W SCHOOL OF PUBLIC HEALTH

UW School of Public Health Undergraduate Symposium 2025 Abstracts

Wednesday, May 21, 2025
3:30pm – 5:00pm
Hans Rosling Center for Population Health (HRC)

The 12th Annual UW School of Public Health Undergraduate Symposium is a chance for students from across the School's undergraduate majors and minors (Environmental Public Health Major and Minor, Food Systems, Nutrition & Health Major, Health Informatics & Health Information Management Major, Public Health-Global Health Major, Global Health Minor, and Nutrition Minor) to present their research, internship, and capstone experiences. They will demonstrate how they have applied the knowledge and skills gained in the classroom to address public health problems through their experiences.

Posters are arranged according to the list below.

1 **Daphne Suen,** *Public Health-Global Health Major*

From performative action to genuine inclusion: tackling structural barriers that trans Washingtonians face

Abstract: Background: Washington State is known for its progressive policies and support for transgender and nonbinary (trans) populations (i.e., trans-progressive). However, some studies suggest that there are still barriers to healthcare access. This study explored trans Washingtonians' perspectives of these policies and experiences in access to non-discriminatory healthcare.

Methods: The Priority Assessment in Trans Health Study conducted semi-structured interviews in August 2023 – March 2024 trans adults (n=24) living in Washington State. Interview topics included access to sexual health services, policy awareness, and community resilience. Themes were identified via inductive thematic analysis using Dedoose.

Results: Participants were more willing to visit hospitals that have anti-discrimination policies over those that do not, citing safety as a main contributing factor. Although, many were not aware of the anti-discrimination policies that their clinics had in place. Some noted the presence of pride flags and trans health posters were signals of safety for trans individuals in these settings.

However, some participants believed these endorsements feel performative without actionable follow through and described their personal discriminatory experiences in these hospitals. Additionally, participants noted that the lack of necessary training for trans healthcare makes obtaining care, particularly emergency care or intersectional care difficult. Lastly, participants emphasized that the national structure of the American healthcare system as a barrier to accessing trans-specific care (e.g. need for multiple referrals).

Conclusion: While Washington's state-level policies supporting trans healthcare create an initial sense of safety, they often fail to address the root structural inequities which perpetuate healthcare inaccessibility. To bridge the gap between performative action and genuine inclusion of trans adults, accountability must be prioritized at all levels: from hospitals holding their employees accountable for discriminatory behavior to reforming medical education.

2 Sonali Sharma, Lali Ghate, Daphne Suen, *Public Health-Global Health Major and Nutrition Minor*

Health Impact Review on WA State Bill 1009 (2021-2022)

Abstract: Policy is deeply intertwined with public health due to its relevant impacts on the health and well-being of individuals and communities. When controversial health topics such as abortion come up in policy discussions, it is important to assess its potential health impacts prior to the legislation being passed.

A Health Impact Review (HIR) is a legislative tool used to assess and predict the health impacts of a proposed policy. HIRs can be requested by any legislator, cover any bill topic, and provide objective, nonpartisan, evidence-based analysis on how said bill will impact the health of populations.

An HIR was conducted on Washington State Bill 1009 (2021–2022) which required that student health insurance plans offering maternity care also cover abortion care. While HIRs are typically conducted on bills before they are passed, this HIR was conducted on a previously enacted bill for educational purposes.

The HIR process began with predicting the potential health outcomes of the bill through a flowchart. The goal was to conceptualize 4 intermediate steps between the bill's provisions and its outcomes on the health of community members, backed by a literature review that would support these associations. Amount and quality of evidence was considered for each intermediate step, as reflected in the flowchart.

Finally, a summary of findings for each pathway on the HIR was written to detail the evidence discovered for each pathway. The findings suggest strong evidence linking WA State Bill 1009 (2021-2022) to positive health outcomes, particularly improved access to abortion care and reduced health disparities among students. These results highlight the value of HIRs in informing public policy and suggest that expanding such reviews could strengthen health equity in future legislation. WA State Bill 1009 (2021-2022) reflects a legislative effort to protect student health rights and reduce systemic barriers to comprehensive care.

3 Tiffany Childs, *Public Health-Global Health Major*

University District Street Medicine: Committing to Care on the Streets

Abstract: University District Street Medicine (UDSM) at the University of Washington (UW) is a street medicine model that balances student engagement with service. Founded in 2010 as a collaborative registered student organization between all of UW health sciences schools, UDSM adopts a unique model that incorporates undergraduate and graduate student volunteers into its efforts. The overarching mission of the organization is to serve the University District community experiencing homelessness while additionally cultivating the next generation of service leaders. UDSM provides logistical support and leverages relationships to educate other student groups and through 6 community sites to provide healthcare services to reach the houseless community. Ancillary services include on-site medical care, veterinary care, voter registration, and prepped meals in partnerships through OneHealth, Seattle-King County Coalition on Homelessness, and the University District Food Bank. Interprofessional partnerships within the larger UW allow UDSM to respond to health needs such as foot and wound care in partnership with Podiatry, and provide dental services with the School of Dentistry. Instead of full-service primary medical care, UDSM focuses on trust-building and health education, representing our holistic approach to healthcare. With a collaborative and community-centered approach, UDSM exemplifies how interprofessional student-led initiatives can create meaningful impacts that address the most pertinent needs of the houseless population.

4 Keira Taylor, Erica Stagg, Frances Hilario, Tiffany Childs, *Public Health-Global Health Major*

Health Impact Review on Washington State Senate Bill 5511 - Enhancing and Improving the Equity of K-12 Education Funding

Abstract: This project examines the potential health impacts of Washington State Senate Bill (SB) 5511, which seeks to improve equity in K–12 education funding across Washington. The bill aims to reduce school districts' reliance on local property taxes and create an educational system that doesn't discriminate based on zip code. Since education is a key social determinant of health, this project explores how more equitable funding structures may reduce long-term health disparities by improving access to quality education and support services for historically underserved student populations. The process involved conducting a literature review to find resources relating to education equity. From there, a root cause analysis and logic model was developed to further refine the project. The final deliverable was the Health Impact Review (HIR). Washington school districts receive 76% of its funding from the state, and 12% funding from local enrichment levies, enabling various districts to generate greater funding through property tax revenue. This financial inconsistency widens the gap in education equity, exacerbating inequities. Our research on education equity and its implications on society suggest that SB 5511 can significantly improve health and education outcomes by lowering enrichment levy caps from $2.50 to $1.50 in property tax revenue, on top of expanding the Local Effort Assistance. With strong correlations to how this bill will directly reduce funding and education inequities, further research is encouraged to observe the longevity of these changes and its applicability to smaller, low income communities with greater educational barriers. Expansion and sustainability within these structures is critical to minimizing the rate of health disparities associated with inability to access adequate educational systems in addition to advocating for a more equitable redistribution of funding.

5 **Erica Stagg,** *Public Health-Global Health Major*

Standing in the Gap: Bridging Mental and Spiritual Health for Black/ African American Families through Early Identification and Intervention Education on First-Episode Psychosis (FEP)

Abstract: According to a 2018 study, non-Hispanic Black/ African American families are less likely to receive early psychoeducation and timely referrals on First-Episode Psychosis (FEP) compared to non-Hispanic White families. Early identification and intervention of FEP is crucial in reducing the Duration of Untreated Psychosis (DUP), mitigating its disabling and dangerous effects on a loved one. Incorporating a balanced recovery process through health education, culturally competent care, and support of the family's spiritual community creates favorable outcomes without compromising both spiritual and mental well-being.

Beginning April 2025, Lucid Living's New Journeys team engaged with Black/ African American faith leaders throughout Pierce County to discuss the cultural implications of psychosis. The data collected allowed our team to tailor culturally competent health education materials and presentations on early identification of FEP and the value of early psychosis care.

Our desired outcomes are educating faith-leaders, families, and communities on the value of early identification of FEP, reducing DUP, and ensuring prompt referrals for critical, culturally competent treatment. We anticipate faith leaders being better equipped to recognize early signs of psychosis. We also anticipate families/ communities having timely and burdenless referrals to mental health services that create the conditions for recovery-oriented care and successful remission for their loved ones.

Community-driven interventions are integral to addressing racial-ethnic health disparities that exist for historically marginalized communities. Building relationships with faith-based organizations is one of the many culturally affirming and strength-based approaches to addressing critical health-equity gaps within our communities.

