestational age. ANCV was categorized into four categories 0-3, 4, 5-7, and ≥8. The Apgar scores were categorized as <7 and ≥7. The association between ANCV and Apgar scores was evaluated with ordinal logistic regression. Only 30% of participants completed at least four visits. 48% of infants fell within the average birthweight for the population. 96% of the infants had an Apgar score ≥ 7 at 5 minutes, with a mean of 7.8 at 1 minute and 9.3 at 5 minutes. There was no relationship between ANCV and Apgar scores; however, observation indicated maternal nutrition was above average, as evidenced by a mean maternal BMI of 24.2%.

This study was innovative due to the relatively limited data on the association between antenatal care and Apgar scores, particularly in developing countries.

**Krishtee Napit, MPH**  
Doctoral Student, Epidemiology, College of Public Health, UNMC  
*Association between resilience and smoking, alcohol and drug use among secondary school level adolescents of Jaleswor municipality, Nepal*

Background and objective - Adolescents experience factors that contribute to stress. Adolescents with low resilience do not cope with those factors well and are likely to involve in health risk behaviors such as smoking, alcohol and drug use. The study on resilience among adolescents is underexplored. Furthermore, little is known regarding the association between resilience and smoking, alcohol and drug use in Nepal. This study aims to assess the relationship between resilience and these health risk behaviors among adolescents in Nepal.

Methods - Data was obtained from a self-administered questionnaire adapted from the Global School-Based Student Health Survey (GSHS) for health risk behaviors and the Connor-Davidson Resilience Scale-10 (CD-RISC-10) for resilience. A total of 508 students of classes 9 to 12 within the Jaleshwar municipality were included. We conducted the chi-squared test to examine bivariate associations between independent variables (resilience) and dependent variable health risk behaviors. Multivariable logistic regression was used to identify factors that are associated with health risk behaviors.

Results - The mean resilience score was 28.27 (6.92). Around 8% were current smokers, 6.5% were current alcohol users, and 4% were current drug users. Adolescents with
higher resilience scores (one unit more) had a lower odds of health risk behavior with an adjusted odds ratio of 0.94 (95% CI= 0.91, 0.99). Female students and those having father with formal education had lower odds of health risk behaviors than male students with a father with informal education.

Application to the field/research - Our study provides evidence to incorporate the resilience component in the prevention programs of health risk behaviors among adolescents.

**Joseph Williams, MPH**
DO Student, College of Osteopathic Medicine, Kansas City University

*Evaluating Evidence for Community Paramedicine Initiatives: A CFIR framework analysis*

Background and objective - The incidence of national Emergency Department (ED) visit rates has grown in recent years. In 2018 only 12.5% of ED visits resulted in hospital admissions. Community Paramedicine (CP), has been proposed to augment local resources, reduce ED visit rates, and provide necessary primary care, especially in rural settings; however, a systematic overview of program competencies is lacking.

Methods - A systematic summative evaluation of CP programs was completed using search terms "community paramedicine", "community paramedics", and "community EMT". Studies were restricted to Systematic Reviews and Reviews published within 10 years. Thematic synthesis was conducted in accordance with the Consolidated Framework for Advancing Implementation Research (CFIR) laid out by Damschroder et al.

Results - The search yielded 41 results of which 6 studies were included in the framework analysis. Inclusion was restricted to reviews and systematic reviews studies published in English and included at least 1 analysis on a CP program in the United States. Several themes for CP success were distilled from the CFIR analysis: (1) Defining CP role with focused training and goals; (2) integration of CP into and collaboration among healthcare, public health, and municipal disciplines; (3) cost-effectiveness and cost saving analysis; (4) leveraging community perspective and healthcare outcomes.

Application to the field/research - CP programs have been implemented in various areas of the US which have seen widespread successes. Findings from the CFIR analysis is suggestive of necessary improvements to illicit greater community, state, and national buy-in. Future research should focus on gaps in knowledge and utilizing the outlined core themes to strengthen CP in rural communities, where lack of primary care and unnecessary ED visits, EMS transport and 30-day readmission rates persist.

