



# El PODER sanador de nuestra identidad The Healing POWER of our Identity

## 5TH LATINO HEALTH SYMPOSIUM 2021 ABSTRACT BOOK

The Abstract Book is an annual publication of the abstracts that were peer-reviewed and selected for poster or oral presentation at the Latino Health Symposium (LHS), the annual academic conference of the Medical Organization for Latino Advancement (MOLA).

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### EDITORIAL

The Medical Organization for Latino Advancement (MOLA) is proud to disseminate the academic innovative work that is being actively pursued by our members, including physicians, trainees, researchers, public health professionals, and students. MOLA is a non-profit association of Hispanic/Latinx physicians and health professionals working for career advancement, linguistic and cultural competency, personal wellness, and health equity for the good of the entire Hispanic/Latinx community.

Our fifth annual Latino Health Symposium, executed virtually on October 8th and 2021, was a huge success! Over 215 health professionals and students participated in the event, which also included 8 expert speakers, 27 academic posters, 7 oral presentations, and a rich setting for academic discussion, networking, mentorship, innovation and collaboration. In a time in which many people are rightly calling to question historical views and actions that have led to discrimination based on race, ethnicity, language, and other factors, we chose to focus our Symposium on using our unique identity as a source of power and healing. Our theme -- "the healing power of our identity" -- was highlighted throughout the event to help us dig deep into the diverse and intersecting aspects of who we are as individuals and as a community of MOLA Hispanic/Latinx professionals.

It is with great orgullo in our community of professionals and students that we submit this report highlighting the abstracts, many of which I am certain will lead to successful publications, new research ideas, and impactful solutions to the health issues that affect our underserved Hispanic/Latinx community. MOLA's Symposium is one of few academic events in the nation that features health-related academic work and community solutions by Latinos, for Latinos. We look forward to featuring your work and achievements next year at our next Symposium! To keep up to date on MOLA's news and announcements, please visit [www.chicagomola.com](http://www.chicagomola.com)

On behalf of MOLA's Board of Directors and Scientific Committee, we extend a heartfelt ¡enhorabuena! to all our poster and oral presenters and wish you sincere success in all your future endeavors at improving health equity and workforce diversification for Latinos in the U.S. and beyond.

¡Muchísimas gracias!

**Pilar Ortega, MD**

Symposium Co-Chair, Education and Research Committee Co-Chair, Immediate Past-President, Medical Organization for Latino Advancement

# ABSTRACTS

(in alphabetical order by presenter last name)



**ROCÍO BARRIGA GUZMÁN, MD:** she/her

- International Medical Graduate
- NorthShore University Health System, Evanston, IL, USA and Universidad Autónoma Gabriel René Moreno, Facultad de Medicina, Santa Cruz, Bolivia.

**Mortality risk prediction using validated thromboembolic risk scores in patients with severe covid-19, a midwest urban hospital experience.**

**Background:** Severe COVID-19 has been responsible for more than 582 thousand deaths in the U.S. with unequally higher impact in underserved populations. Considering the coagulation dysregulation accompanying severe clinical disease, we hypothesize that existing and validated VTE risk scores have prognostic ability in this cohort.

**Methods:** A retrospective observational study of patients with severe COVID-19 from March to July 2020. Patients were >18 years of age, had PCR-confirmed COVID-19, and met Intermediate or Intensive Care Unit (UCI) level care criteria when ventilatory support required. The international Medical Prevention Registry on Venous Thromboembolism (IMPROVE) and Caprini scores were calculated. Student's t-test, Chi-square, Cox proportional-hazards model used, ROC and Kaplan-Meier curves were plotted.

**Results:** 184 patients with severe COVID-19 were included, age 63(24-101) years, 63.6% men, 26.1% Hispanic, and 57.1% requiring ICU care. Patients spent on average 7(2-68) days hospitalized and were followed for 52(2-108) days. A total of 86 patients (46.7%) died, 95 patients (51.6%) were discharged, and 3 patients (1.6%) were still hospitalized at the time of the censoring. In univariate, then multivariate analysis both scores were significantly associated with mortality when classified as "Moderate VTE risk" and "High VTE risk" by IMPROVE score: (HR 5.68; 95% CI:2.93- 11.03; P<0.001) and (HR 6.22; 95% CI:3.04- 12.71; P<0.001) respectively, with sensitivity of 87%, specificity of 63% (AUC 0.752, p <0.001), and "High risk for VTE" by Caprini score (HR 17.6; 95% CI:5.56- 55.96; P<0.001) with sensitivity of 96% and specificity of 55% (AUC of 0.843, p < 0.001).

**Conclusion:** The IMPROVE and Caprini VTE risk scores were independent predictors of mortality in this cohort with severe COVID-19, a third of which were Hispanic. With large-scale validation, readily available prognostic information can be of value.



**MELANIE BENITO:** she/her

- Undergraduate Student
- Wisconsin Alzheimer's Institute, School of Medicine and Public Health, University of Wisconsin - Madison

**Understanding the Perceptions of Alzheimer's Disease and Related Dementias Among Latinx Older Adults: A Qualitative Study**

**Background:** Health disparities in Alzheimer's Disease and Related Dementias (ADRD) are a result of multiple factors, including beliefs among Latinx individuals that ADRD symptoms are part of normal aging, lack of ADRD knowledge, and limited access to culturally appropriate healthcare services. The purpose of this study was to understand the perceptions that Latinx older adults have about ADRD.

**Methods:** Spanish-speaking Latinx adults older than 50 years old were invited to participate in telephonic structured interviews using a card-sorting technique to explore their perceptions about ADRD. Ahead of the interview, participants received through mail six cards with different colors and images that represented conditions that affect older adults (Depression, Diabetes, Hypertension, Memory Problems, Alzheimer's Disease, and Dementia). Participants were asked to arrange the cards according to their perception of similarities, severity, and embarrassment associated with each condition, and to explain their reasoning. We used qualitative content analysis to analyze the data using inductive coding.

**Results:** Twenty-four participants were recruited, average age 68 years old (range 50 – 87), 67% of them female, 25% completed middle school, 38% high school, and 38% had technical or college education. Participant's countries of origin were diverse: Mexico (29%), Peru (21%) Puerto Rico (8%), Cuba (8%), among others. Most participants perceived that ADRD is a spectrum of different conditions where "memory problems" are the initial stage, which then progresses to dementia, and then develops into Alzheimer's disease. Individuals who had family members with a diagnosis of Alzheimer's disease also shared this perception. Most participants described Alzheimer's disease as a stage where people experience a loss of oneself, and one that is characterized by an inability to remember events, inability to connect with family members and friends, and that can lead to inability to perform activities of daily living.

**Conclusion:** Latinx individuals perceived dementia and Alzheimer's disease as separate entities, which indicates that healthcare providers and public health agencies need to adjust their communication strategies to promote conversations about ADRD in this population.



**SUSANA BERRIOS**

- 4th Year Medical Student, 2021 MOLA-MRF Scholar
- University of Illinois, College of Medicine at Chicago

**Latino Male Infertility: Management and Referral Practices at Federally Qualified Health Centers**

**Background:** Infertility, or the inability to conceive within one year of unprotected intercourse, is a growing concern among couples in the United States. Although the male factor is responsible for a couple's inability to conceive nearly 50% of the time, males continue to be understudied. In studies exploring the male experience, infertility care is overwhelmingly associated with affluent, highly educated white males. Studies exploring Black, Indigenous and Latino male infertility experiences are rare. Studies analyzing infertility in Hispanic/Latino populations have predominantly focused on female perspectives, leaving much unknown about the Latino male infertility experience. Primary care consultations are essential in recognizing infertility and referring patients to a urologist, who can begin the evaluation. Time is an important factor, as female infertility declines precipitously after 38.

**Objectives:** To describe the infertility referral pattern for Latino men attending Federally Qualified Health Centers (FQHCs) and identify how and if infertility is addressed by family medicine providers.

**Methods:** We propose a retrospective chart review of Latino male patients diagnosed with infertility or varicocele, hypogonadism, impaired spermatogenesis, low testosterone, testicular cancer and cystic fibrosis presenting for care at Chicagoland FQHCs from 2015-2019. In addition to quantifying the number of infertility diagnoses made during this time, we also will analyze the time to urology referral and semen analyses. A short, anonymous electronic survey will be used to characterize how family medicine residents and attending physicians diagnose and manage infertility.

**Results:** The results of this study are pending summer project completion; however, it is hypothesized that the study will find a low volume of infertility diagnoses, increased length of time from initial visit to urology referral and even greater time from initial visit to semen analysis. We anticipate incomplete infertility evaluation completed by family medicine providers.

**Conclusion:** By increasing male infertility awareness among Latinos, the findings from this study will promote the importance of timely evaluation by a family medicine provider and referral to urology for further evaluation, including targeted physical exam and semen analysis. Furthermore, this study will identify current infertility referral practices in low-income settings and identify areas of improvement.