7 **Emma Bauer,** *Environmental Public Health Major*

Compiling State-Specific Lead Risk Factor Screening Tools for Pregnant Individuals

Abstract: Prenatal lead exposure is associated with learning and behavior problems, reduced growth, and increased risk of miscarriages. The Centers for Disease Control and Prevention and the American College of Obstetricians and Gynecologists recommend lead exposure screening for pregnant women due to the significant health risks lead poses to their developing fetus. However, there is no nationally recognized screening tool, leading to inconsistent practices and potential gaps in care across the country. This project aims to address this gap by identifying state-specific screening resources for clinicians and creating a tool to help healthcare providers easily access these resources. A search for screening tools was conducted over the course of three months, from April to July 2024. Through web searches, emails, and phone calls to 50 state health departments, 20 state-level screening resources were identified, along with county-level resources in three counties with childhood lead poisoning prevention programs. These resources were compiled into an interactive map directing clinicians to screening resources in their region. This tool is being reviewed for potential use by the Pediatric Environmental Health Specialty Units, an organization that provides free pediatric and reproductive environmental health consultation services to clinicians.

The tool addresses the barrier to accessing screening resources, ideally increasing lead screening rates and improving pediatric health outcomes. The findings highlight the need for a national screening tool and provide insights into regional differences in recommended screening practices.

8 **Angelique Nguyen,** *Public Health-Global Health Major*

Determining the Relationship between Temperament and Emotional Socialization in ADHD Parent-Child Dyads

Abstract: Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental condition characterized by differences in attention, focus, and emotional regulation. It is an exigent population health issue with diagnoses projected to continue rising. Although ADHD typically begins in childhood, many individuals experience ADHD symptoms into adulthood. This has significant implications, as ADHD parents may have emotional regulation differences that impact parenting behaviors. Additionally, ADHD has high heritability rates, yet there is little research on ADHD symptoms' effect on parenting. My research hopes to bridge this gap to dismantle this social inequity. Our study investigates the relationship between temperament and emotional socialization in ADHD parent-child dyads (parents and their children with ADHD). Temperament refers to innate behavioral traits shaping one's personality. Individuals with ADHD are known to experience higher rates of negative affect, a temperamental factor including significant aversion from feelings like sadness. Emotional socialization is the process through which individuals recognize, understand, and manage others' emotions. This process is especially complex with ADHD parents, as they may have emotional regulation and temperamental differences that influence parenting behaviors. We hypothesize that negative affect in parents is positively correlated with (1) negative talk towards children and (2) perceived anxiety and conduct problems in children. To test these hypotheses, parents completed the Adult Temperament Questionnaire (ATQ), assessing negative affect, and the Behavior Assessment System for Children (BASC), evaluating their child's perceived anxiety and anger control. Using behavioral coding with the Dyadic Parent-Child Interaction Coding System (DPICS), we evaluated the frequency of negative talk during laboratory-based parent-child interactions. Data collection took place in November 2023-November 2024, and we are currently in the data analysis process. Through our anticipated findings, we hope to better inform care for children with ADHD by identifying individualized support strategies to use in parental interventions to better facilitate emotional socialization in ADHD families.

9 **Allysa Valdez,** *Public Health-Global Health Major*

Adapting a Multi-Pronged Nurse Care Management Model for Latinx Patients Living with Chronic Pain in Rural Communities: Insights from a Community Engagement Studio

Abstract: Background: Latinx individuals in rural communities face significant barriers to accessing non-pharmacological treatments for chronic pain, especially Spanish-speaking populations. Many evidence-based treatments, such as cognitive behavioral therapy (CBT) and exercise programs, have not been adapted to align with the cultural values and needs of Latinx patients. To address this gap, a multi-pronged nurse care management model is being adapted to align with the cultural norms, values, and needs of Latinx patients with chronic pain. This model integrates culturally adapted versions of cognitive behavioral therapy (CBT), the Enhance Fitness exercise program, and care coordination. Setting and Participants: Ten primarily Spanish-speaking adult participants (18+) living with chronic pain were recruited through partnerships with a community organization and a healthcare provider.

Methods: Virtual and in-person community engagement sessions will be conducted from February - June 2025 using a structured framework to ensure adequate cultural adaptation. Participants will provide feedback on recruitment strategies, study materials (such as consent forms), and overall study design. Their insights will be analyzed to identify key themes in adapting the intervention for Latinx communities. Participants are compensated for their time.

Expected Results: Preliminary findings will be presented on making healthcare interventions more culturally relevant and accessible to Spanish-speaking populations. Emerging themes are expected to include the need for culturally appropriate language, the importance of family dynamics in healthcare decisions, and the best ways to engage Latinx communities in research.

Conclusion: By engaging directly with Latinx patients, this project aims to ensure that chronic pain treatments are not just effective but also accessible and culturally meaningful. These insights will help improve healthcare interventions for underserved populations.

10 Nicole Chen, Kailina Liu, Trinity Kwon, *Public Health-Global Health Major and Informatics*

Investigating the Relationship Between Screen Time and Number of Steps Walked Among Students at the University of Washington

Abstract: This study explored whether screen time is associated with physical activity levels, as measured by daily step counts, among undergraduate students at University of Washington-Seattle. With increased reliance on digital technology, understanding its potential impact on movement and health behaviors is important in a university.

It was hypothesized that students with higher screen time would be more likely to walk fewer steps per day. The null hypothesis posited no association between screen time and step count.

A cross-sectional study design was used, with self-reported data collected from 50 undergraduate students. Participants used Apple's Health application to report average daily screen time and step counts for the week of November 10–16, 2024. Exposure was defined as high (>8 hours/day) or low (≤8 hours/day) screen time, and the outcome was defined as low (≤8,000 steps/day) or high (>8,000 steps/day) physical activity. A crude odds ratio was calculated, and stratified analyses assessed gender and physical activity as potential effect modifiers. Fisher's Exact Test was used to assess statistical significance.

The study results suggested an association between high screen time and low number of steps. No association in the findings supported the hypothesis that low screen time leads to higher or lower steps.

Stratified odds ratios ranged from 0.32 to 3.43, indicating possible effect modification. However, results were not statistically significant (Fisher's Exact Test; p-value = 0.728), and therefore the null hypothesis could not be rejected.

This study was limited by a small sample that reduced generalizability and measurement bias from self-reported app data, which may have introduced selection bias. Future studies should include more diverse demographics and adjust for potential confounders. While trends suggest a relationship between screen time and physical activity, researchers should conduct additional research to confirm these patterns and inform interventions.

11 Annie Schwartz, *Public Health-Global Health Major*

The Effect of sodA and katA Genes on the Susceptibility of Mycoplasma Genitalium to Tinidazole

Abstract: Mycoplasma genitalium (MG), is a common sexually transmitted bacterium that causes serious health problems such as pelvic inflammatory disease, urethritis, and pregnancy complications. The efficacy of antibiotics has significantly decreased due to antibiotic resistance, about 50% of US strains are resistant to azithromycin, a common treatment path, and resistance reaches 100% in high-risk populations. Preliminary research done in our lab has shown that MG is susceptible to tinidazole (another antibiotic) in vitro. Our hypothesis is that tinidazole is effective against MG because it creates superoxide radicals that MG cannot detoxify. To test this, the sodA and katA genes, encoding enzymes that detoxify reactive oxygen species, were introduced into the MG genome. The insertion site was determined by whole genome sequencing and we selected two mutants with insertions unlikely to affect other genes. These two strains were compared to the parent strain in time-kill experiments to measure susceptibility to tinidazole. Cultures of these strains were incubated for 10 days with two-fold dilutions of tinidazole, plating aliquots onto agar plates each day to quantify surviving MG. The individual colonies present on the plates are counted and graphed, allowing us to compare the efficacy of tinidazole on the separate strains. To confirm the enzymes are being expressed, we used a hydrogen peroxide assay to measure the levels of hydrogen peroxide, which is formed from the radicals, being released from the cells. In conclusion, we hypothesize that the radicals produced by tinidazole kill MG by inducing DNA damage. We, therefore, measured the susceptibility of 10 DNA repair mutants to tinidazole and found that deletion of MG_360 enhances susceptibility. Results from these experiments can be used to understand the mechanism by which tinidazole and other nitroimidazoles kill MG. This data is critical in the battle against antibiotic resistance and can improve treatment options globally.