**(Bryan) Ming Wang, PhD**
Associate Professor of Advertising & Public Relations
University of Nebraska-Lincoln College of Journalism and Mass Communications

*Health Misinformation in an Alternative Social Media Ecosystem: Sharing and Framing Anti-Vaccine Content on Telegram*
Background and objective - In the presence of consistent research findings showing the proliferation of misinformation on mainstream social media sites, social media companies have taken measures to mitigate the spread of misinformation, such as deleting misinformation content and removing individual accounts, the latter of which is also known as deplatforming. One consequence of deplatforming is the migration of misinformation producers, spreaders, activists, and believers to an alternative social media ecosystem where content is not likely to be heavily moderated (e.g., 4chan), where sites appealed to certain ideological groups (e.g., Gab), or where information is encrypted for privacy (e.g., Telegram and Signal). Research has found anti-vaxxers to flock to Telegram, promulgating misinformation and threatening mainstream media journalists' safety. Users can share messages from both external sites (e.g., Facebook, Twitter) and internal sites (from other posts in Telegram). Intrasharing (sharing sources from its own site) can build the information cocoon that reinforces preexisting views amongst users. Since members in these anti-vaccine groups, particularly owners and influential users, are unlikely to find congruent sources in the mainstream media, we hypothesize that (H1) they are more likely to share internal sources (i.e., Telegram intrasharing) than (a) mainstream news media sites or (b) mainstream social media sites. Fake news, extremist, and tabloid news sites are all major contributors to the misinformation plague. As mainstream social media sites crack down on the distribution of information from these sites, Telegram users will likely turn to information from these fake or alternative news sites. We posit that (H2) Members in anti-vaccine channels and groups on Telegram are more likely to share sources from fake and alternative news sites that promote misinformation than (a) mainstream news sites or (b) mainstream social media sites. Telegram groups and channels are communities with common interests. Hence, we posit that (H3) members in anti-vaccine channels and groups on Telegram are more likely to (a) view and (b) reply to misinformation sources. Lastly, we plan to use an unsupervised topic modeling algorithm to (RQ1) identify dominant themes that anti-vaccine Telegram users focus on. We are also interested in studying (RQ2) which themes generate more impressions and engagement.

Methods - A keyword search of “vaccine” was conducted on a Telegram analytics site (tgstat.com) in July, 2021. The search was restricted to English language channels for the period of 2020. Only confirmed channels were included. The search returned 35 results. For a channel to be included in the sample, it had to have more than 10,000 subscribers and were likely to be hotbeds for vaccine misinformation. We also excluded sites due to data inaccessibility or content irrelevance. Ultimately, five channels met the selection criteria: @covidvaccineinjuries, @COVID19agenda, @covidvaccinevictims, @RWMaloneeMD, and @TheHighWire. An additional search of “vaccine” was also conducted via the Search function within Telegram and three more sites meeting the same criteria were identified: @vaccineawareness, @covid_vaccine_injuries, @CovidvaccineVictimsChat. We used the Telethon API, an unofficial API of the Telegram messenger app, in connection with Python to collect all the messages and links from these eight different channels/groups, which altogether communicate to over 200,000 subscribers. Our first round of data collection was on July 13, 2021, harvesting all messages posted in each message group up that that day. We continued updating this
dataset roughly on a monthly basis till Oct 1, 2021. To analyze source-sharing patterns on Telegram, we collected URLs of all the links shared in each of the eight channels/groups. We conducted frequency analysis of the domain names and coded for misinformation sites. To analyze topic themes, we collected another dataset with all the posts from each of the eight channels/groups. This dataset also includes impression and engagement metrics. We conducted an unsupervised topic modeling analysis of the posts using the Latent Dirichlet Allocation (LDA) algorithm in the topicmodels package in R.