**CELYN BREGIO:** she/her

- Second Year Medical Student, 2021 MOLA-MRF Scholar
- University of Chicago Pritzker School of Medicine

### **The Impact of Language Concordance Between Physicians and Patients with Limited English Proficiency in Cancer Care**

**Background:** approximately 9% of the US population has limited English proficiency (LEP). LEP patients experience challenges attaining quality healthcare and have worse health outcomes due to communication barriers. Matching patients with a language-concordant clinician and working with professional interpreters effectively reduce healthcare disparities for LEP populations. In oncologic care, language discordance is associated with limited knowledge of cancer diagnoses, delayed cancer treatment, and inadequate information about clinical trials and recruitment.

**Objective:** To use the Roter Interaction Analysis System (RIAS), which evaluates clinical interactions using qualitative coding and quantitative analysis, to investigate the association of language-concordant versus language-discordant cancer care for LEP patients presenting for an initial oncology visit at three minority-serving hospitals in NYC. We hypothesized that the quality of communication between Spanish language-concordant (SLC) clinicians and cancer patients would be similar to English language-concordant (ELC), and that both would be higher than language-discordant pairings.

**Methods:** We used the RIAS to code interactions between 34 patients and 16 physicians. The pairings were stratified into dyads: ELC (n=12); assisted language communication, (ALC, n=11), defined as physicians using professional interpreters; partial language concordance (PLC, n=4), defined as non-fluent physicians communicating in Spanish, and SLC (n=7). Trained bilingual coders analyzed the recordings using established RIAS codes. We report mean utterances for each metric and speaker.

**Results:** Compared to other dyads, SLC physician-patient interactions were heavily centered on biomedical talk. SLC physicians had almost 2-fold greater mean utterances about biomedical information than ELC physicians, despite patients in both groups having similar mean utterances in biomedical questions. Patients in the SLC group also had a higher tendency to engage in positive behavior (e.g., laughs, direct approval, compliments, agreements, and understanding). Partnership facilitation was the same for both ELC and SLC, while mean utterances in these metrics were lower in the ALC and PLC categories.

**Conclusions:** Language concordance facilitates the establishment of a more effective and empathetic relationship between oncology physicians and patients. Our analysis shows that physician's ability to provide care in Spanish enables them to deliver more comprehensive biomedical counseling. Future research should explore the impact of language barriers on cancer-specific health outcomes.



**IOVANA BONFANTE GONZÁLEZ:** she/her

- Medical student, 2021 MOLA-MRF Scholar
- Loyola University Chicago Stritch School of Medicine

### **Identifying the Mental Health Impact of Migration & Housing Instability in the Latinx Community: A Systematic Literature Review**

**Background:** Latinx families experience housing insecurity at higher rates than reported. Language barriers, fear of deportation, and migratory labor equate to less use of homeless services, resulting in an underrepresentation of their needs in homeless statistics. Likely reliance on relatives over state or agency services, reduces the amount of “literal” homeless in the Latinx community but increases the incidence of overcrowding, living doubled-up and in substandard living conditions. Additionally, the Latinx migrant community often experience trauma at various stages of the migration process (before, during and after). Placing this community at higher risk of housing insecurity and mental health conditions.

**Methods:** The study was conducted via a systematic literature review using the databases, PubMed, PsychInfo and SCOPUS. The search terms that fall under the following concepts were investigated: Latinx, Migration, Housing Instability and Mental Health. Upon retrieval of all articles from the databases, a preliminary screen of the literature was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram. After duplicates were removed, articles were evaluated for inclusion / exclusion. Once articles were assessed for eligibility by title and abstract, the full text articles were reviewed and dissected into a Matrix table.

**Results:** Using PRISMA, we identified a collective 292 records during our database search on PubMed, PsychInfo and Scopus, with an additional 4 records through other sources during our background search, for a total of 296 records. After removing duplicates, screening and assessing for eligibility, 13 articles were left to include in qualitative analysis. From the 13 articles included in qualitative synthesis the following themes were identified: descriptive phrases of housing instability, vulnerable subgroups, factors contributing to housing instability, mental health impact of housing instability, negative contributors to mental health and protective factors of mental health.

**Conclusion:** Homelessness remains a tragic social and medical problem. The population experiencing homelessness is composed of diverse subgroups, each with their unique challenges and needs. One of those unique subgroups is the Latinx migrant community. The main challenges faced by this community are largely hidden from researchers and policymakers, increasing the difficulty in assessing their needs and identifying the factors placing them at risk for housing instability. Based on results, further research is needed in the following areas for this community: accessibility of housing services & employment and educational resources, mental health screening and the role of trauma informed care with providers of similar backgrounds.



**LAURA BOU DELGADO:** she/her

- Medical student
- Universidad Central del Caribe School of Medicine

**Nuestra Experiencia: A look at the impact of recent natural disasters on cumulative stress in Puerto Rican communities since 2017**

**Background:** Puerto Rican families across the island were drastically affected following 2017 hurricanes Irma and María, 2019-2020 earthquakes and the ongoing COVID-19 pandemic. Basic health statistics in Puerto Rico indicate that the island faced significant health disparities prior to these disasters compared to the United States. There is concern that the stress level of Puerto Ricans has severely increased with the exposure to these major consecutive disasters. While literature on stress due to natural disasters stress is available; literature related to cumulative stress due to multiple consecutive disasters is scarce.

**Objective:** The main objective of this project is to identify and define the accumulation of stressors from a community perspective in Puerto Rico after experiencing multiple disasters in a relatively short period of time.

**Methods:** Six focus groups of 10-12 participants will be completed after IRB approval. Community leaders will assist with recruitment representing communities across the island. Participants ages 21 – 65 years of age will complete informed consent and a demographic survey prior to the focus groups. We will complete two groups from Metro region (largest COVID-19 impact), two from Caguas region (high hurricane impact) and two from Ponce region (closest to earthquakes' epicenter). The 2-to-2.5-hour session will be via WEBEX and moderated by research investigators. All sessions shall be in Spanish and will be recorded and transcribed to complete qualitative coding and data analysis for generation of summary reports and development of a cumulative stress framework to guide future research.

**Results:** We will use NVivo data software to analyze the transcriptions and identify key themes across the groups. We hope to use these themes to identify an increase in community cumulative stress and address that increase so as to treat existing health inequities in Puerto Rico that could worsen such as depression and diabetes.

**Conclusions:** We hypothesize that the greater the number of disasters exposed, the higher the level of cumulative stress of individuals in the Puerto Rican community. With these results, we hope to contribute towards the body of knowledge for disaster response improvement and recuperation of the Puerto Rican as well as other Latino populations with disparate burden of illness and stress.



**KATHERINE BRITO:** she/her

- Medical Student, M4, 2021 MOLA-MRF Scholar
- University of Chicago Pritzker School of Medicine

### **Implementation of a medical school OSCE that screens for Intimate partner violence in Spanish speaking patients**

**Background:** Intimate partner violence (IPV) is a public health concern and human rights violation. Intimate partner violence includes physical violence, sexual violence, stalking and psychological aggression by a current or former intimate partner which can result in sexual, physical, psychological, and reproductive injuries including negative pregnancy outcomes, chronic disease, mental health problems and death. In the US, more than one-third of Hispanic women (37.1%) have experienced rape, physical violence, or stalking by an intimate partner in their lifetime. Latina women, especially those who are immigrants, have an increased vulnerability to intimate partner violence, yet they also have a low rate of using formal services.

**Objective:** There is limited research looking at how medical school curriculum incorporates screening for IPV. Despite this limited research, there is even less information regarding a medical Spanish Objective Structured Clinical Examination (OSCE) focused on IPV screening. This project aims to shed light on how many medical schools utilize OSCEs as a part of their medical school curriculum to screen for IPV.

**Method:** A literature review was undertaken to research which medical school utilize OSCEs to screen for IPV in Spanish as part of their curriculum. This information was the jumping point for the creation of an OSCE that will center around culturally nuanced aspects that one might encounter in screening monolingual Spanish speaking Latinas for IPV. These cultural nuances will be based on those seen in the literature and through a collaboration with the Chicago community organization Mujeres Latinas en Acción. This community partnership will provide valuable feedback on the validity of the OSCE scenario.

**Results:** In a literature review of medical school OSCEs that focus on monolingual Spanish-speaking patients, only two published papers showcased how the utilization of OSCEs to screen for IPV is incorporated in the medical school curriculum. The Herbert Wertheim College of Medicine at Florida International University, Department of Family Medicine and the Emory University School of Medicine, Department of Emergency Medicine are two medical schools that have published research on the efficacy of using OSCEs to screen for IPV. Although the University of Chicago has no published research on the efficacy of its second-year medical school OSCE to screen for IPV, the Pritzker School of Medicine does incorporate OSCEs to teach medical students about IPV screening.

**Conclusions:** Currently there are no medical schools that utilize medical school OSCEs to screen for IPV in monolingual Spanish speaking patients. There is a need for the development of curriculum that is geared towards teaching Spanish speaking medical students how to screen for IPV in monolingual Spanish speaking populations.