12 Kevin Weng, *Public Health-Global Health Major*

Prevalence of frailty among patients with immunotherapy related inflammatory arthritis or PMR and correlation with patient reported outcomes

Abstract: Background: Immune checkpoint inhibitors (ICIs) are novel tools in treating malignancies and have been associated with immune related adverse events (irAEs) not limited to inflammatory arthritis (IA) and polymyalgia rheumatica (PMR). ICI-IA and PMR is a growing public health issue with ICIs being increasingly prescribed, and was

found to be related to higher rates of disability and disease burden. We aimed to (1) determine the prevalence of frailty in patients who develop ICI-IA and ICI-PMR and (2) examine its association with patient-reported outcomes (PROs) of key domains in the disease experience.

Methods: Consecutive new referrals to our Rheumatology-irAE clinic between April 2024 and April 2025 for ICI-IA or ICI-PMR were recruited to this cross-sectional study. Frailty and PROs of physical function, anxiety, depression, fatigue, sleep disturbance, ability to participate in social roles and activities, and pain interference were measured using validated surveys. Descriptive statistics were calculated for the entire patient cohort, and for subgroups stratified by FRAIL scale scores. Comparative analysis of PROMIS-29 domain scores was conducted between patients classified as robust/pre-frail versus frail.

Results: A total of 14 patients were included, of whom 10 were characterized as robust/pre-frail and four as frail. Statistically significant differences were observed in the fatigue and pain interference domains, with higher scores in the high FRAIL score group. The social roles and activities and physical function domains showed trends toward significance but did not meet the threshold for statistical significance.

Conclusion: These findings highlight the value of frailty assessment in this population and support the integration of geriatric-informed strategies in the care of patients experiencing rheumatic irAEs. Future studies are needed to validate these findings and explore the role of frailty in predicting treatment response, toxicity burden, and functional recovery as well as mapping the trajectory of frailty status over time.

13 Uthayla Al-Arab, Andrew Philips, *Environmental Public Health Major*

Analysis of Wildfire Smoke Preparedness and Response Plans

Abstract: Wildfires in Western North America have become more frequent and intense in recent years. Wildfire smoke can cause adverse health impacts, creating an urgent public health concern. This study compares wildfire smoke preparedness and response plans developed by jurisdictions and institutions in Western North America, including counties, cities, states, provinces, and universities. We used qualitative content analysis methods to assess the characteristics of 20 wildfire smoke preparedness and response plans. The majority of the plans included strategies related to air quality monitoring, household-level exposure reduction, and risk communication. Wildfire smoke poses a bigger risk to susceptible and/or vulnerable populations, however, 25% of the plans did not include strategies related to targeted outreach for at-risk populations. In addition, there were large disparities in at-risk group representation among the plans that did include these strategies. Since wildfire smoke plans are a relatively new strategy within emergency response, a “gold” standard set of components has yet to be established; significant variations of included plan components exist. To improve these plans, it is crucial to enhance targeted outreach programs for vulnerable populations and develop a standardized framework for preparedness. By addressing these recommendations, jurisdictions can enhance their wildfire smoke preparedness and response plans, ultimately protecting public health more effectively.

14 Anoushka Manik, Marthin Senosa Mandig, Mikaela Zoe Peizer, Rohan Gururaja Chatterjee, *Public Health-Global Health Major*

A Systematic Review on the Impact of Stigma on Mothers and Pregnant Women living with HIV/AIDS in South Africa

Abstract: Human immunodeficiency virus (HIV) remains a critical public health concern, particularly in South Africa. The country has the greatest number of people living with HIV, including 4.9 million women aged 15 and older. This systematic literature review explores the impact that stigma has on pregnant women and mothers living with HIV. We identified 213 articles through a PubMed search using the terms HIV/AIDS, stigma, pregnancy, and South Africa. After applying inclusion criteria—empirical studies published in English since 2010 that examined stigma as a primary outcome among pregnant women or mothers in South Africa—and excluding studies that did not meet these requirements, we selected 15 articles to synthesize quantitative and qualitative data on the impacts of HIV-related stigma.The findings from our literature review matrix revealed that HIV-related stigma was associated with barriers to access and adherence to pre-exposure prophylaxis (PrEP), decreased disclosure of serostatus to friends and family, decreased adherence to prevention of mother-to-child transmission interventions, and increased probability of intimate partner violence due to serostatus. HIV- related stigma was found to be an underlying factor appearing as both internalized and anticipated stigma among pregnant women and mothers that could result in decreased initiation and retention to services and support such as the utilization of PrEP and antiretroviral therapy.

Results also demonstrated how stigma can be associated with intimate partner violence due to underlying factors including gender inequality, male partner's involvement, unwanted pregnancy and increased alcohol use. Our findings indicate that HIV-related stigma should be addressed within targeted interventions and services to support patients as they navigate through their diagnosis, in which the future research that needs to emerge should be more centered towards the HIV-related stigma that mothers face.

15 Taylor Vincent, *Public Health-Global Health Major*

Stress Reduction Intervention for African American Kinship Caregivers in Skipped-Generation Households

Abstract: This project aims to develop a multicomponent stress reduction intervention tailored for African American grandmothers raising grandchildren in skipped-generation households. It addresses three primary factors that affect their wellbeing- financial hardship, parenting challenges, and daily stressors through resource navigation, parenting support, and mindfulness training. Unlike many interventions developed without direct community input, this project is rooted in community collaboration to ensure it meets the real needs of those it serves.

It is predicted that a stress reduction intervention that includes financial navigation, resourcefulness training, parenting support, and mindfulness practices will increase Black kinship caregivers' use of support resources, improve their parenting efficacy, and reduce daily stress levels. The methods of this project include recruiting thirty Black kinship caregivers in the Seattle, Washington area to participate in focus groups centered on caregiving experiences and the previously mentioned core intervention components, as well as the interventions content, format, style, and delivery. Input from participants and the Community Advisory Board (CAB) will guide this iterative intervention design and refinement before pilot testing. The intervention is expected to improve caregivers' access to financial and community resources, bolster parenting skills, and reduce stress. By addressing the unique pressures of skipped-generation households, the program aims to better equip caregivers to support their grandchildren's development over time as well as improve their own personal well-being.

The results of this study will lay the groundwork for the next phase of the project: a proof-of-concept study aimed at piloting the feasibility and acceptability of our stress reduction intervention with sixty kinship caregivers.

16 Tatum Byrne, Zach Merlesena, Cordy Plymale, *Public Health-Global Health Major*

Barriers to LARC Access among Adolescents in the United States: Literature Review

Abstract: Unintended adolescent pregnancy is a key public health issue in the United States that can be prevented with Long-Acting Reversible Contraception (LARC). LARCs are highly effective, long-term, reversible, and require minimal upkeep. Despite these advantages and known efficacy, LARC usage among U.S. adolescents remains low, with less than 5% of adolescents on birth control utilizing them. Although a variety of intervention strategies have been attempted, unplanned adolescent pregnancy rates remain high. According to the CDC, 82% of adolescent pregnancies in 2021 were unintended. Increasing LARC accessibility may be key to addressing these rates. However, many barriers to access persist. This non-systematic literature review synthesizes findings from 14 studies, conducted in the U.S. between 2013 and 2024. This review aims to explore the gap between low LARC use and high efficacy by identifying barriers and organizing them into three categories–system, provider, and patient–to inform future research and policy. System barriers include the high upfront cost of LARCs, limited insurance coverage, and confidentiality concerns for minors. Provider barriers include knowledge gaps, reluctance to offer LARCs due to misconceptions about adolescent suitability, and time constraints. Patient barriers include a lack of awareness, misinformation about safety and effectiveness, and social norms influencing contraceptive choices. While prior research has examined cost and accessibility barriers extensively, our review suggests that provider-related factors, such as bias and lack of training, significantly limit adolescent access to LARCs. Continued efforts are needed to assess the effectiveness of intervention strategies that address these barriers and evaluate how demographic and socioeconomic factors intersect with access disparities. By identifying these challenges, this review provides a foundation for developing targeted policies and programs that enhance equitable reproductive healthcare for adolescents.