Results - First, we examined the most frequently shared sites in Telegram antivaccine channels/groups. We did not find a consistently top shared site across the eight channels/groups. Both mainstream social media sources and internal Telegram sources were popular. Social media sites, particularly YouTube (ranked first in the COVID-19 Agenda channel), Twitter, and Facebook were major sources shared. Interestingly, almost no mainstream media sites made the top list. It is also evident that intrasharing was popular; internal sources (i.e., t.me) were ranked first in four channels/groups. Hence, H1a is supported and H1b is partially supported. Next, we coded whether each domain name was a fake news source or not. Results reveal that, excluding intrasharing sites, mainstream social media sites, such as YouTube, were still the most shared source in all eight channels/groups. Mainstream news media sites, however, were largely missing from the list. Hence, H2a is supported but H2b is not supported. It is important to point out that immediately following these sites were quite a few fake news, far-right extremest, and tabloid sites, which all promoted misinformation. For instance, bitchute.com, a video hosting site launched in 2017 and known for its extremist and conspiracy theory content, was the third most shared site on the @vaccineawareness channel. Other notable examples include Rumble, a video platform laden with misinformation on vaccine, dailyexpose.co.uk, a UK-based misinformation and conspiracy site, and lifesitenews.com, a Canadian far-right website known to providing misleading information. Last, we hypothesize that misinformation sources were more likely to receive more views and replies. We did not find consistent evidence for this hypothesis. Hence, neither H3a nor H3b was not supported. The topic modeling analysis of the posts using the Latent Dirichlet Allocation (LDA) algorithm reveals that vaccine victim deaths and vaccine safety were among the top thematic frames. Notably, vaccine victim deaths involved stories of deaths resulting from taking vaccines; the vaccine safety frame focused on questioning the efficacy and legitimacy of vaccine safety.

Application to the field/ research - This study has significant implications for public health regarding vaccines. Our current findings show that the new social media ecosystem still shares a lot of information from the mainstream social media ecosystem, but it is quite disconnected from the mainstream news media. Intrasharing is popular on Telegram, creating an information cocoon. Sites that are known to promote misinformation are also frequently shared in this ecosystem. While public health message communicated through traditional new media reach a substantial number of publics, these messages do not get to hardcore anti-vaxxers, who information ecosystem on vaccines is almost completely removed from mainstream social media. Public health professionals need to consider innovative persuasive strategies to communicate to these anti-vaxxers in an alternative social media ecosystem. Topic modeling results also reveal that anti-vaxxers employ
powerful narrative persuasion strategies by gathering and telling stories of deaths from vaccines. Research shows that narratives tend to be more persuasive power than statistics and public health professionals need to create correction messages to counter these narratives.

Niran Tamrakar
MPH Student, Epidemiology, College of Public Health, UNMC

School-based e-cigarette education curriculum, “T.E.A.M No Vaping”: Impact on knowledge of e-cigarettes, harm perception, and media literacy among middle/high school students

Background and objective - E-cigarettes are the most used tobacco products among middle/high school students.1 Youth e-cigarette use is at an epidemic level.2 While school-based vaping prevention programs exist, there is limited evidence on the effectiveness of such programs.3 To address vaping prevention among this vulnerable population, University of Nebraska Medical Center (UNMC) in collaboration with the Tobacco Education & Advocacy of the Midlands (TEAM) developed and implemented a school-based e-cigarette education curriculum, “TEAM No Vaping.” It empowers students with the knowledge and skills needed to make informed decisions about e-cigarettes and to resist social pressures to vape. The goal of the program is to change attitudes and knowledge about vaping. To date, no impact analysis of the program has been done. Evaluating the effectiveness of such school based vaping prevention program is important, as it may help to address potential health problem. This study evaluated the efficacy of the “TEAM No Vaping” program on vaping prevention among middle and high school students.

Methods - A pre- and post-test survey design was used to examine differences in students’ a) knowledge of e-cigarettes, b) harm perception of e-cigarettes, c) susceptibility to e-cigarettes use, and d) vaping media literacy. Ten schools from Nebraska and Iowa participated in the program. The curriculum was implemented in both public and private middle and high schools between October 2020 and March 2021. Participating students completed surveys before and after completing the program. A Research Electronic Data Capture (REDCap) online survey link was sent to students in their email.

Results - The curriculum was found to be associated with increase in tobacco knowledge (p<0.001), increase in harm perception of e-cigarettes use (p=0.001) and increase in vaping media literacy (p<0.001). There was significant change in only one of three knowledge-based questions (p<0.001). The study found no significant change in the susceptibility to e-cigarettes use (p=0.36) before and after the participation in the program.

Application to the field/research - It is critical that youths are informed through educational programs on the lurking impacts of using e-cigarettes. “TEAM No Vaping” attempts to address this challenge by providing information to youths on the dangers associated with the use of e-cigarette products and marketing strategies of e-cigarettes manufacturing companies that primarily target young population. The program uniquely focuses on
increasing media literacy. It has a potential to be a useful educational tool in the prevention of youth e-cigarettes use. A further study is needed to determine its’ long-term impact in curbing youth vaping behavior.