**ALEJANDRO CARRILLO**

- Occupational Therapy Student, 2021 MOLA-MRF Scholar
- University of Illinois at Chicago

**Investigating the efficacy of self-testing methods among the Latinx community**

**Background:** COVID-19 has rapidly emerged as the most prevalent and deadly respiratory infection within the State of Illinois, with 175,124 total confirmed cases and 7,462 deaths. Challenges due to the pandemic have led to delays in needed COVID-19 diagnosis and care and have likely resulted in increased COVID-19-related complications and deaths, even among children and adults without pre-existing conditions.

**Objective:** The primary objective is to reduce COVID-19 transmission, morbidity, and mortality in a medically underserved Latinx community.

**Methods:** Participants will be recruited through an established partnership at the Mexican Consulate. Participants will receive a COVID-19 testing kit, and data will be collected on site. Participants will complete necessary consent forms and baseline forms with an initial Day 1 report, followed by a 28 day follow up via phone call and email.

**Results:** A total of 2168 participants, 856 of whom were male, and 1907 identified as Hispanic. Vaccination status among Latinx participants: 300 first dose, almost 800 with second dose but a little more than 800 not vaccinated.

**Conclusions:** Covid-19 prevalence rate does not have a strong correlation with vaccination status among Latinx participants in this study. There was a low turnout for follow through on the 28 day Baseline Questionnaire. Participants likely did not follow through, as 98,2 % tested negative for Covis-19 and likely did not see the benefit of reporting back via phone/email. Future research with stronger parameters to ensure follow through, and assessing other areas of personal health behaviors and affected quality of life factors would further capture the impact of COVID-19 among the LatinX community.



**YESENIA M CHÁVEZ:** she/her

- Undergraduate student, 2021 MOLA-MRF Scholar
- Olive Harvey College

**The impact of air pollution on mental health and neurodevelopmental conditions in children: A community-based study in Chicago**

**Background:** The city of Chicago ranks 16th as the most polluted city in the United States. Particulate matter (PM) air pollutants have been classified by particle size, with smaller particles being associated with higher health risk. Ultra-fine particles (UFP) have health impacts, including neuroinflammation. Exposure to fine particles has been associated with long-term neurodegenerative consequences, but studies are scarce among Latine children. Additionally, Latine children are subject to concurrent-disproportionate exposure to multiple environmental pollutants, limited understanding of environmental hazards, disenfranchisement from the political process, pre-existing disease, poor nutrition, substandard housing, and limited access to health care.

**Objective:** To characterize the relationship between exposure to ambient particulate matter air pollution, concentrations of particulate matter, and mental health outcomes in Chicago Latine children.

**Methods:** A retrospective data review. A total of 18 Chicago Public Schools (CPS)—high schools, specifically, were chosen for consideration and analysis. The inclusion criteria consisted of being centrally located within a 5-mile radius of an industrial corridor, being in a Chicago neighborhood identified as highly vulnerable to the effects of air pollution by the City of Chicago Air Quality Index Report (2020), and having a high population of Latine students. Schools were organized into two groups based on their Latine demographic percentage based on CPS reports. Depression and Suicide rates from the 2015-2019 Center for Disease Control, Youth Risk Behavior Survey (YRBS) were observed for mental health outcomes in Chicago Public High School students. Exposure rates of exposure to diesel particulate matter (PM), PM 2.5, and traffic proximity, collected at the census block level, were measured and considered for analysis.

**Results:** There was a +5.6% increase in rates of depression reported for Latine students in Chicago compared to other races/ethnicities of students, Black/African American +5.5%, Asian +0.4%, and a decrease in rates of depression for White students -5.6%. Regarding rates of exposure for PM 2.5, 6 of the 8 Chicago Public High Schools with > 50% Latine student population (Group 1) had exposure rates greater than the 50% percentile. By comparison, only 3 of the 9 schools with < 50% Latine student population (Group 2) had exposure rates greater than the 50% percentile.

**Conclusion:** This study shows increased rates of exposure to environmental pollutants for Latine children in Chicago. Further tailored research is warranted to characterize the relationship between air pollution and mental health outcomes in Chicago Latine children. Examining the impact of air pollution and higher concentrations of particulate matter pollutants on mental health outcomes in Latine children can aid in efforts to reduce emissions and air particle pollution.



**MATTHEW DEL PINO**

- 4th Year Medical student
- University of Illinois College of Medicine

**Acceptability and Satisfaction with Telehealth in an Urban, Underserved Area**

**Background:** The COVID19 pandemic changed the dynamics of healthcare for patients and health care providers. Faced with uncertainty, health care providers across the country adjusted to provide patient-centered care to new and established patients. The need to utilize and improve existing technologies, like telemedicine, became paramount. To minimize disruptions in care, the University of Illinois Hospital and Health Sciences System (UIH) approved the use of telemedicine in new settings, such as urology. Telemedicine is not new to urology and has been shown to be efficacious in rural settings. However, little is known about tele-health use for urological visits in urban, underserved settings with large Latino populations. As our community increasingly emphasizes patient centered medicine, we felt it is of great importance to evaluate how patients experience telemedicine, and if this form of healthcare delivery is beneficial for our patient's.

**Objective:** Evaluate the acceptability and feasibility of tele-health video-visit use at the University of Illinois Hospital and Health Sciences System (UIH) among urology patients.

**Methods:** A four-item questionnaire assessing patient satisfaction and identifying barriers to completing a tele-health video visit was conducted with patients who had tele-health video-visits between April- June 2020. Thematic analysis was completed to inform the formal satisfaction questionnaire, utilizing a Likert scale to quantitatively evaluate the acceptability of tele-health video-visits in the populations we serve.

**Results:** 64 semi-structured interviews were completed with patients who attempted a tele-health visit using video. 25% of participants "failed" tele-health and had to complete their visit via telephone or in-person visit. Themes identified in our analysis included: convenience, timing, doctor traits, doctor interaction, continuity, communication, connectivity, visit completion, problems, timing, personal safety, and physical exam. Themes were utilized to produce a questionnaire targeting values specific to our patient population. Results of this questionnaire are pending completion of a summer project.

**Conclusion:** Telehealth video visits are an innovative form of healthcare delivery that drastically increased due to the COVID19 pandemic. Ensuring this healthcare delivery is appropriate, and efficacious for all patients, especially those of underserved Latino communities is of great importance. We have determined themes important to our patients' experience with tele-health.



**DIANA DE OLIVEIRA, MD:** she/her

- International Medical Graduate
- Foundation for Clinic, Public Health, and Epidemiology Research of Venezuela (FISPEVEN INC), Caracas, Venezuela.

**High Prevalence of Anxiety Symptoms in Venezuelan Adults during the Beginning of the Venezuelan Crisis: Data from a National Representative Sample, the EVESCAM Study**

**Background:** Anxiety and depression are highly influenced by the exposure to chronic stressors. The prevalence of anxiety and depressive symptoms in Venezuela using a national representative sample has not been evaluated, despite a heightened interest in the mental health of Venezuelan adults. Since 2014, this population has been exposed to a severe and long-lasting humanitarian crisis rooted in political and economic turmoil, high violence, severe shortage of food and medicines, hyperinflation, migration, and the collapse of the healthcare system. This environment exposes the population to chronic stressors that increase allostatic load, unhealthy behaviors, psychiatric disease, and cardiometabolic risk. This study aims to determine the prevalence of anxiety and depressive symptoms and factors related in a nationally representative sample of adults and factors that might affect this prevalence during the beginning of the humanitarian crisis of Venezuela (years 2014 to 2017).

**Methods:** The EVESCAM (Estudio Venezolano de Salud Cardio - Metabólica) used a multi-stage stratified sampling method to select a representative sample of the general population of Venezuela. Participants were recruited from randomly selected samples in the eight regions of Venezuela. Initially, 23 cities from the eight regions – one to four cities per region – were chosen. A customized questionnaire was used to collect information on demographics, family and personal history, type 2 diabetes and cardiovascular risk, socioeconomic status (SES), use of health care facilities, tobacco history, and depression and/or anxiety symptoms. Questionnaires, anthropometrics, and other physical measurements were obtained by trained and certified health personnel.

**Results:** 3,241 adults were evaluated with a mean age of  $41.1 \pm 15.7$  years. Anxiety prevalence was 14.7% (women 19.3% and men 9.5%;  $p < 0.001$ ) and depression prevalence was 3.1% (women 4.0% and men 2.2%;  $p < 0.001$ ). Independently of age and gender, anxiety was associated with hypertension and tobacco use, and depressive symptoms was associated with smokeless tobacco use, and sedentary lifestyle. Compared to subjects with university degrees, subjects with secondary or primary education were 30% and 80% more likely to have anxiety symptoms, respectively, and those with primary education were 290% more likely to have depression. Compared to subjects with high/middle socioeconomic status (SES), those with poor and extremely poor SES were 100% and 180% more likely to have anxiety, and 150% and 340% more likely to have depression, respectively.

**Conclusion:** There was a relatively elevated prevalence of anxiety, compared with a low prevalence of depressive symptoms. Further study is required to determine the effects of more chronic exposures to these adverse conditions.