17 Linda Wang, *Public Health-Global Health Major*

Enhancing STD Treatment Efficacy: Measuring the Effect of Nitroimidazole Resistance Mutations on Expression of MG342 in Mycoplasma genitalium

Abstract: Mycoplasma genitalium (MG) is a sexually transmitted bacterial pathogen commonly associated with urethritis in men and cervicitis, endometritis, pelvic inflammatory disease, infertility, and preterm birth among women as it invades the upper reproductive tract. Similar to other sexually transmitted infections, it disproportionately affects individuals with low socioeconomic status. Due to antimicrobial resistance, infections can persist for months to years, and first-line drug choices fail in over half of all patients. Whole-genome sequencing reveals that natural nitroimidazole (NDZ)-resistant mutants have mutations in or near MG_342, which encodes a flavin mononucleotide-dependent oxidoreductase required for activation of NDZs to the toxic form. These mutations are hypothesized to reduce oxidoreductase expression or activity, impairing drug efficacy. To determine if these mutations reduce MG342 protein expression, this research utilizes molecular techniques to engineer MG strains expressing FLAG-tagged alleles of MG342 including wild type and four spontaneous resistance mutations in or near the MG_342 start codon. FLAG-tags are peptide tags that bind to commercially available, high-affinity antibodies for protein quantification. This study aims to examine how these MG342 mutations affect (1) protein levels using quantitative immunoblots and (2) NDZ susceptibility using qPCR-based minimum inhibitory concentration (MIC) assays. Because MG_342 is an essential gene, the hypothesis is that an alternate downstream start codon allows sufficient expression for viability of MG while reducing activation of NDZs, leading to resistance. Future RNA sequencing will examine how mutations, particularly a 94 base pair deletion upstream of MG_342, impact transcription. Developing this RNA sequencing method will help define mechanisms of resistance as new mutations are identified. Since physicians are already beginning to treat MG patients with NDZ drugs, insight into the resistance mechanisms could help determine which mutations to screen for to prevent drug-bug mismatch and treatment failure.

18 **Lina Albadawi, Paola Joaquin,** *Public Health-Global Health Major*

Assessing the Effectiveness of Culturally Tailored Nutrition Interventions on Weight Loss Among Hispanic and Latina Breast Cancer Survivors

Abstract: Breast Cancer (BC) remains the leading cause of cancer related mortality among Hispanic women. Latinas, as a result of environmental and socioeconomic barriers, are more likely to face later stage BC diagnosis, BC related death, and experience decreased access to quality healthcare, compared to non-Latina women. However, poor BC outcomes and recurrence has been associated with obesity and overweightness, elements disproportionately experienced by Latinas living in the United States. While weight loss interventions currently exist, they often fail to prove accessible to the greater Hispanic community, struggling to resonate with Latina participants due to a lack of cultural competency within programming. This is further exacerbated by psychosocial factors, structural inequities, and financial constraints.

The ¡Vida! study aims to compare the effectiveness of a series of adaptive and culturally tailored weight loss interventions, by randomizing 640 Latina BC survivors located in Washington or California to one of two intervention groups: ¡Vida! or ¡Vida! Plus. ¡Vida! participants will receive 24 1-hour live online classes over the course of 1 year, focused on improving dietary behaviors and promoting physical activity. ¡Vida! Plus participants will receive the ¡Vida! intervention in addition to an experiential learning (EL) session taught by lifestyle health educators in a smaller group setting. After two months, non-responders (participants with > 2% body weight lost) will be re-randomized to receive personalized one-on-one Health Coaching (HC) and/or Mailed Toolkits (MT) filled with non-perishable ingredients, in addition to ¡Vida! Plus. Intervention effectiveness will be assessed by observing participant weight changes using Aria Scales. Secondary outcomes will be measured using data collected via Fitbit Bands and Dried Blood Spot cards. Six total cohorts of study participants are currently planned with an estimated study end date of 2027. Cohort 1 initiated as of March 2025, with data collection currently in progress. The findings of this study hope to better inform the creation of future weight loss interventions specific to Latina BC survivors, decreasing risks of poor BC outcomes, deaths, and comorbidities, among this disproportionately affected population.

19 **Abby Hu,** *Environmental Public Health Major*

Undocumented Communities in Florida: Conceptualizing Climate Disasters, Health, and Legal Violence

Abstract: In recent years, Florida has enacted legislation strengthening immigration enforcement and targeting (im)migrant communities, in particular those having an undocumented (im)migrant status. At the same time, Florida has experienced an increase in frequency and intensity of climate disasters, which refers to events of extreme heat and tropical cyclones in the context of this research. Existing academic scholarship is limited in researching the nexus of federal/state policies, climate change, and (im)migrant communities. After conducting an examination of a body of federal and state immigration laws at two key time intervals, 1986 through 1996 and 2023 through 2025, along with forms of disaster relief, this research analyzes the factors influencing undocumented (im)migrants' ability to respond to and recover from climate disasters. This research applies a legal violence lens (Menjívar and Abrego 2012) to uncover the less visible effects of anti-immigration policies, which enable, if not cause, suffering in (im)migrant communities. This research reveals how language (in)accessibility and structure (re)produce fear-based and logistic barriers (Morey 2012) to disaster relief for undocumented (im)migrant communities. Secondly, this work brings out the self-scrutiny undocumented (im)migrants make about their immigration status, the associated risks with disclosure, and the resulting outcomes, which leave them increasingly vulnerable to the effects of climate change. As communities continue to experience harms from climate disasters and government legislation, community coalitions and social networks will play a crucial role in building awareness and mobilizing collective action which can mitigate legal injuries and save lives.

20 Skylar Clarke, *Public Health-Health Major*

Cancer Survivorship Among Postmenopausal Women; The Life and Longevity After Cancer (LILAC) Study

Abstract: Background: Since its launch in 1991, the Women's Health Initiative (WHI) has filled a necessary gap in the field of women's health research. Beginning with 161,808 participants and a $625 million grant from the National Heart, Lung, and Blood Institute (NHLBI), the WHI sought to identify risk factors for major causes of frailty, disability, and death among aging women, namely cardiovascular disease, cancers, and osteoporotic fractures.

Research Topic: The Life and Longevity After Cancer (LILAC) study is an ancillary study of the WHI, focusing specifically on cancer treatment and survivorship among older women diagnosed with one of eight cancers: Breast, Melanoma, Non-Hodgkin's Lymphoma (NHL), Endometrial, Epithelial Ovarian Cancer (EOC), Leukemia, Lung, or Colorectal. Of 9,934 eligible WHI participants, 7,751 were enrolled in this cancer survivorship cohort.

Goal: The goal of this study is to identify a resource that will improve cancer survivorship among postmenopausal women.

Methods: Baseline LILAC surveys were sent to eligible participants to collect data on initial cancer treatments, symptoms after treatment, and quality of life. Consented participants are sent subsequent annual surveys on treatment updates, recurrence/metastasis, and cancer survivorship. Additional treatment information is abstracted from Medicare claims and medical records. To understand age-related comorbidities and the impact of cancer diagnosis and treatment on aging, an age-matched cohort of WHI participants was created, rendering an exposed population (WHI participants with a cancer diagnosis) and an unexposed population (WHI participants without a cancer diagnosis).

Anticipated findings: The LILAC study is still ongoing, with data abstraction predicted to wrap up in August 2025. The study anticipates identifying tools to improve the cancer survivorship among women. The study itself will serve as a resource for investigators to embed cancer survivorship research into pre-existing large epidemiologic cohorts.

21 Emily Chen, Zoe Lim, Alice Groza, Alden Gu, *Public Health-Global Health Major*

Assessing the Potential Health Impacts of Establishing a Prescription Drug Affordability Board in Washington State

Abstract: Drug affordability is a critical public health issue that prevents individuals from obtaining critical medications. With high-cost drugs, patients are more likely to skip doses or avoid filling prescriptions altogether, ultimately leading to financial burden and worse health outcomes. This topic highlights how systemic barriers compromise drug adherence and overall population health. This project explores the potential health impacts of Washington State's Senate Bill 5532, which proposes the creation of a Prescription Drug Affordability Board (PDAB) to regulate drug prices and improve affordability.

The hypothesis is that implementing a Prescription Drug Affordability Board will improve health outcomes by reducing financial barriers to essential medications, enhancing medication adherence and reducing long-term healthcare costs.

We would like to conduct a Health Impact Review (HIR) on SB 5532 to assess the health outcomes of this bill. Our project will explain the function and purpose of the established board, along with the projected health impacts of the bill. We aim to assess these projected outcomes by analyzing legislative policies, population demographics and census data, and healthcare access data, along with existing research on drug affordability.