Taelyr Weekly, MPH, BSN, RN-BC
Doctoral Student, Health Promotion, College of Public Health, UNMC
Self Perception of Leadership Skills in Entry Level Local Health Department Employees

Background and objective - In the first comprehensive assessment of Nebraska’s public health workforce, entry-level practitioners (defined as being in their role less than five years) expressed the desire and need for more training in leadership and systems thinking. The findings align with data from the Public Health Workforce Interest and Needs Survey (PH WINS) sponsored by the de Beaumont Foundation in 2017, showing only 52% of employees felt their training needs were assessed. Two-thirds of local health departments say they’ve had an academic partnership with an accredited school or program of public health. Three-quarters of local health departments accept students from academic institutions as trainees, interns, or volunteers, but only 31% report actively recruiting graduates from an academic institution. Strong ties are documented between local health departments and academic institutions; however, there is not considerable information shared between the two entities regarding the curriculum needs of students seeking jobs in the local health department market. Students need specific skills when pursuing a career in public health. The current status quo supports an educational system that doesn’t necessarily provide students with public health skill sets that are useful in the current climate of public health. Previous research has shown experts in Midwest local health departments prioritized 27 leadership skills as important to possess as an entry-level employee in a local health department. These skills were derived from a literature search on the skills recommended by various supporting bodies of Public Health. The goal of this research is to identify the proficiency and preparation of entry-level public health practitioners in 27 different leadership skills via self-assessment strategies. An additional goal of this research is to assess the importance entry-level employees place on each skill regarding their job. There are many implications regarding the education of public health students, workforce assessment, and employee training programs that will result from this research.

Methods - A cross-sectional survey was developed around 27 leadership skills and presented to employees. The 27 leadership skills are a product of previous work while exploring the top six skills needed by entry-level public health employees in midwestern local health departments. Leadership skills were derived from public health leadership literature These skills were reviewed by experts in the field of Nebraska’s local health departments and were then provided to employees. Three questions were asked of employees regarding each skill; “How important is this skill in your job?”, “How proficient are you at this skill?” and “How prepared do you feel you were in your current position in this skill?”. “How important” and “How prepared” were followed by a 5-point Likert ranging from not at all to absolutely/extremely. Employees were given the NIH proficiency scale with definitions of each level to rate their proficiency. Subjects were contacted via email and provided a consent form and a link to the survey. The timeline for this research
spanned from May 2022 to July 2022. Research was approved by the Institutional Review Board at the University of Nebraska Medical Center. Subject identification Eligible subjects have been employed in Nebraska health departments for less than five years. Those subjects who have been in the public health field for six years or more in any capacity or were less than 19 years old were excluded from the research. Subjects were identified by an internet search of Nebraska local health departments and examining the public health departments’ websites. Contact with health department directors also allowed for disseminating the survey link. Contact was initiated via email, and participants were provided a consent form informing them of the research, and consent was given if they chose to participate in the survey. Data Collection and Analysis A web-based approach to data collection was used to reach geographically diverse participants across Nebraska. Study data were collected and managed using the REDCap electronic data capture tools hosted at the University of Nebraska Medical Center. Quantitative data from each round were entered into SPSS for descriptive analysis.