**KARLA PATRICIA ESCOBAR:** she/her, LMSA Chapter President



**MYLES HARDEMAN:** he/him, LMSA Chapter Vice President & Treasurer



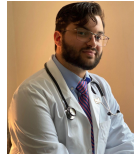
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**MILES BOWMAN:** he/him, LMSA Chapter Mentorship Chair



**EMILE AYMAN TADROS:** he/him, LMSA Chapter Director of Food Pantry Volunteering



**OMAR MAHMOOD:** he/him, LMSA Chapter Spanish Instructor

### **Social Determinants, Health Care Access and Utilization in Detroit, Michigan LatinX Community**

**Background:** The Amigos Médicos Clinic is a Wayne State School of Medicine Latino Medical Student Association (LMSA) project aims to bridge gaps faced by the Detroit Latinx community via free medical screenings and education. In a 2018 survey (University of Michigan's Detroit Metro Area Community Study), 22% of Latinx reported lacking insurance, and 14.2% utilize hospital emergency rooms as their usual place of medical care.

**Objective:** Assess social determinants contributing to health disparities among the LatinX community in Detroit, Michigan; Identify and facilitate utilization of existing local resources that address the lack of social support to combat health disparities among the Detroit LatinX community.

**Method:** An anonymous survey in English or Spanish was completed by patients with the assistance of the clinic staff. The questions covered determinants such as transportation, ethnicity, language, health insurance, health status, and health accessibility. Data was collected from June to September 2021.

**Results:** The Spanish survey (n=16) found that 56.3% did not have health insurance or a PCP. The most common health conditions were hypertension (50%), high cholesterol (69,8%), and type 2 diabetes (37,5%). Seventy-five percent of Spanish respondents were unemployed with 43,8% having difficulty affording food or medication. Fifty-six percent believe that Hispanics receive a lower quality of care, and 25% have felt discriminated against by a healthcare provider. Over 80% have difficulty understanding written materials about their condition. Less than a third (31.3%) of patients said they are very confident filling out medical forms.

**Conclusions:** Our study was able to better elucidate the social determinants of health and access to health for Latinx in Southwest Detroit. We identified barriers arising from disenfranchisement, mostly cost, language difference, and discrimination. Our findings highlight the importance of communication, outreach, and community-based interventions, especially in Spanish.



**JULIA FARFÁN:** she/her



**SYEDA AKILA ALLY:** she/her



**MARÍA GABRIELA VALLE COTO:**  
she/her/ella  
2020 MOLA-MRF Scholar

### **Teaching Medical Students to Work Effectively with Interpreters: A Strategy to Improve Linguistic Minority Health**

**Background:** The use of professional medical interpreters improves healthcare utilization, satisfaction, and outcomes for the U.S. population with limited English proficiency (LEP), but underutilization remains a significant challenge. Lack of clinician training and knowledge about how to access and effectively work with medical interpreters is a recognized barrier resulting in the underutilization of professional medical interpreting.

**Objectives:** The purpose of this study was to implement and evaluate a training module to teach medical students how to work effectively with medical interpreters.

**Methods:** We designed and implemented a 4-hour educational module for all rising third year medical students participating in the Doctoring and Clinical Skills curriculum at an urban medical school. The session aimed to teach learners to describe types, risks, and benefits of medical interpretation, identify hospital policies and practical logistics related to language use and interpreting, analyze common pitfalls in medical interpreting, and apply strategies to work effectively with medical interpreters. Voluntary pre- and post-surveys assessed learners' non-English language skills, previous experience working with LEP patients, and attitudes and confidence regarding medical interpreter use.

**Results:** Of 170 attendees, 124 students (73%) responded to the pre and/or post-survey, and 73 students (43%) completed both surveys. Of pre-survey respondents, 86 (82% of 105) students reported speaking a non-English language, with a total of 26 languages represented. Although 86 (82% of 105) students reported some experience with the care of LEP patients, the majority (64 of 105, or 61%) reported never having received training on working with interpreters. Post-survey results showed a significant increase in learner knowledge about the health impact of professional interpreter use, the common pitfalls of medical interpreting, the logistics of requesting language services, as well as an increase in confidence in working with medical interpreters (all  $p < .01$ ).

**Conclusion:** A training module to teach medical students to work effectively with medical interpreters can be realistically implemented within existing medical school curricula. Such a module can be effective at improving knowledge and confidence with caring for linguistically diverse populations, thereby improving health equity for this growing population.



**NICOLÁS FRANCONÉ:** he/him

- Medical Student, M4, 2021 MOLA-MRF Scholar
- Northwestern University Feinberg School of Medicine

### **Effectiveness of a Medical Spanish Genitourinary Module**

**Background:** There are significant barriers to equitable care for Spanish-speaking patients seeking prevention and treatment of genitourinary concerns. Spanish language concordance between provider and patient has been shown to significantly improve the patient experience, education, and outcomes in multiple areas of genitourinary care, including reproductive health. Many medical students have an interest in improving and applying Spanish language skills to patient care, yet students, faculty, and institutions often struggle with identifying a structured curriculum.

**Objective:** We sought to provide a flexible, organ system-based approach to teaching and learning genitourinary Spanish terminology, patient-centered communication skills, and sociocultural health contexts.

**Method:** Medical students participated in a novel 8-hour educational module created to teach genitourinary medical communication skills in Spanish within the Hispanic/Latinx cultural context. Forty-seven fourth-year medical students at an urban medical school with a starting minimum Spanish proficiency at the intermediate level were enrolled in the course. Throughout the course, faculty provided feedback to each learner on speaking, listening, and writing performance of medical Spanish skills. Medical students completed assessments before and after the course to assess various communication domains such as vocabulary, grammar, and comprehension as well as self-reported confidence levels.

**Results:** After completion of the module, there was a significant increase in performance in vocabulary, grammar, and comprehension of genitourinary topics ( $p < .001$ ). Additionally, students' ability to assess a female and male genital exam, obtain a sexual history, and understand the cultural impact of LGBTQ health and unplanned pregnancies in the Hispanic community increased significantly ( $p < .001$ ). Hispanic ethnicity and Spanish proficiency was not significantly associated with improvement in any outcome measures.

**Conclusions:** The genitourinary medical Spanish module was effective in improving medical Spanish skills among various domains for students regardless of Spanish-proficiency level beyond intermediate proficiency. This suggests that a focused module can be suitable for teaching new knowledge as well as building upon previous Spanish skills. Medical schools can implement this flexible module to teach genitourinary topics and take actionable steps to curb inequities in communication for Spanish-speaking patients seeking care for genitourinary concerns.



**YESENIA GAMERO:** she/her/hers

- Undergraduate student
- University of Wisconsin - Madison

**Attitudes, Beliefs, Behaviors, and Barriers to Hearing Care Among the Hispanic Adult Population: A Qualitative Study**

**Background:** Hearing loss is a prevalent chronic illness in the United States; yet limited research has been done on the Hispanic adult population. Understanding the experiences of hearing care and services among the Hispanic adult population will identify gaps in care.

**Objective:** This study's purpose is to understand the experiences of Hispanic adult patients with hearing loss and their caregivers. Specifically, our aim is to understand Hispanic patients with hearing loss and their caregivers' attitudes, beliefs, behaviors, and barriers to hearing care.

**Method:** A descriptive qualitative study was conducted. Participants were recruited through community organizations, magazines, and word of mouth. The interview questions focused on understanding participants' attitudes, beliefs, behaviors, and barriers to hearing care. Interviews were recorded, transcribed, and analyzed using directed content analysis.

**Results:** Results reported here are preliminary results of a summer project. Twelve participants (age 35-92, 83.3% female) comprising 7 patients, 3 caregivers, and 2 identified as both a patient and caregiver participated in this study. Patients and caregivers believed that hearing loss is a part of aging. Some patients who were diagnosed with hearing loss at a younger age reported not understanding the cause of their hearing loss. While most patients and caregivers shared that hearing loss is unspoken in their community, some patients felt embarrassed about having hearing loss. Some patients have difficulty accepting the severity of their hearing condition and/or reframed their hearing condition. Barriers to hearing care and services included high cost, lack of insurance, low health literacy, language barrier, poor patient-provider interaction experiences, and poor understanding of the healthcare system. Such barriers resulted in poor access to hearing tests and hearing aids.

**Conclusions:** The Hispanic community were significantly impacted by hearing loss and tended to not seek care due to multiple barriers. The findings suggest the need to improve access to low cost hearing services and increase education on hearing loss in the Hispanic community. Culturally tailored hearing interventions are urgently needed to promote hearing health in the Hispanic adult community.