We anticipate that SB 5532 would reduce out-of-pocket costs for patients, particularly for those requiring high-cost drugs or chronic disease medication. This would improve medication adherence, alleviate financial burden, and lower the incidence of unmanaged chronic conditions. Regulating unsustainable and predatory drug costs might also reduce healthcare expenditures at the system level, reducing the burden of healthcare costs for all Washingtonians.

SB 5532 fosters pharmaceutical company accountability and prevents exploitative medical practices. This bill prioritizes and advocates for the health of everyday Washingtonians. Further research should evaluate the long-term effects of similar drug affordability boards in other states and optimal implementation strategies.

22 Lauryn Ewing, *Public Health-Global Health Major*

Reclaiming Traditional Diet to Combat Type 2 Diabetes Among Native Hawaiians

Abstract: This project investigates how colonization, acculturation, and socioeconomic inequities have contributed to disproportionately high rates of type 2 diabetes among Native Hawaiians. The research question guiding this work is: How can culturally relevant public health interventions effectively address type 2 diabetes disparities in Native Hawaiian communities?

Historically, Native Hawaiians maintained a nutrient-dense diet rooted in land and sea, including taro, sweet potatoes, fish, and breadfruit. However, colonization disrupted this lifestyle through forced displacement, loss of land, and dietary shifts toward highly processed foods. These structural changes—alongside systemic racism, poverty, and limited access to culturally appropriate healthcare—have exacerbated the prevalence of chronic conditions, particularly type 2 diabetes.

Using a qualitative, literature-based approach, this project synthesizes scholarly sources, Indigenous perspectives, and public health reports to analyze how social determinants of health—such as education, income, and healthcare access—interact with historical trauma to shape diabetes outcomes. It also highlights two community-driven efforts to combat these disparities: Partners in Care, a peer-led diabetes self-management education program, and a culturally informed public service announcement developed for a Native Hawaiian-serving clinic. Both interventions incorporate traditional foods, language, and visual elements to enhance engagement and promote culturally resonant health messaging.

Findings suggest that integrating Indigenous knowledge systems with public health communication strategies can significantly improve self-efficacy, knowledge of diabetes care, and community empowerment. This project, conducted domestically, underscores the importance of cultural revitalization and self-determination in public health practice. It calls for continued investment in Indigenous-led health initiatives that recognize the ongoing impacts of colonization and celebrate traditional practices as pathways to healing.

23 Morgan Daigneault, *Food Systems, Nutrition, and Health Major*

A Systemic Review of the Food Insecurity-Obesity Paradox in European Nations

Abstract: Food insecurity is paradoxically linked to higher rates of obesity in the United States, a phenomenon known as the “food insecurity-obesity paradox”. While this has been examined to some extent in the United States, there is a knowledge gap on whether this paradox exists within European nations, to what extent, its upstream causes, and potential public health implications of such a paradox in a European regional context. This research is to act as a baseline for what is currently known on this subject through a systematic review between the years 2010-2020 (to avoid pandemic-related alterations to this research) by utilizing Google Scholar and World Health Organization (WHO) definitions. This will create a comprehensive comparison of the obesity rates to the United States' food-insecure populations.

24 Anika Consul, *Public Health-Global Health Major and Nutrition Minor*

Hyperglycemia Associated with Type 2 Diabetes Contributes to Monocyte Lipid Uptake

Abstract: Globally, over 800 million people are affected by Type 2 Diabetes (T2D). This condition results in hyperglycemia and elevated lipid levels, a state known as diabetic dyslipidemia, both of which contribute to complications such as atherosclerotic cardiovascular disease. Preliminary data from a laboratory suggest that monocytes become lipid-loaded in the context of diabetes, and that the Cluster of Differentiation 36 (CD36) receptor mediates lipid uptake by these cells. Early findings indicate that Cd36 mRNA expression increases in monocytes exposed to high glucose levels. Based on these observations, it is hypothesized that hyperglycemia enhances the uptake of Very-Low Density Lipoprotein (VLDL), a triglyceride-rich lipoprotein elevated in diabetes. To test this hypothesis, bone marrow-derived monocytes will be cultured ex vivo under low and high glucose

conditions, with an osmotic control included. Following glucose stimulation, monocytes will be incubated with fluorescently labeled VLDL (Dil-VLDL), and uptake will be assessed via fluorescence microscopy. Additionally, to determine whether CD36 is essential for monocyte VLDL uptake, monocytes from both wild-type and CD36-deficient mice will be analyzed. This study aims to elucidate the relationship between lipid metabolism and hyperglycemia in diabetes-associated monocyte lipid accumulation. By clarifying how hyperglycemia and CD36 contribute to lipid loading in immune cells, the findings may reveal novel targets for reducing cardiovascular complications in individuals with Type 2 Diabetes. Ultimately, this work could inform strategies to mitigate the burden of diabetes-related cardiovascular disease at the population level, contributing to improved public health outcomes.

25 Ezza Sohail, *Public Health-Global Health Major*

Assessing End-of-Life Care Resources and Healthcare Communication with Non-English Speaking Communities

Abstract: Patient-provider interactions are a vital part of everyday healthcare delivery, and they become especially important when addressing sensitive topics such as end-of-life care. To provide effective palliative and end-of-life care, healthcare providers must understand and respect the cultural context of their patients. This project conducts a literature review to evaluate the effectiveness of existing programs aimed at bridging cultural gaps in care and examines the role of cultural leaders in shaping how patients receive and interpret healthcare. A key focus of this project is Harborview Medical Center's Caseworker Cultural Mediators (CCMs), who offer valuable insights based on their experiences supporting patients with diverse needs which range from diabetes self-management to navigating end-of-life care resources. The resource guides used in this analysis were developed by EthnoMed, an organization that serves as a cultural bridge between healthcare providers and refugee, immigrant, and migrant communities in King County.The findings from this literature review will help inform the development of future resource guides by EthnoMed. These guides aim to support both physicians and patients, ensuring that individuals and their families feel understood, respected, and empowered when discussing end-of-life care options.

26 Carolyn Slack, Christina Zuo, Sophia Sayson, Rhea Misra, *Public Health-Global Health Major, Psychology, Early Childhood and Family Studies*

Comparing Infant and Adult Brain Responses to Pitch Changes With and Without Random Brightness Variations

Abstract: Infants and adults process sound attributes such as pitch, timbre, and loudness differently, but the underlying neural mechanisms that drive these differences remain unclear. Pitch can be arranged from low to high, while timbre differentiates sounds of the same pitch and loudness. In natural sounds, pitch and timbre often covary—for example, a flute's sound is both high in pitch and bright in timbre. Our prior research showed that infants outperform adults without musical training in pitch discrimination in the presence of random brightness variations. One possible explanation is that adults have learned the statistical covariation between pitch and brightness, leading to efficient coding but poorer performance when variation in brightness occurs. To investigate, we recorded mismatch negativity (MMN)—a brain response to unexpected sound changes—using electroencephalography (EEG) in 7-month-olds and adults. We measured responses to pitch changes in two conditions: 1) with random brightness variations and 2) without brightness variations. The results were consistent with our prior behavioral findings: infant MMN amplitudes were comparable in both conditions, whereas adult MMNs were larger without brightness variation. This research explores how infants process fundamental sound attributes for speech and music perception, and how this processing changes over the first year of life. Comparing auditory processing between infants and adults offers insight into how developmental differences shape the brain's response to sound. Infants' heightened sensitivity to pitch variations and ability to process complex auditory stimuli are crucial for language acquisition and cognitive development. Understanding these developmental patterns has significant implications for public health, particularly for the early detection of auditory processing disorders and designing interventions to promote healthy language and cognitive development. Ultimately, this research aims to reduce disparities in educational and health outcomes by informing strategies that create acoustically accessible learning environments and support children at risk of auditory and language delays.