Results - In total, 18 entry-level local public health employees participated. Aggregate data of the “how important” questions asked of each of the 27 leadership skills shows a vast majority of respondents (92%) agreed that the skills were “absolutely essential/very important.” Skills with 100% agreeance of importance in their job were 1) collaborate with individuals and organizations, 2) collaborate and promote teamwork, 3) lead with honesty, integrity, and trustworthiness, 4) abide by ethical codes of public health, 5) remain accountable, 6) demonstrate critical thinking skills, 7) foster community engagement, 8) communicate precisely, and 9) be open to learning from others. Highest rated preparation skills were 1) serve the community (15/18), 2) lead with honesty, integrity, and trustworthiness (15/18), 3) be open to learning from others (16/18), and 4) remain accountable (16/18). The highest rating proficiency skills were 1) be open to learning from others (16/18), 2) abide by ethical codes of public health (16/18), 3) be responsive and accessible (17/18), 4) remain accountable (17/18), and 5) lead with honesty, integrity, and trustworthiness (18/18). Two by two contingency tables were created using the preparation and proficiency scores of each leadership skill resulting in 27 unique tables. McNemar’s test was used to analyze the tables and odds ratios were produced. Of the 27 skills analyzed, 21 (77%) had odds ratios (OR) greater than one. An odds ratio of three or greater was considered significant, with eight skills resulting in significance. Of note, no skills showed statistical significance when observing the 95% CI’s. Demonstrating lifelong learning and self-development = OR 3, discussing difficult problems and situations = OR 4 identifying emerging needs and demonstrating critical thinking skills = OR 5, and fostering community engagement, being culturally aware of differences affecting health beliefs, and participating in the change process = OR 6 Skills with the least agreement of importance were 1) managing uncertainty (10/17), and 2) contribute to the development of a shared vision (13/17). Skills with the least preparation were 1) identifying emerging needs (5/18), 2) addressing emerging needs (5/18), and 3) foster community engagement (5/17). Lowest proficiency skills were 1) collaborate with individuals and organizations (9/18), 2) identify emerging needs (9/18), 3) connect individual work/actions and the impact on the larger organization, community, and/or system (9/18), 4) address emerging needs (7/18), 5) contribute to the development of a shared vision (5/16), and 6) contribute to the implementation of a shared vision (5/17). Two by two contingency tables were
created using the preparation and proficiency scores of each leadership skill resulting in 27 unique tables. McNemar’s test was used to analyze the tables and odds ratios were produced. Of the 27 skills analyzed, 21 (77%) had odds ratios (OR) greater than one. An odds ratio of three or greater was considered significant, with eight skills resulting in significance. Of note, no skills showed statistical significance when observing the 95% CI’s. Demonstrating life-long learning and self-development had an OR of three, discussing difficult problems and situations had an OR of four, identifying emerging needs and demonstrating critical thinking skills had an OR of five, and fostering community engagement, being culturally aware of differences affecting health beliefs, and participating in the change process had OR’s of six.

Application to the field/ research - The data represents a workforce that has a diverse educational background, and it cannot be assumed that all new employees will arrive with the same background knowledge or skill sets. Findings support the movement for stronger workforce assessment and education programs to be provided by employers. Empowering workers, allowing for development of teamwork around new skills, and ensuring employers address shortfalls in the skills they deem appropriate for their employees will support leadership skills in entry level public health employees. Results demonstrate agreeance on the top 27 leadership skills experts in Nebraska selected in previous research (Weekly & Grimm, 2022). For all skills, 92% of responses contained either “Absolutely Essential” or “Very Important” in the importance category. The top six skills experts identified for entry-level local public health department employees (Weekly & Grimm, 2022) had a higher level of agreeance, 97%, compared to the full set of 27 skills. Unfortunately, there were skills that were lacking. Identifying emerging needs and addressing emerging needs both appeared in the lowest rankings of preparation and proficiency. The development and implementation of a shared vision ranked lowest in proficiency. Identifying and addressing emerging needs and developing and implementing a shared vision are more technical skills than others in the skill list, thus requiring a more focused approach in teaching these skills. A comment on the general lack of preparation public health schools are offering to their students in terms of skills they will need upon employment in public health could be offered from this finding. A beneficial partnership between academic institutions and employers in public health could be suggested. Together, they could create and utilize curriculum that students will benefit from when seeking a job in the public health sector. The OR’s ratios represent the positives of a well-prepared public health workforce. Preparation in a skill increases the chances the employee can implement their skill successfully. Proficiency leads to a more competent, engaged workforce who understand public health practice and theory and can use their knowledge to make evidence-based choices for the health of their community.

Yadi Liu  
MPH Student, Biostatistics, College of Public Health, UNMC  
PharmD Student, College of Pharmacy, UNMC  

Additive genetic and environmental effects to the lifetime and current use of tobacco
Purpose: We aim to understand and explain to what extent additive genetic and environmental factors affect the lifetime and current use of electronic cigarettes and tobacco.

Methods: The classical twin model estimates three sources of variance: additive genetic, shared environmental, and unique environments. Each source of variance is latent (and is estimated from the similarity in the correlations of twin pairs on a phenotype. The magnitude of difference in the correlation of a particular phenotype by zygosity is used to attribute additive genetic or shared environmental sources of variance. Data for this study were obtained from The Adolescent Brain Cognitive Development (ABCD) study.