**RAFAEL GINER:** he/his

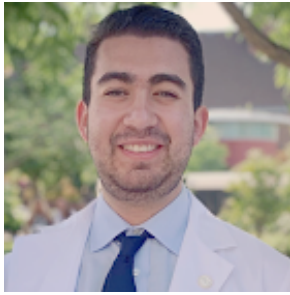
- Medical student
- Universidad Central de Venezuela, Escuela de medicina Luis Razetti
- Co-author: **Isabella Suárez**

### **Malaria and COVID-19 in an Indigenous patients, overlapping two febrile illnesses**

**Background:** Coronavirus disease 2019 (COVID-19) is an illness caused by a novel coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which is primarily transmitted by respiratory droplets and airborne particles. Malaria is a parasitic infection caused by the parasite genus Plasmodium transmitted by Anopheles mosquitoes. Both entities are capable of producing acute life-threatening diseases and are currently notable global health threats. COVID-19 infection has several epidemiological and clinical similarities with malaria. They share symptoms such as: fever, myalgias, fatigue, headaches and gastrointestinal symptoms. According to studies, both can induce a cytokine storm that can induce a procoagulant state. The unprecedented global COVID-19 pandemic has rapidly spread to all continents, turning into a major setback in elimination campaigns against existing infectious and non-infectious diseases, including malaria.

**Case description:** We present a clinical case of a 69-year-old male indigenous patient who lives in Amazonas, Venezuela who presented with fever, cough, loss of taste and smell, diarrhea and an oxygen saturation of 93%, for which he was hospitalized. A SARS-CoV-2 PCR test was positive and treatment with Dexamethasone and Remdesivir was started. Days later, his general conditions worsened, presenting fever preceded by chills and followed by profuse sweating with myalgia. A blood smear and ELISA were performed, resulting positive for Plasmodium falciparum and treatment was started with Chloroquine, Artesunate and Artemether, presenting clinical improvement.

**Conclusions:** In patients living or coming from endemic areas, such as Venezuela and other Latin American regions, Malaria should be considered as a differential diagnosis in patients with acute febrile illness, even in the presence of a positive SARS-CoV-2 PCR test. This is one of the first cases of malaria and COVID-19 coinfection in a patient from Latin-America.



**SERGIO GONZÁLEZ:** he/him

- Medical student, 2021 MOLA-MRF Scholar
- University of Illinois College of Medicine

### **Patient Advisory Boards: A Model for Advancing Patient-Centered Care at Student-Run Free Clinics**

**Background:** Patient advisory boards are a standard practice in Federally Qualified Health Centers. However, there is limited data on patient advisory board models for free clinics. A patient advisory board has the potential to reduce structural barriers that may have historically disenfranchised the feedback of Spanish-speaking Latinx patients with low socio-economic status—who are statistically least likely to be engaged in patient feedback.

**Objective:** The purpose of this study is to design and implement a patient advisory board model based on publicly available data on structure and functioning, and to implement and evaluate a model at a large community free clinic in Chicago.

**Methods:** We will conduct a literature review on patient advisory board models, design a model to be implemented in a large community free clinic in Chicago, and evaluate the model's effectiveness. We will evaluate effectiveness by means of a survey of patient advisory board members following each board meeting for the next 4 quarters. After survey analysis, we will implement quality improvements to the model via the tool Plan-Do-Study-Act cycle. Results: Our findings will include the development of the model and synthesis of model revisions based on stakeholder feedback.

**Conclusions:** This study is expected to impact the 15 student-run free clinics dispersed throughout the city of Chicago, which could potentially benefit from a patient advisory board model. On a national level, student-run free clinics would have the opportunity to implement a similar model for their clinics. If effective, this project aims to facilitate a patient-centered medical home for Latinx patients who frequently fall through the cracks of the United States healthcare system.



**CHRISTIAN GONZÁLEZ**

- Medical student
- University of Chicago Pritzker School of Medicine

**Medical Spanish Endocrinology Educational Module**

**Background:** Hispanic/Latinx individuals experience inequities regarding endocrine health and healthcare access, including higher rates of mortality due to diabetes mellitus than Whites. Studies have also shown a trend toward decreased prevalence of insulin use among Spanish-speaking patients compared with English-speaking patients (30% vs 42%, respectively;  $P = .07$ ).

**Objective:** To evaluate effectiveness of a medical Spanish endocrinology educational module in improving medical student confidence and skills regarding endocrine health communication with Spanish-speaking patients.

**Methods:** A standalone medical Spanish endocrine module was structured as an 8-hour curriculum targeting language and cultural skills acquisition. Forty-seven fourth-year medical students with intermediate or higher general Spanish skills participated in the module, which was implemented 4 times at one medical school.

**Results:** The confidence level of students increased for all learners in the endocrine focused interview and exam in Spanish. Students improved on obtaining a past medical history, obtaining a medications history, providing and explaining a diagnosis, explaining discharge instructions, and understanding sociocultural issues regarding endocrine health.

**Conclusions:** The medical Spanish endocrine module is effective at improving the skills of students with a starting intermediate through advanced Spanish proficiency. Educational strategies to address endocrine medical Spanish education have the potential to improve health and reduce health disparities related to the endocrine organ system.



**SUSANA GUTIÉRREZ:** she/her

- Doctor of Physical Therapy student, 2021 MOLA-MRF Scholar
- Northwestern University

### **Fall-prevention interventions for older Latino adults and their cultural characteristics**

**Background:** In the United States, 94.7 million people are over the age of 65 and 25% of them fall every year. Death rates for older adults who experience falls are expected to increase to 7 deaths per hour by 2023. Falls in older adults may occur due to various risk factors such as muscle weakness, balance issues, cognitive deficits, impaired gait patterns, or a combination of these factors. To decrease the rate of falls in older adults, previous research has focused on balance interventions designed towards one or more of the previous risk factors. Older Latinx adults have unique risk factors that must be addressed, including language barriers, cultural beliefs and practices, social circumstances, multigenerational households, and immigration status, among others. There is a need for culturally tailored interventions that target the older Latinx community.

**Objective:** The aims of this study is to conduct a scoping review and summarize published work on fall-prevention rehabilitation interventions targeting the older Latinx community, highlight their effectiveness of fall prevention interventions, and identify gaps in the literature where further study is needed.

**Methods:** Literature search on Medline as a database via PubMed as the search engine, without limiting publication dates. The search strategy utilized a combination of keywords and controlled vocabulary (MeSH) for PICO components, yielding the broadest possible search. Inclusion criteria consisted of peer-reviewed journal articles that included fall-prevention interventions designed specifically for the target population. Exclusion criteria consisted of studies that included children or adults >60 years, studies on other populations besides Latinx, and interventions which were not aiming for fall prevention.

**Results:** Fewer than 15 studies have identified unique risk factors for falls in the older Latino population; however, of the 116 studies identified by the PubMed search, only 10 fall-prevention interventions have been designed to address these statistics. A preliminary finding of this scoping review is that linguistic inclusivity and weekly education sessions have a positive effect on fall-prevention for older Latinx adults. Significant incidence of older Latino falls, and limited findings of this scoping review showed the gap in the research literature on this vulnerable population.

**Conclusion:** Linguistic inclusion has a positive impact on fall-prevention interventions and weekly fall-prevention education significantly reduced fall behaviors for Latinx older adults. This scoping review is in progress and the outcomes of this study will be used to inform actionable strategies to reduce the incidence of falls in the older Latino community.



**IRIDIAN ALEXANDRA GUZMÁN, MPH:** she/her/ella

- Public health specialist
- Department of Epidemiology, Rollins School of Public Health, Emory University

**Association between Pre-Pregnancy Diabetes Mellitus and Preconception Folic Acid Supplement Use by Hispanic Ethnicity: Findings from Georgia, New York City and Puerto Rico PRAMS 2016-2018**

**Background:** In the US women of reproductive age are recommended to consume 400 mcg of folic acid daily to prevent neural tube defects (NTDs). Both Hispanic ethnicity and pre-pregnancy diabetes are associated with increased risk of NTDs. Preconception folic acid supplement use has been shown to attenuate the risk of NTDs among women with pre-pregnancy diabetes.

**Objective:** The purpose of this study was to assess the association between preconception folic acid use and pre-pregnancy diabetes particularly among Hispanic women in the US.

**Methods:** Using data from three-state-based Pregnancy Risk Assessment Monitoring System (PRAMS) 2016-2018, we examined the association between preconception folic acid supplement use and pre-pregnancy diabetes mellitus stratified by Hispanic ethnicity. We used multivariable logistic regression to estimate the adjusted odds ratio (aORs) and 95% confidence intervals. All analyses accounted for PRAMS complex survey design.

**Results:** Our study found that 44% of non-Hispanic women with pre-pregnancy diabetes and 29% of Hispanic women with pre-pregnancy diabetes reported recommended intake of folic acid supplements (4-7 times/week) before pregnancy. There was no significant association between pre-pregnancy diabetes and preconception folic acid supplement use overall. The prevalence odds of not taking preconception folic acid supplements were lower for women with pre-pregnancy diabetes compared to women without pre-pregnancy diabetes (aOR=0.39; 95% CI, 0.05, 3.25) among Hispanics who received preconception folic acid advice from a health provider and among those who did not receive preconception folic acid advice the odds were higher (aOR=1.50; 95% CI, 0.27, 8.52). In our site-specific analysis, we noted that Hispanic women in Puerto Rico had a higher prevalence odds of not taking preconception folic acid supplements when they had pre-pregnancy diabetes compared to when they did not (aOR=7.60; 95% CI, 1.73, 33.46).