27 Mira Menon, *Public Health-Global Health Major*

A Scoping Review of Sexual and Reproductive Health Interventions With Youth in U.S. Juvenile Facilities

Abstract: Youth placed in U.S. juvenile detention facilities face multilevel barriers that contribute to disparate sexual and reproductive health (SRH) outcomes when compared to their peers in the general adolescent population. Minimal information is available about evidence-based interventions that have been effective in changing these outcomes. This scoping review aimed to examine the current state of SRH interventions and identify recommendations for SRH care. Using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) for scoping review guidelines, electronic databases were searched for publications for publications published through March 2024. The search terms were designed to identify intervention studies focusing on SRH in U.S. juvenile detention facilities. Eighteen articles were identified, all of which reported some combination of positive results. While some intervention content focused on SRH knowledge and attitudes, the majority of studies addressed sexual risk behaviors in combination with sexually transmitted infections, substance use, or partner violence as their focus. The minimal number of research interventions focused on the structurally vulnerable population of youth in detention facilities across the United States underscores a significant gap in the existing literature, with negative health outcomes for juveniles in detention facilities. This lack of research contributes to ongoing negative health outcomes for juveniles and highlights a need for more interventions tailored to their unique needs.

28 Keerthana Sattiraju, *Health Informatics and Health Information Management Major*

Discrete Event Simulation Interventions In ICU Settings To Determine Staffing and Resource Allocation Scenarios to Improve Patient Length Of Stay

Abstract: This project examines how patients' length of stay (LOS) in a Burn Intensive Care Unit (ICU) can be quantitatively modeled to improve resource allocation and reduce operational inefficiencies. LOS is a key indicator of hospital performance, influencing costs, capacity, provider burnout, and other patient outcomes. This study explores the relationship between workflow bottlenecks, clinical staff composition, and LOS, with the goal of informing data-driven operational strategies in high-acuity care settings. The central hypothesis is that a task-based, stochastic modeling framework can identify modifiable drivers of LOS and quantify the marginal effects of increased staffing or material resources. This framework is intended to support hospital efforts to reduce LOS without compromising the quality of care. Researchers utilized de-identified data from the Medical Information Mart for Intensive Care-IV (MIMIC-IV database), which was collected from 2008-2022, to identify 21 discrete procedural steps within the Burn ICU. A transition probability matrix was constructed to model patient movement through these steps, and step durations were determined using timestamped procedures. Discrete-time simulations were then used to highlight bottlenecks and forecast LOS under different resource scenarios. Due to limitations in the MIMIC-IV dataset, specifically, missing granular data on staff involvement and patient interarrival times, qualitative data from clinician interviews will be incorporated to inform model parameterization. Preliminary results highlight specific stages in patient care that are highly sensitive to staffing levels and indicate which strategic changes, such as increases in personnel or room availability, may yield significant reductions in LOS. The model enables sensitivity analyses to assess the cost-effectiveness of various resource allocations. This work has meaningful implications for clinical decision support and hospital operational planning. Future efforts will focus on validating the model with Burn ICU staff, integrating it into planning workflows, and extending its application to other hospital units.

29 Rhiannon Trunnell, Weiqhi Wee, *Environmental Public Health Major*

Development and Optimization of a Membrane Filtration-Based Method for the Detection of Shigella spp. in Seattle Wastewater

Abstract: Shigella is a bacterial enteric pathogen responsible for dysentery and remains a significant public health concern, particularly in developing countries where transmission often occurs through contaminated food and water. However, the presence of Shigella spp. in the environment, especially in urban wastewater systems, remains poorly understood. The early detection of Shigella spp. in wastewater can provide valuable insight into understanding pathogen circulation within a population and its potential public health impact.

This study aims to characterize the presence and abundance of Shigella spp. in Seattle through environmental surveillance. Wastewater samples were collected from the West Point treatment plant and analyzed using a combination of microbiological and molecular methods. To achieve this, a protocol for isolating Shigella spp. was developed and optimized, with specific adaptations for application in municipal wastewater systems. Effluent wastewater underwent membrane filtration and molecular testing to ensure detection specificity and to differentiate Shigella spp. from other genetically similar enteric pathogens commonly found in wastewater, specifically Escherichia coli.

Method validation is being conducted to assess the specificity and reliability of this approach. Ultimately, this method will serve to identify the presence of Shigella spp. in wastewater.

This work contributes to environmental surveillance efforts by providing insights into community-level infection trends, supporting antibiotic resistance surveillance, and informing timely public health interventions. Continued refinement of this detection method may expand its applicability and improve our ability to proactively address enteric disease threats.

30 Bhavya Nandikanti, *Public Health-Global Health Major*

Voices of Health: Exploring Oral Histories Among Indian-American Seniors

Abstract: Oral histories, though rarely used in public health research, offer a human-centered approach to understanding health by amplifying voices often excluded from public health and historical records. This project explores how oral history interviews can uncover nuanced health perceptions, cultural identity, and stigma within Indian-American immigrant families—a group often underrepresented in public health literature. These narratives reveal insights that quantitative data often miss. This project derives from a partnership between the UW Public Health-Global Health (PHGH) major and the Indian American Community Services (IACS) Organization in Washington state. After receiving training on oral history as a public health method and on interviewing techniques, PHGH students enrolled in the service-learning course conducted 17 virtual oral history interviews with South Asian Indian adults aged 55 and older, living in Washington state. Participants were asked about migration, community life, cultural identity, and health and well-being as South Asian Indian seniors in Washington. Interviews were conducted in English during February-March 2025, recorded with consent and transcribed. Thematic analysis is ongoing. Preliminary findings suggest many participants find comfort in traditional, familial ideas and beliefs around health and medicine, face barriers with the U.S. health insurance system, and benefit from community-based programs like IACS. A recurring theme is the tension between independence and reliance, as several participants live with their children but struggle to ask for help. Though oral histories remain unconventional in public health, this study underscores their importance in revealing culturally embedded health beliefs and experiences—insights often overlooked by formal surveys. These findings contribute to a broader conversation about how qualitative methods can deepen community engagement, inform culturally responsive care, and elevate marginalized voices. Ultimately, this work highlights that listening itself can be a public health intervention—one that builds trust, uncovers hidden patterns, and allows for complex truths that numbers alone cannot capture.

31 Charlotte Beatson, *Environmental Public Health Major*

Establishing an Exposure Control for Particulate Matter and Volatile Organic Compound Exposure During Indoor Cannabis Processing Activities

Abstract: As Cannabis use becomes more widespread, concern is growing regarding the respiratory exposures of employees working in cannabis processing facilities. Employees in these occupational settings are frequently exposed to volatile organic compounds (VOCs), particulate matter (PM), other respiratory irritants and allergic sensitizers. These exposures are linked to work-related illness and disease, such as occupational asthma. Notably, the recent fatality of a cannabis worker due to occupational asthma highlights urgent need for improved exposure controls. This laboratory-based study aims to evaluate the efficacy of a local exhaust ventilation (LEV) system to reduce exposure to airborne hazards during grinding of cannabis and automated joint filling and by comparing VOC and PM concentrations with versus without the LEV system. Cannabis grinding is the process where whole dried flowers are ground into coarse particles for joint filling. Through repeated 20-minute trials, gravimetric sampling was conducted for inhalable PM using two inhalable aerosol samplers (IOMs) positioned at a workbench and in the breathing zone. VOC exposure was assessed using thermal desorption tubes and photoionization detectors (PIDs), while continuous respirable PM concentrations were measured using a Nanozen DustCount monitor. Automated joint filling is a common process in Cannabis production facilities where mechanized equipment dispenses ground Cannabis into pre-rolled cones. This method is preferred in the field as it increases both consistency and efficiency. This processing step was similarly sampled with repeated trials that extended over a ~2-hour period, across eight batches. Preliminary data demonstrates the LEV system is a beneficial mitigation strategy for PM and VOCs during grinding and VOCs during knock box filling. Design modifications are in progress to increase PM filtration efficacy. As the cannabis industry continues to grow, these findings hold significant impact for workplace safety regulation and solutions. Additional research should be gathered on long-term exposure to cannabis dust and preventive mechanisms.

32 Sharvani Mallarapu, Leia Alvarado, Ariana Nguyen, *Health Informatics and Health Information Management Major*

Standardizing Social Determinants of Health (SDOH) Screenings: A Workflow Implementation Project

Abstract: Addressing the social determinants of health (SDOH) is essential for improving patient outcomes and advancing health equity. While screenings for SDOH such as housing instability, food insecurity, and transportation barriers are already conducted across Virginia Mason Franciscan Health (VMFH), the lack of a standardized documentation and billing workflow limits the ability to sustainably fund this work—particularly the roles of Community Health Workers (CHWs), who are often supported by temporary grant funding.