Results/findings: A total of 900 twin pairs with complete data on the study variables were included in the present analyses. Additive genetic effects on susceptibility of starting using tobacco explained 4% of the variance, the shared environment explained 10% of the variance, and the unique environment explained 86% of the variance. We constructed ACE analysis using mixed model $y_{ij} = X_{ij}\beta + a_{ij} + d_{ij} + c_i + \epsilon_{ij}$, where $i$ is the index for $n_1$ MZ and $n_2$ DZ twin pairs, and $a$, $d$, $c$ measure the additive genetic, dominant genetic, common and residual environmental random effects on the $i^{th}$ twin pair. We estimated the genetic heritability to be 44.5% [95% CI:39.9%-49.1%, $p<.0001$] for tobacco initiation among youth aged 9-10 years old.

Application to the field: This study suggests that there might have shared genetic liability to nicotine use at an early age. Evidence-based intervention strategies are needed to prevent tobacco use at a young age.

Xinyu Sun
Doctoral Student, Biostatistics, College of Public Health, UNMC

Do we need multiple testing adjustment in both discovery and replication cohorts?

Background and objective - Multiple testing adjustment methods, such as Bonferroni or False Discovery Rate adjustment, are commonly used in (epi)genome wide association studies (GWAS/EWAS), since millions of markers need to be analyzed. To reduce the false positive rates, researchers usually choose to replicate their findings from GWAS/EWAS in at least one replication cohort dataset independent of discovery cohort data. The objective of this research to explore whether it is necessary and how to adjust multiple testing in replication cohort studies given that multiple testing adjustment has already been applied in discovery analyses.

Methods - Focusing on two popular multiple testing adjustment methods – Bonferroni and false discovery rate (FDR)- family-wise error rate (FWER) and FDR are calculated and compared among different multiple testing adjustment strategies commonly used in discovery and replication analyses: (i) multiple testing adjustment applied in both discovery and replication analyses; (ii) multiple testing adjustment ONLY applied in discovery analyses.
Results - Performing multiple testing adjustments in both discovery and replication analyses leads to too conservative results. When the FWER (or FDR) in discovery and replication analyses are controlled at 0.05 separately, the overall FWER (or FDR) is much less than 0.05. In contrast, if the FWER (or FDR) in discovery and replication analyses are controlled at square root of 0.05 separately, the overall FWER (or FDR) is close to 0.05 via simulations.

Application to the field/ research - This research provides researchers a guideline about multiple testing strategies in studies with both discovery and replication analyses. It helps the further methodology development in better controlling FDR in studies with both discovery and multiple replication analyses.

SESSION 4: SPECIAL TOPIC BREAKOUT SESSIONS

1. Promoting Public Health Communication through Team Science and Innovation
   Chairs: Shannon Maloney, Assistant Professor of Health Promotion, COPH
   Shari Veil, Professor and Dean, UNL College of Journalism and Mass Communications

   The goal of this session is to provide an opportunity for investigators to meet, share their areas of expertise, and connect with potential collaborators. Special focus will be on developing team science to address the urgent need for clear, effective, and audience-centric communication in public health. Conversations will build on the college:college connection made between the deans of the College of Public Health and the UNL College of Journalism and Mass Communications.

2. Global Health and Student Engagement
   Chairs: Wael ElRayes, Assistant Professor, Center for Global Health and Development, COPH
   Joseph Fauver, Assistant Professor of Epidemiology, COPH

   The goal of this session is to provide a forum for discussion related to global health. Featured speakers will be the most recent recipients of the College of Public Health Suzanne and Ward Chambers Summer Global Health Fellowship Award. This scholarship was established in 2014 by the generous support of UNMC COPH faculty member and physician Dr. Ward Chambers and his wife Suzanne Chambers and Dr. Gail Yanney. Dr. Chambers was a long-serving Director for Global Health at UNMC, and this funded fellowship is dedicated to continuing his passion to introduce students to global health experiences, with opportunities to support advances and innovations in global public health.