**Conclusion:** Overall, there was no association between pre-pregnancy diabetes and preconception folic acid supplement use. However, some differences were noted by advice from a health provider and site. Mandatory fortification of corn masa products should be implemented and culturally tailored education on preconception folic acid supplement use from providers or community health workers needs to expand to reach Hispanic women in the US and Puerto Rico.



**STEVEN HOFFMAN**

· 3rd Year Medical Student  
· Institutional Affiliation: Northwestern University Feinberg School of Medicine

**Income is Not a Predictor of Functional Disability or 30-day Mortality in Hospitalized COVID-19 Patients at a Chicago Area Hospital Network**

**Background:** The aggregate of national patient data has shown that Hispanic persons demonstrate higher rates of reported cases, hospitalizations, and deaths due to COVID-19 compared to white, non-Hispanic persons. In Chicago, Hispanics were the most represented ethnic group in terms of COVID-19 cases as of the beginning of April 2021.

**Objectives:** To evaluate associations between income, race, Hispanic ethnicity, and functional disability or 30-day mortality due to COVID-19, and whether any such associations are attributable to patient-level factors, such as delays in accessing care, or hospital-level factors, such as being treated at an academic medical center (AMC).

**Methods:** Retrospective analysis of the first 509 Covid-19 patients admitted to a Chicago area hospital network. Functional outcome at discharge was calculated using the modified Rankin Scale (mRS). Associations between income and a variety of variables, including outcomes, were determined. Logistic regression examined associations between income (treated continuously), 30-day mortality, and ambulatory state at discharge, adjusted for age, sex, severe Covid-19 disease, and hospitalization at the AMC.

**Results:** Race was significantly associated with household income (Odds ratio for income >50% of Chicago median income for white race versus all other races 59.5; 95% CI 8.1, 435;  $p<0.0001$ ). Ethnicity had an association with income ( $p=0.001$ ), with a higher percentage of Hispanic patients in the lower income group. Patients with lower incomes had greater comorbidity burden, with more frequent past medical history of neurological conditions ( $p=0.020$ ), hypertension ( $p=0.029$ ), cerebrovascular disease ( $p=0.015$ ), and interstitial lung disease ( $p<0.001$ ). Median household income was significantly lower in patients treated at the AMC ( $p<0.001$ ) but did not significantly predict functional outcomes at discharge as measured by the mRS or a difference in odds of 30-day mortality. Functional outcomes were more frequently favorable ( $p=0.009$ ), and 30-day mortality was lower ( $p=0.003$ ) at the AMC.

**Conclusion:** Income was not associated with measures of morbidity and mortality from COVID-19. This is an encouraging finding, particularly given that nonwhite and Hispanic patients had lower incomes and more comorbidities. Replicating care received at AMCs may mitigate the detrimental effect of socioeconomic disparities on COVID-19 that are seen at the community level.



**ALICIA MARIE LOZADA HAYDON**

- Research Assistant, Undergraduate student
- Department of Radiation and Cellular Oncology, The University of Chicago

**Readability of a Radiotherapy Graphic Narrative Patient Education Guide Series in English and Spanish**

**Background:** Communicating the External Beam Radiotherapy Experience (CEBRE) and Communicating the Gynecologic Brachytherapy Experience (CoGBE) are novel graphic narrative patient education guides developed to facilitate doctor-patient communication for patients undergoing radiotherapy care for cancer. Given the need for improved radiotherapy education resources for Spanish-speaking patients in the United States, we sought to develop versions of CEBRE and CoGBE in Spanish.

**Objectives:** Outline how patient education tools can be translated and adapted into Spanish while meeting national readability standards.

**Methods:** Seven guides were translated into Spanish by a certified medical translator and then reviewed by a second translator. The translations were then revised by a multilingual team of designers and clinicians for cultural and linguistic adaptation of translation to the target population and to integrate the text into the guides. To assess readability, the core text from each guide was extracted and analyzed using previously validated indices that provide grade level equivalents. Readability analysis in English was conducted using Degrees of Reading Power (DRP), Flesch-Kincaid (FK), Ford-Caylor-Stitch index (FORCAST), Fry score, Gunning Fog (GF), Läsbarhetsindex (Lix), Rate Index (Rix), Raygor estimate, Simple Measure of Gobbledygook (SMOG). Analysis in Spanish was conducted using Gilliam-Peña-Mountain (GPM), Lix, Rix, and Spanish Simple Measure of Gobbledygook (SOL).

**Results:** Preliminary analysis of the CEBRE generic (non-site-specific) guide had a mean readability of 6.8 (DRP, FK, FORCAST, Fry, GF, Lix, Rix, Raygor, SMOG; 6.3, 5.7, failed, 7.8, 6, 6, failed, 8.8) in English. The Fry and Raygor tests failed due to excessive high syllable and 6+ letter words, respectively. The analysis of the Spanish translations demonstrated a mean readability of 6.8 (GPM, Lix, Rix, SOL; 5, 8, 7, 7.2).

**Conclusion:** Mean readability was the same for English and Spanish versions. Importantly, the Spanish adaptations met the National Institutes of Health's 8th grade standard. Through iterative revisions, readability can be improved to meet the American Medical Association's 6th grade recommendation. Professional translation and cultural adaptation of existing patient education tools can maintain readability levels while helping improve health literacy for an increasingly linguistically and culturally diverse United States population.



**MELANIE IZQUIERDO:** she/her

- Medical student, M1
- University of Illinois College of Medicine in Chicago

### **The Role of Laminin Alpha-4 and Mitochondrial Biogenesis**

**Background:** Approximately two billion patients across the world have been clinically diagnosed with obesity. Obesity, characterized by excess adipocytes in the body, has been linked to greater predisposition towards developing type II diabetes, chronic hypertension, worsening quality of life, and mortality. Moreover, obesity significantly impacts the Latinx patient population in the US, affecting nearly 48% of adults in this demographic.

**Objectives:** Recently, we have developed a new technique to produce “brite” or “brown in white” adipocytes by promoting white adipose tissue to perform thermogenesis in order to expel excess fatty acids and calories as heat instead of fat storage. This is done by directly targeting the basement membrane of white adipose during adipocyte development to induce this change. Upon deletion of extracellular glycoprotein laminin  $\alpha$ -4, located in the basement membrane, we observed an upregulation in UCP-1, a thermogenesis protein located in the mitochondrion, resulting in higher metabolic function, insulin sensitivity, and a higher ability to resist weight gain compared to wild type (WT) mice. The mitochondrion’s ability to promote thermogenesis in brite adipose tissue was further investigated to determine if the effect was due to an increase in mitochondrial fold or due to increase in membrane potential in comparison to. This study investigates the differences previously reported in laminin  $\alpha$ -4 knockout and wild type mice by specifically focusing on the mitochondrion as the source of difference.

**Methods:** QRT-PCR was initially used to verify the existence of mitochondrial expression differences between brown adipose tissue (BAT) and subcutaneous (SQ) adipose tissue in laminin  $\alpha$ -4 KO and WT mice fat depots. Subsequently, mitochondrial quantity and membrane potential were recorded by using fluorescent microscopy and plate reader analysis.

**Results:** The preliminary data indicated increased expression of selected markers for mitochondrial genes ND2 and MTCO2 in laminin  $\alpha$ -4 KO compared to WT, in BAT. KO SQ adipose tissue reported higher mitochondrial activity, measured via MitoTracker Fluorescence, in the plate reader experiment when compared to WT, supporting the hypothesis in question; however, once microscopy images were quantified, WT SQ tissue reported higher mitochondrial quantity and membrane potential changes in numerical fold as compared to the KO values.

**Conclusion:** The data collected is essential toward understanding the role of laminin  $\alpha$ -4 in mitochondrial biogenesis and obesity. Future work will involve further identification of biological targets for developing new therapeutics for patients diagnosed with obesity, especially for Hispanic populations.



**ZACH JAEGER:** he/him

- Medical student
- Washington University School of Medicine

### **Interactive Clinical Cases for Medical Spanish Learners**

**Background:** As the Spanish-speaking population in the United States continues to grow, it is ever more important for physicians to deliver competent care to these populations. Medical Spanish (MedSpan) programs teach various linguistic and cultural competency objectives, but there are limited resources to practice clinical skills in Spanish in a controlled, simulated setting. To address this need, we designed an interactive clinical case study series for MedSpan learners at our institution.

**Objectives:** By the end of this activity, learners will feel more confident in their abilities to:

1. Apply history-taking strategies to elicit patient concerns in Spanish through a virtual format;
2. Summarize and synthesize pertinent information from the history and physical exam to construct an accurate differential diagnosis in Spanish;
3. Evaluate differential diagnoses and justify the reasoning in Spanish;
4. Propose a diagnostic and therapeutic plan in Spanish; and
5. Engage in patient-centered explanations of complex Nephrology, Pulmonary, and/or Gastroenterology concepts in Spanish.