This project seeks to develop and implement a replicable workflow for documenting and billing SDOH screenings and interventions within the VMFH system, using appropriate CPT codes and EPIC integration. The initiative focuses on enhancing clinical documentation standards, incorporating diagnosis coding into Standard Work documents, and enabling provider-facing SmartPhrases to support accurate and consistent charting of SDOH-related encounters.

Collaboration with CHWs, coding specialists, and clinic staff will ensure the workflow is practical and aligned with real-world practices. In addition, shared resources and training materials will be developed to facilitate adoption and sustainability. This work is expected to improve the financial viability of CHW services while reinforcing the system's capacity to address health-related social needs in a systematic and reimbursable way.

Data collection on workflow implementation, provider utilization, and billing outcomes will continue through May, with the goal of identifying early successes, challenges, and areas for refinement.

33 Emily Ramirez, Chase Cobb, Marisa Brunelli, Jennifer Choe, Maizie Tucker, Carolyn Gordon, *Public Health-Global Health Major*

Association Between Nicotine Use among University of Washington Students and Adolescent Exposure

Abstract: The landscape of nicotine use has changed significantly in the past decade. While overall use has decreased, the development of new nicotine delivery products, including modern vapes, pouches, and gum, is a cause for public health concern, inspiring several policy changes targeting adolescent nicotine use. In 2019, the Federal Drug Administration increased the legal age to purchase nicotine products from 18 to 21. Limited research has been conducted since recent policy changes on adolescent nicotine use and possible continued use into adulthood, which our project aimed to address. We hypothesized that the prevalence of current nicotine use, defined as using nicotine at least 6 days in any form and in any given 30 days during the time they recall using nicotine the most often, among those exposed in adolescence would be 20% higher than that of those not exposed during adolescence. We investigated the association between adolescent (14-17 y.o.) and young adult (18-22 y.o.) nicotine use via a cross-sectional study design by surveying current UW undergraduates about past and current use in November 2024. We found that 17.5% of survey respondents were categorized as current nicotine users, meaning 10 or more days of use in the last 30 days. Additionally, we determined that the prevalence of current nicotine use among those exposed in adolescence was 197% higher than those not exposed to nicotine during adolescence (Prevalence Ratio: 2.97; 95% Confidence Interval: 1.20, 7.36). The results from this project may inform further prevention of nicotine use amongst UW students. Additional research could identify why risk factors for adolescent usage, including those we identified qualitatively, such as peer pressure, social settings, and other substance use while in adolescence, are connected to nicotine use.

34 Mikylla Pascua, Marisa Brunelli, Nitya Masina, *Environmental Public Health Major & Public Health-Global Health Major*

Community Advisory Board (CAB) Best Practices for Substance Use Disorders and HIV Risk

Abstract: The stigma around substance use, substance use disorders, and HIV has created systemic barriers between people living with HIV (PLWH), people who use drugs (PWUD), and equitable research engagement. Community-based participatory research (CBPR) has been employed in HIV research to bridge the gap between research practices and community outcomes by increasing stakeholder involvement. Community advisory boards (CABs) serve as a mechanism for researchers to implement CBPR. CABs are composed of local community members who provide input and advice on research projects in periodic meetings. However, researchers find it difficult to maintain long-term partnerships through CABs for multiple reasons. These include distrust towards research from stigmatized and over-researched communities, perceived and systemic power imbalances, and a failure to incorporate community needs and perspectives into a study's design. Our review of existing CAB literature compiles best practices to support researchers in sustaining effective and responsive CABs with PLWH and PWUD. From February to May 2025, we drew from literature on several CABs in the greater Seattle area as well as community-engaged HIV research from across the United State to identify key elements shared by successful CABs. Following an initial search on databases PubMed and JSTOR and search engine GoogleScholar, we used the reference lists of relevant articles to locate additional publications. Grey literature produced by governmental organizations and nonprofits in the Greater Seattle area were also consulted. We found that the components of a successful CAB include clearly defined objectives, flexibility in scheduling, bidirectional sharing of information, mutual beneficence, and sufficient compensation and recognition of the board members' contributions. By practicing power sharing and building long-term community relationships, researchers working with CABs are able to generate research that better supports under-resourced and stigmatized populations.

35 Madeline Ong, Nitya Masina, Maiya Gonzales, Vy Nguyen, Uma Maveli, *Public Health-Global Health Major*

Addressing Structural Racism in Public Health: Insights from the 2025 Anti-Racism and Community Health (ARCH) Conference's Education and Engagement Committee

Abstract: Systemic racism is a public health crisis. Whether through overt violence or barriers to housing and healthcare, racism is a central driver of health inequities linked with disproportionate illness and premature death. The Education and Engagement (E&E) committee was established as part of the Students of Color for Public Health's annual 2025 Anti-Racism and Community Health (ARCH) conference, with initiatives running from November 18, 2024-May 21, 2025. The committee's primary objective was to engage with the greater Seattle area to challenge systems of power and structural racism. The secondary objective was to share their findings and how these systems impact the health of marginalized black, Indigenous, and people of color (BIPOC) communities. Firstly, the team attended the workshop to understand the power of community mobilization and storytelling in low-income and BIPOC workplaces. Then, they partnered with Health Equity Circle, meeting with legislators in Olympia to lobby for health equity, immigrant, and housing-related bills. Secondly, the team focused their efforts on housing equity, volunteering at Seattle Union Gospel Mission's shelters. There, they learned how racism and systemic barriers contribute to the housing crisis, and the importance of community-based solutions. Additionally, E&E conducted an educational interview with Poor Magazine, a BIPOC-led organization of houseless and formerly-houseless writers. The committee published this interview and their volunteering experiences in a video to destigmatize houselessness. Lastly, E&E focused their efforts on food justice as an environmental and public health crisis, and racism as a systemic barrier to food security. The committee organized a potluck dinner featuring discussions on dismantling racism in food systems. They also toured UW's hydroponic farm to learn about sustainable and equitable farming, eating, and food waste practices. Through this work, E&E promoted anti-racism, addressed health disparities, and fostered equitable outcomes by applying learning to real-world challenges.

36 Elizabeth Bullock, *Public Health-Global Health Major*

Beyond the Budget: Reimagining Philanthropy's Role Amid Federal Cancer Research Cuts

Abstract: Federal funding serves as the cornerstone of biomedical research, but recent uncertainty and reductions in federal budgets threaten the stability of long-term cancer research initiatives. During an internship with Fred Hutchinson Cancer Center's Philanthropy department, the presenter examined how the institution navigates the growing tension between its dependence on federal grants and the evolving role of philanthropy in sustaining research.

While Fred Hutch's philanthropic infrastructure is not currently designed to directly replace federal grant dollars, it already plays a critical role in supporting areas federal funds often overlook—such as flexible bridge funding, early-stage pilot projects, and post-doctoral researcher salaries. These existing efforts demonstrate how philanthropy can strategically bolster the research ecosystem. However, with the continued erosion of federal support, this moment presents a broader opportunity to reimagine philanthropy not as a supplemental resource but as a central, agile funding mechanism.

Drawing from internal conversations, donor engagement strategies, and firsthand experience working on campaigns, this presentation explores how philanthropy could be positioned to safeguard research continuity, protect early-career scientists, and preserve health equity initiatives during periods of fiscal unpredictability. Moreover, by reframing its mission, Fred Hutch Philanthropy could engage a wider community of donors who are passionate about ensuring that critical scientific work continues regardless of federal constraints.

This work was conducted domestically and reflects an emerging shift in how institutions like Fred Hutch may adapt to future funding landscapes—by leveraging philanthropic innovation to meet rising challenges in cancer research.

37 Padmini Abothu, *Public Health-Global Health Major*

Developing a Youth-Friendly Certification for Healthcare Facilities: Enhancing Accessibility and Satisfaction in Adolescent Care

Abstract: Adolescents and young adults often experience barriers to accessing inclusive, high-quality, and youth-friendly healthcare. Despite growing attention to these disparities, few standardized tools exist to assess or encourage youth-friendly practices across healthcare settings. This project, conducted under the Adolescent Health Team at the Washington State Department of Health, asks: What criteria define a youth-friendly healthcare environment, and how can these be translated into a sustainable certification model?

To answer this, we employed a mixed-methods approach, spanning over two years. We conducted a landscape review of existing youth-focused health frameworks, analyzed qualitative feedback from community partners and youth advisory groups, and iteratively developed criteria through stakeholder engagement. Branding materials and an informational flyer were designed to enhance accessibility and understanding of the certification. A draft patient satisfaction survey was also created to capture ongoing youth experiences in certified settings.