3. College of Public Health Admissions and Degree Programs
   Chair: Jessica Tschirren, Assistant Dean for Student Affairs, COPH

   The goal of this session is to introduce attendees to the academic offerings of the College of Public Health at UNMC. The College offers six graduate certificates, a Master of Public
Health with seven concentrations, a Master of Health Administration, and a Doctorate of Public Health with two concentrations. All programs and concentrations are offered entirely online, making UNMC COPH the most comprehensive online program in the region which is accredited by the Council for Education on Public Health.

SESSION 5: RESEARCH INNOVATION

Karsten Bartels, MD, PhD, MBA
Professor, Vice Chair of Research, and Robert Lieberman Endowed Chair of Anesthesiology
College of Medicine Department of Anesthesiology, UNMC
Observational, Quasi-Experimental, and Pragmatic Research in Perioperative Medicine

Tzeyu Michaud, PhD
Assistant Professor of Health Promotion
College of Public Health, UNMC
A Framework for Conducting Multi-Leveled Economic Analysis of Evidence-Based Interventions & implementation Strategies

In the past two decades, significant progress has been made to the identification, development, and testing of implementation strategy, defined as “methods or techniques used to enhance the adoption, implementation, and sustainability of evidence-based programs (EBPs),” to bridge the research-practice gap. Economic consideration is often critical to decision makers who have to decide about the use of implementation strategies to deliver and sustain EBPs. In a recent perspective article, Powell and colleagues listed “increase economic evaluations of implementation strategies”, as one of five research priorities for enhancing the impact of implementation strategies. Despite some recent review studies have attempted to evaluate the application of economic analysis of strategies directed towards enhancing the uptake of EBPs, none of them has conducted a holistic evaluation using the recent published refined compilation list of implementation strategies, which was created to reconcile the term and definition of implementation strategies to facilitate the development, testing, and comparison. In the current project, we conducted a comprehensive scoping review of costs of implementation strategies.

From this exercise, we developed a checklist with the aim to outline the information needed to be reported to facilitate a comparative effectiveness analysis of implementation strategies. In the case example, we apply the framework/checklist to the economic analysis protocol of the CDC-funded pediatric weight management Interventions (PWMIs) study, in which the study aims to examine the efficacy of the use of a Learning Collaborative (an implementation strategy) to facilitate the uptake of PWMIs.

This research would advance the field by improving the reporting of implementation cost data and lay the foundation for conducting comparative economic evaluation of
implementation strategies to guide the strategy selection for decision makers as well as to encourage a pragmatic study design for researchers.

**Abraham Mengist, PhD**  
Assistant Professor of Epidemiology  
College of Public Health, UNMC  
*Evaluation of the Performance of the Pooling Technique for Determining the Prevalence & Intensity of Schistosoma haematobium infection at a population*

**Jesse Bell, PhD**  
Claire M. Hubbard Professor of Health and Environment  
College of Public Health, UNMC  
*Overview of the Water, Climate and Health Program*

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**College of Public Health**  
**University of Nebraska Medical Center**

The mission of the College of Public Health is to transform lives and to create a healthy future for all individuals and communities through premier education, research, and service to Nebraska, the nation, and the world. The COPH is accredited by the Council on Education for Public Health (through July 1, 2024); only 50 of the 134 academic medical centers in the United States have accredited public health colleges. COPH faculty work with collaborators from the other UNMC colleges on funded and unfunded research projects.

The COPH is housed in the Harold M. and Beverly Maurer Center for Public Health (MCPH). The MCPH is a 61,423-square-foot facility in which are offices, workspaces, and meeting spaces for College students, faculty, and staff. Included herein are approximately 11,880 square feet of lockable office space for faculty and professional staff and 3,550 square feet of modular office space for staff and teaching and research assistants. Centrally located space for core support functions (mail, copying, and general workspace) is provided on each of the facility’s three floors.

The facility has four conference rooms plus three rooms that facilitate collaborative learning/research available to College administration, faculty, and staff. Three conference rooms are equipped, at minimum, with Smart Board technology. Additionally, one of these conference rooms is equipped to provide streaming Internet video and two-way video conferencing. COPH students learn in nine classrooms, all of which have full digital technology including Zoom capability (two-way video conferencing). Additionally, four of them have Echo 360 video/audio recording technology. Classrooms range in size from an 82-seat auditorium to multiple 16-20 seat classrooms. The combined education and student support area is approximately 6,740 square feet.
The COPH provides ample common space—both formal and informal—to encourage student, community, and faculty interactions. The lobbies are designed to provide semi-private meeting areas as well as open areas for interaction. A variety of seating configurations allow distinct areas for discussion, group work, and individual studying.