**Methods:** Faculty facilitators prepared complete mock patient cases, while students embodied the role of physician and asked questions of the facilitator to develop the case from chief complaint to diagnosis and plan. Pre- and post-surveys measured levels of learners' confidence in ability for each objective on a five-point Likert scale from 0 (no confidence) to 4 (complete confidence). This educational intervention addressed level 2 of the Kirkpatrick pyramid (learning), as we assessed knowledge, skills, and attitudes formed through our intervention.

**Results:** As all data were normally distributed based on visual inspection, we used the two-tailed, paired-samples t-test to find mean differences between pre- and post-intervention responses. Students demonstrated statistically significant improvements in their confidence in achieving objectives 2-5, with a non-significant improvement for objective 1.

**Conclusions:** In this educational intervention, our interactive clinical case studies improved the confidence of medical Spanish learners in their history-taking and clinical reasoning skills. Students provided constructive feedback and suggestions for improvement. We aim to disseminate this teaching model to improve medical Spanish curricula at other institutions, with the overarching goal of improving patient outcomes through increased physician-patient language concordance.



**ROCÍO IGLESIAS, MD:** she/her

· Junior Researcher

· Foundation for Clinical, Public Health, and Epidemiological Research of Venezuela (FISPEVEN)

**A Case of a Submandibular Abscess Caused by Coinfection of Tuberculosis and Histoplasmosis in A Patient with Systemic Lupus Erythematosus: First Case Described**

**Background:** Histoplasmosis and Tuberculosis (TB) are opportunistic granulomatous infections with a similar pathogenesis. Both infections are prevalent in Latin America, overall, 282,000 new or relapsed cases are reported from this region and more than a third of Latin Americans have been exposed to *Histoplasma capsulatum*. The incidence and prevalence of tuberculosis are far more common among third-world populations and immigrants to the United States than among US-born citizens. These pathologies can present as a disseminated infection in immunosuppressed patients, however, the coexistence of both is not frequent, being described mainly in HIV patients. Only 1% of all TB cases have skin manifestations.

**Case description:** We present a clinical case of a 31-year-old female patient, in Venezuela, diagnosed with Systemic Lupus Erythematosus (SLE) and Antiphospholipid Syndrome under treatment with Prednisone and Hydroxychloroquine, who presented to the hospital with a mass in the right submaxillary region, of fluctuating consistency and signs of associated inflammation. A sample was taken for biopsy, reporting positivity in the PAS reaction and Grocott impregnation, showing intra and extracellular yeast-like structures morphologically compatible with *Histoplasma capsulatum*, and acid-fast bacilli were observed with the Ziehl Neelsen stain. Cultures were taken and the diagnosis of tuberculosis and histoplasmosis coinfection was made. The PPD test resulted positive, and a chest X-ray was performed, where hilar lymphadenopathy was evidenced. Treatment of TB and Histoplasmosis was started and clinical improvement was evidenced without remission of symptoms in the following months.

**Conclusions:** The presentation of TB in patients with SLE has been widely described, but cases of disseminated histoplasmosis have been rarely reported. After an exhaustive review of the literature, we are not aware of any other reported cases of patients with SLE and coinfection of TB and histoplasmosis in a skin lesion.



**SONIA LÓPEZ**

- Undergraduate student
- University of Illinois at Chicago

**Initiatives Aimed at Bridging the Medical School Gap for Latino Students**

**Background:** The Latino population has emerged as the largest minority group in the United States. As the Latino population has grown in size, so has the number of Latinos enrolled in higher education. Not only are Latinos pursuing college degrees at higher rates, but they are also increasingly seeking to gain admission into medical schools. In fact, between 1996 and 2015, the number of Latinos seeking admission into medical school increased from about 3000 to 5000; however, the number of those accepted has continued to hover around 35% (AAMC, 2016). In addition, to make matters grim, only 5% of those earning medical degrees are Latinos.

**Objective:** This study sought to examine higher education initiatives aimed at increasing the number of Latinos going into medical fields.

**Methods:** A case study of 3 UIC medical school pipeline initiatives (LaHSEP, Medicina Scholars & Las GANAS), in-depth virtual interviews were conducted with the program coordinators and two student participants from each program.

**Results:** From the perspective of the program coordinators, these programs are successful in recruiting, retaining, and graduating Latino students because they recognize the unique needs of the students and work to address them (i.e. academic support, research skills development, networking, career exploration, and financial support). From the perspective of the students, these programs not only provided the academic foundation needed to succeed academically, but they also exposed students to campus and professional sources of support to help them on their journey.

**Conclusion:** Though these initiatives are extremely important in boosting Latino medical school enrollment, not all universities have similar pre-med pipeline initiatives for their students. In addition to increasing these medical school pipeline programs and even expanding them to capture high school students, there is also a great need for research on the benefits of these types of initiatives.



**JOHN PAUL MACAYAN:** he/his

- College graduate
- University of Chicago Department of Radiation and Cellular Oncology

### **Availability and Readability of Non-English Patient Education Resources for Radiotherapy in the United States**

**Background:** Accessible, patient-centered educational resources improve health literacy and patient outcomes. Readability standards and language translation improve access for patients. However, many United States (US) professional societies fail to meet these standards.

**Objective:** This study assesses the availability and readability of radiotherapy patient education resources from three major US professional societies.

**Methods:** Non-English patient education resources were collected from the American Society for Radiation Oncology (ASTRO), American Cancer Society (ACS), and the American College of Radiology and Radiological Society of North America (ACR/RSNA). Number of English resources was tabulated. Text from each non-English resource was extracted and analyzed using 4 validated Spanish readability indices to provide grade level equivalents: Gilliam-Peña-Mountain (GPM), Läsbarhetsindex (Lix), Rate Index (Rix), and Spanish Simple Measure of Gobbledygook (SOL). One-sided t-tests were used for comparisons to national standards; Fisher's exact test, for differences in proportions.

**Results:** Of 51 available English resources, 35 (69%) had a Spanish counterpart. ACR/RSNA were more likely than ACS and ASTRO to provide a translation (100% vs 75% vs 24%, respectively;  $P < 0.01$ ). No resources available in other languages. Mean readability levels for all Spanish resources ranged from 10.0 to 12.0 grade levels, depending on the index: ACS (GPM, Lix, Rix, SOL) 9.0, 11.0, 11.2, 10.5; ASTRO 10.0, 11.0, 10.3, 9.6; and ACR/RSNA 10.0, 12.0, 11.8, 11.2. Using the most permissive scores for each resource, ACS had the only resources at or below the 8th grade level (50%,  $p < 0.01$ ). The most permissive mean scores of all organizations significantly exceeded 6th grade levels ( $p < 0.01$ ) and only ACS did not exceed an 8th grade level ( $p = 0.05$ ).

**Conclusions & Impact:** Limited non-English resources are currently available for US patients undergoing radiotherapy. Spanish was the only language with available resources, and those did not meet readability standards from the American Medical Association (6th grade) and National Institutes of Health (8th grade). Findings demonstrate a paucity of non-English language resources, and the need to improve readability levels in Spanish radiotherapy patient education resources.



**ALI MANUEL MALIK:** he/him/his

- Medical student
- University of Florida College of Medicine

### **An Analysis of the Factors Contributing to the Pervasive Lack of Latino and Black Male Dermatologists**

**Background:** Dermatology is one of the least diverse fields in medicine. According to 2019 Census data, Latino/a/x Americans compose 4% of dermatologists, compared to 16% of the general population. Additionally, 13% of Americans are Black, while 3% of dermatologists are Black. The majority of dermatology trainees today are women. Following bolstered recruitment efforts, the number of female underrepresented in medicine (URM) dermatology residents has risen, but the number of male URM dermatology residents has largely remained stagnant.

**Objective:** This study sought to understand the perceptions of URM male medical students regarding the field of dermatology to elucidate strategies for focused recruitment.

**Methods:** A literature review was conducted via PubMed/Medline to identify articles that described barriers impacting URM students in their pursuit of careers in dermatology. A 20-item IRB-approved Qualtrics survey was subsequently created and sent to 112 participating medical schools in the United States. Inclusion criteria specified URM male medical students at MD or DO medical schools in the United States.

**Results:** Survey data revealed that the majority of respondents identified the perceived competitiveness of the specialty as the most significant deterrent to pursuing dermatology, with 73% of respondents citing high USMLE Step 1 and 2 scores and third year clerkship grades as the most significant roadblock toward applying. Interestingly, others cited a lack of URM male role models in dermatology as another deterrent, while others questioned the “community impact” one can have as a dermatologist. Most respondents identified the lack of URM-focused mentorship in dermatology as an additional deterrent. Of the respondents pursuing dermatology, mentorship and support from faculty mentors played the most significant role in their career aspirations, followed by their personal perceptions of their chances of matching into dermatology.