Preliminary findings highlight key themes in youth feedback, such as the importance of inclusive language, provider relatability, and confidentiality and privacy in care settings. These themes directly shaped the final set of certification criteria and informed outreach materials.

This work contributes to the field by piloting a novel framework for Youth-Friendly Certification in Washington State. Findings underscore the value of youth-informed design in public health initiatives and provide a replicable model for other regions seeking to improve healthcare access and equity for young people.

38 Jackson Nuss, Jamie Ma, *Public Health-Global Health Major*

Domestic Violence Among West African Individuals in Washington: Importance and Proposal

Abstract: Domestic Violence (DV) is a significant human rights violation with far-reaching public health consequences. It is defined as a pattern of abusive behavior used by one partner to gain or maintain power and control over another in an intimate relationship (Office on Violence Against Women, n.d.). Immigrant communities, particularly those from West Africa, face unique challenges in addressing DV (Wehnham et al., 2022). Preventing DV requires a comprehensive public approach, including education and resources that would require support from legislation. Integrating culturally based DV education for West African communities is imperative to break down systemic issues they face and work towards health equity.

The problem West Africans face is their increased risk for DV because of power dynamics in their relationships that are perpetuated by cultural norms. We recognize that addressing domestic violence is a multifaceted approach, requiring many considerations. Through bimonthly meetings and brainstorming workshops with the Washington West African Center, we propose three policies to help fight domestic violence among West Africans in Washington State. First, investing in women-centered economic learning programs can foster economic empowerment. Second, enhancing government funding will sustain ongoing efforts that provide safe housing for undocumented West African immigrants and their families. Third, developing school-based programs will help critically assess harmful gender norms perpetuating violence against women.

Addressing DV within West African communities in Washington requires policies that are centered around culture and West African positionality. It is imperative to address these economic and educational policies to minimize the risk of DV and improve the lived experiences of West Africans in Washington.

39 Hope Flanigan, Jackson Nuss, Halle Robinson, Omar Gabralla, *Public Health-Global Health Major*

SB 5172 Health Impact Review: Women's Right to Know Act

Abstract: Introduction: With the overturning of Roe v Wade, the discussion of abortion and its accessibility has risen significantly. From our interests and passion about reproductive justice, we seek to analyze the effects such changes would have on our communities’ health. A health impact review was conducted for Senate Bill (SB) 5172, relating to abortion services and rights for women. The purpose of this review is to discuss the health outcomes that may be associated with this bill.

Method: We completed research on the potential health outcomes of SB 5172. Using various research articles, we determined strength-of-evidence criteria for the impacts of this bill, and organized our findings into a logic model to visualize the health outcomes as a result of SB 5172.

Results: This study found that restricting which healthcare providers may perform abortions negatively impacts health through two key pathways: (1) for communities with limited access to physicians and (2) for individuals who do not identify as women. We identified very strong evidence that SB 5172 would increase wait times, travel times, and costs for abortion services, and increase risk of negative physical and mental health outcomes. This would disproportionately impact Black, Indigenous and Women of Color, low income, and rural communities. We found very strong evidence that SB 5172 would negatively impact the health of transgender, nonbinary, or gender-expansive (TGE) individuals by increasing stigma and discrimination surrounding access to abortion services, resulting in decreased mental and physical health.

Conclusion: This health impact review examines SB 5172 and its effect on the health of marginalized communities, particularly those seeking abortion services. By analyzing the bill from a health perspective, this review highlights the importance of conducting reviews for all legislation, especially those impacting vulnerable populations, to assess potential health outcomes.

40 **Angelyiah Lim,** *Public Health-Global Health Major*

Unmet Support Needs of Caregivers of Patients with Severe Acute Brain Injury: A Qualitative Analysis

Abstract: What are the unmet support needs of caregivers of patients with severe acute brain injury (SABI)?

Effective support for caregivers (e.g. social, psychological, and practical) plays a crucial role as a social determinant of health, impacting both caregivers' well-being and patients' recovery. Evidence demonstrates that caregiving stress and burden put caregivers at higher risk of experiencing adverse health outcomes and reducing this risk in caregivers of individuals with disabling conditions is an increasing public health priority (Broxson & Feliciano, 2020; Healthy People 2030, n.d; Wittenberg et al., 2019). There are high rates of strain and emotional distress for family members taking care of their relatives with SABI (Wendlandt, et al., 2022). Using an inductive approach, this study explores the specific forms of unmet support caregivers identify in the aftermath of SABI.

In-depth interviews (anticipated n = 20) with caregivers of SABI patients at Harborview Medical Center were conducted from August 2024 to May 2025 to gather insights into the support they have received and the support they feel is lacking. The transcripts from these interviews will undergo thematic analysis using the Framework Method by June 1 (Gale et al., 2013). While caregivers' needs are highly individualized, common themes have emerged across interviews. Preliminary findings suggest that caregivers need personalized mental health and emotional support, guidance on navigating the hospital setting, insurance, childcare, lodging, and post-discharge care. This research aims to inform the creation and enhancement of public health interventions in medical settings, with the goal of improving caregiver and patient outcomes.

41 **Hana Sugihara, Shah Asraff Khan Mohamed Bakhash, Angelyiah Lim,** *Public Health-Global Health Major*

Health Impact Review of HB 1373

Abstract: This project presents a Health Impact Review (HIR) of Washington State House Bill 1373 (2021), which requires public schools to display contact information for behavioral health support organizations on their websites and social media platforms. Using established HIR methodology, this review examines evidence-based pathways through which increased access to behavioral health resource information may impact student health outcomes. The analysis followed a logic model approach that demonstrates connections between the bill's provisions and potential health impacts, with strength-of-evidence classifications ranging from "very strong evidence" to "not well researched."

The review identified a substantial amount of evidence that displaying behavioral health resources on school websites effectively increases student awareness of available support services. Strong evidence indicates that increased mental health literacy leads to improved ability to recognize warning signs in oneself and peers. The analysis outlines clear pathways connecting increased resource awareness to earlier identification of warning signs, more timely access to prevention services, improved coping strategies, and ultimately, decreased rates of suicide attempts, eating disorders, and substance use among students. Additionally, a second pathway reveals how increased student engagement with behavioral health resources strengthens trust in mental health support systems, normalizes help-seeking behavior, and enhances community support networks.

This HIR provides policymakers with objective, evidence-based information regarding the potential positive health impacts of implementing Washington State House Bill 1373's provisions, particularly in addressing the behavioral health crisis among Washington State's youth population.

42 **Madeline Seid, Lucia Jiang, Aiying Huang, Michelle Vasquez,** *Public Health-Global Health Major*

Centering Latine Voices: A Photovoice Study on Occupational Health and Precarious Employment

Abstract: The Work Equity Research Center (WERC), within the Washington State Department of Labor & Industries, aims to develop solutions to foster anti-racism, anti-oppression, and improve health outcomes for underserved workers. In collaboration with WERC, four undergraduate researchers conducted a photovoice study integrating in-depth interviews in English and Spanish to explore Latine occupational health. The study centers the voices of Latine workers, fostering a safe space to discuss how their work, immigration status, and intersecting identities impact their physical and mental well-being . This approach uses a community-based participatory research (CBPR) model to address the unique risks faced by marginalized workers, with particular focus on the disproportionate mortality and morbidity rates among Latine workers compared to their White counterparts.0

The qualitative study analyzed precarious employment dimensions to identify key themes and qualitative codes regarding work experiences and their health outcomes. A prior collaborative literature review explored the link between immigration status and precarious employment, employing a Life-Course Perspective framework. The interview, conducted via Zoom, emphasized participant confidentiality and the right to retract sensitive information. Participants were recruited through convenience sampling via bilingual social media outreach in English and Spanish. The interview guide was developed using the SHOWED method, a participatory framework where participants are prompted to reflect on their experiences by answering questions such as: What do you see? What’s happening? How does it relate to your life? Why does this issue matter? How can we change this? And, what can you do about it?

This project seeks to initiate discussions about the health of Latine workers in precarious employment sectors such as farming, fishing, construction, maintenance, food services, and transportation. It aims to provide valuable information for policymakers, healthcare providers, and other stakeholders to help improve health outcomes for Latine workers.