**College of Journalism and Mass Communications**  
**University of Nebraska-Lincoln**

The mission of the College of Journalism and Mass Communications is to nurture curious and creative minds to thrive in the ever-changing media and communication professions. Their inclusive "do from day one" experience is rooted in hard work, collaborative problem-solving, and the ethical pursuit of truth to uphold democracy. Their vision is to be a national leader in experiential journalism and mass communications education. The College embodies these values:

- **Our students do from day one:** We live and breathe experiential learning. Every student engages in hands-on, industry-centric experiences in and out of the classroom to create a professional portfolio unique to their strengths, experiences, and career aspirations.
- **We solve real problems:** We value diversity of people and ideas to foster creativity and collaborative problem solving. We are committed to advancing our fields through research and creative activity.
- **We believe in hard work:** Our work ethic is paramount to our success. Grounded in research and critical thinking, our curriculum is rigorous and challenging to prepare students for demanding professions.
- **We pursue truth:** The First Amendment gives us the ultimate responsibility to serve the needs of our diverse and democratic society. We pursue truth and report it fairly. We tell genuine stories with transparency and integrity.
- **We nurture curious and creative minds:** We exist to educate and empower media and communication professionals of tomorrow. Every decision, measure, and outcome is based on how well it serves our students and educational purpose.
- **We are an inclusive community:** All are welcome here. We respect the dignity of humanity and advocate for social justice. We are committed to diversity, equity, and inclusion. We care for and encourage each other as we work together to create a better future.
- **Our professions are ever-changing:** We prepare students to build careers that will grow and change with our industries by pairing foundational skills with cutting-edge technology and innovative media applications. Our graduates are able to evolve with the changing media landscape.
- **Our graduates thrive:** Our alumni are engaged in every sector of the media and communication industries. They are ethically grounded and globally-minded leaders, creators, strategists and storytellers who live and work around the corner and around the world.

**Great Plains IDeA-Center for Translational Research**  
**University of Nebraska Medical Center**
The Great Plains IDeA-CTR, funded by the National Institute of General Medical Sciences, is tasked with building infrastructure for investigators in the state of Nebraska. The cores of the Great Plains IDeA-CTR support the following objectives: 1) to support the development and/or enhancement of infrastructure and human resources required to address clinical and translational research needs in IDeA-eligible states/jurisdictions, (2) to strengthen clinical and translational research that addresses the broad spectrum of health challenges faced by populations in IDeA-eligible states/jurisdictions, and (3) to foster and coordinate collaboration in clinical and translational research within an IDeA-CTR network and with other institutions.

Administrative Core
The Administrative Core oversees the GP IDeA-CTR and provides resources for consultations and research navigation services.

Biomedical Informatics, Bioinformatics, & Cyberinfrastructure Enhancement (BERD)
The BERD core provides critical research design, epidemiological, and biostatistical expertise for collaborative research, education, and training in the advancement of CTR within the GP IDeA-CTR network.

Biostatistics, Epidemiology, & Research Design (BIBCE)
The BIBCE core provides informatics infrastructure necessary to support CTR, including support for the Clinical Research Analytics Environment (CRANE), Nebraska Biobank, Electronic Health Record Data Access Core, and the Bioinformatics and Systems Biology Core.

Community Engagement & Outreach (CEO)
The CEO core facilitates and disseminates high-quality and locally relevant community-engaged research that advances CTR and aligns with the state’s health priorities.

Professional Development (PD)
The PD core provides a wide array of professional development opportunities, such as seminars, a research scholar program, an early career investigator program, research studios, and mini sabbatical funding.

Pilot Projects Program
The Pilot Projects Program provides opportunities for pilot funding through various mechanisms including: team research, tech transfer, heart and vascular, data science, community engagement, design methodology, and innovation grants

Tracking & Evaluation (T&E)
The T&E core conducts activities to determine the effectiveness of the GP IDeA-CTR, and works alongside evaluators from similar programs to determine best practices in evaluating infrastructure building programs.