**Conclusions:** This study is the first of its kind to specifically assess the perceptions of URM male medical students regarding dermatology, a field that regularly recruits the smallest proportion of URM male medical students when compared to all other medical specialties. The results of this study shed light on potential strategies for improved recruitment of URM students, particularly the increased need for faculty mentorship for URM male students.



**ALI MANUEL MALIK:** he/him/his

- Medical student
- University of Florida College of Medicine

**Building a long-term safety net: developing a clinical decision support tool to improve care of migrant farmworkers in Florida during the COVID-19 pandemic**

**Background:** Spanish-speaking farmworkers, particularly those in Florida, are one of the most consistently marginalized patient populations in the United States and were disproportionately affected by the COVID-19 pandemic. During the pandemic, medical student leaders of student-run free clinics across Florida noticed gaps in farmworker care, particularly as COVID-19 infections spiked on Florida farms. Student volunteers often struggled to provide well-rounded care to farmworkers, citing a lack of context or tools with which to provide focused care to vulnerable farmworker patients.

**Objectives:** Using direct survey data collected from Florida farmworkers that details their most pertinent clinical needs, we aim to create a novel and comprehensive clinical decision support (CDS) peer-to-peer tool to guide medical, pharmacy, and physician assistant students involved in farmworker care in Florida student-run free clinics to improve their overall care of farmworker patients.

**Methods:** We chiefly aimed to determine the unique clinical needs of Florida farmworkers in the context of the COVID-19 pandemic via in-person survey data obtained from >300 farmworkers based in Alachua County, Florida. Using this information, we aim to develop a first-of-its-kind, translatable clinical decision support (CDS) tool to guide medical, pharmacy, and physician assistant students to provide high-quality care for farmworkers in student-run free clinics in Florida and beyond. This peer-to-peer, interprofessional, cross-cultural guide will provide condition-specific suggestions for care and “next best steps,” as well as contextually relevant reference information, such as the health effects associated with specific farmworker tasks and activities. For example, hand-weeding is often associated with respiratory illnesses and skin infections, while detasseling corn most often causes musculoskeletal problems.

**Results:** The results of this project, including the CDS tool, have the potential to enhance care of farmworkers in student-run free clinics in Florida and beyond for years to come. Limited clinical exposure to farmworker patients in traditional medical school curricula has resulted in a gap in the care these patients receive. This project serves to help bridge this gap. Fostering the health and well-being of migrant and seasonal farmworkers is critical to advancing equity and social justice in the Latinx community.

**Conclusions:** The results of this project, particularly the CDS tool, carries the potential to dramatically enhance the care of farmworkers in Florida and beyond. Moreover, there is limited clinical exposure to farmworker patients in traditional medical school curriculums, resulting in a distinct gap in the care these patients receive; this project serves to bridge that gap. Importantly, fostering the health and well-being of migrant and seasonal farmworkers is critical to advancing equity and social justice.



**ALI MANUEL MALIK:** he/him/his

- Medical student
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**A Cross-sectional Analysis of Educational Barriers Impacting Queer Latino and Black Medical Students in the United States**

**Background:** Preexisting educational barriers that Latino/a/x and Black medical students face are uniquely compounded by barriers related to queer identity. Importantly, many prior studies exploring educational barriers that impact URM (underrepresented in medicine) students have not analyzed the nuanced barriers faced by students who exist at the intersection of URM identity and queer identity.

**Objectives:** Identify the barriers that queer URM medical students face in medical school.

**Methods:** A literature review was conducted via PubMed to identify articles delineating individual educational barriers faced by both URM medical students and queer medical students. After barriers were identified, a 30-item IRB-approved Qualtrics survey was created. All medical students at United States medical schools qualified to complete the survey, but students who self-identified as both URM and queer were particularly encouraged to complete the survey. Queer identity was defined as “any identity captured by the acronym LGBTQ+ and its derivations.” The survey was distributed to students via social media and email.

**Results:** 146 students completed the survey. 144 of these students met inclusion criteria for the survey. 62 respondents self-identified as queer, whereas 84 identified as non-queer. Of the respondents who identified as queer, 90.5% of respondents identified as cisgender and 9.5% of respondents identified as nonbinary or transgender. A statistically significant majority ( $P$  value = 0.02) of URM students who identified as queer struggled with imposter syndrome (85.7%), feeling a lack of belonging (52%), and identifying mentors (76%) at rates higher than their non-queer URM peers. Nearly all URM students indicated struggling with broader issues of identity, but feelings of self-doubt were more common in queer URM students, particularly those who attended institutions lacking queer/LGBTQ+ health organizations. Queer URM students also described struggling with loneliness more often than their non-queer URM peers.

**Conclusions:** Study findings suggest that queer Latino/a/x and Black students struggle with identifying mentors, feeling a sense of community, imposter syndrome, and issues of self-doubt at increased rates than their non-queer peers. The results of this cross-sectional study will be useful to medical school leadership invested in providing focused mentorship, counseling and support to URM medical students.



**DIANA MARINO-NÚÑEZ:** she/her/hers

- Medical Student
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**Spanish Language Access to COVID-19 Vaccination Information and Registration in the 10 Most Populous Cities in the U.S**

**Background:** Covid-19 has disproportionately impacted the U.S. Hispanics, facing a 2.3 times greater risk of death from Covid-19 compared to non-Hispanic whites. Increasing Covid-19 vaccination amongst Hispanics is critical to their wellbeing.

**Objective:** We aim to understand how accessible information and scheduling services for covid-19 vaccines are in Spanish.

**Methods:** Ten most populous cities in the U.S. and percent of their Hispanic populations were identified using the U.S Census data, and CDC data for vaccination rates. We counted clicks to access information in English, and then in Spanish, on receiving the Covid-19 vaccine by querying “(state) department of health” using Google. We counted the clicks to access information about registering for a Covid-19 vaccine in Spanish. We assessed “Big-box” retailers distributing vaccines and their respective websites to record whether vaccine information and appointments were available in Spanish. Medians and interquartile ranges were calculated for clicks to vaccine information using STATA and a sign-ranked Wilcoxon test to assess differences in English and Spanish availability.

**Results:** Upon accessing the DPH sites, the median number of clicks to reach Covid-19 vaccine information was 2 (IQR 0.75) for English and 3.5 (IQR 1) for Spanish ( $p=0.004$ ). Median clicks to Covid-19 vaccine locator sites from DPH websites in English were 4 (IQR 2) and 5 (IQR 1.23) for Spanish ( $p=0.01$ ). Median clicks to Covid-19 vaccine registration in English were 4 (IQR 2) and 5 (IQR 3) for Spanish ( $p=0.03$ ).

**Conclusion:** Despite over 70% of U.S. Hispanics being interested in Covid-19 vaccination, we found Hispanic Covid-19 vaccination rates ranged from 14.7% to 64.2%. Retrieving information on Covid-19 vaccines and registration in Spanish required more clicks compared to English and half of big-box retailers listed on vaccine locators failed to provide appointment information in Spanish. The importance of consistent navigability of online resources in Spanish is critical to encourage individuals to receive the Covid-19 vaccine.



**MAYRA ALEJANDRA SHAFIQUE, MS:** she/her

- Medical student
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### **Educational Initiative to Train Medical Students How to Use Tele-health to Reach Out to Latinx Communities in Need**

**Background:** During COVID-19 pandemic educational programs and practices pivoted into virtual platforms. Simultaneously, communities were affected by lack of linguistically and culturally relevant information. Responding to this need, a tele-health check-in program was created. Participating medical students had a chance to practice their medical Spanish, interact with the Latinx population and learn about issues that impacted their health.

**Objectives:** (1) Create an educational opportunity for medical students to expand linguistic and cultural proficiency. (2) Focused training in Spanish to screen for food insecurity and other disparities in Latinx populations via tele-health check-ins.

**Methods:** A script was developed in Spanish to screen for health and social disparities present during COVID-19. Topics included food insecurity, lack of access to proper PPE, a dearth of technology resources for virtual schooling, difficulty maintaining healthcare appointments, and coping with mental health and social isolation during the stay-at-home orders. This was illustrated by roleplay sessions to prepare students for the interviews. Students were educated on specific disparities and how to acquire resources tailored to meet patients' needs. Students also developed "Resources Packets" to provide to patients with community resources in their area.

**Results:** Eleven students volunteered to complete tele-health check-ins with families participating in programs at a community agency. The team was able to successfully complete a tele-health check-in with 32 Spanish-speaking families out of a list of 52. Two out of 11 students completed a practice session, three students practiced with family members, and five felt comfortable enough to connect with families independently.

**Conclusion:** This project shines light on the need for more Spanish-language focused medical education. In a class of 290, only 11 students felt comfortable enough to speak to patients in Spanish via tele-health check-ins. During the check-ins, students were able to experience discussing sensitive topics in a tele-health setting. This initiative can be adopted by other medical schools as a way to work with their Spanish-speaking students and train them how to speak with Latinx populations about inequities that affect them. There is a need for more physicians who use Spanish to not only communicate but also feel comfortable discussing sensitive topics.



**ALEJANDRO TORRES**

- Medical Student, M3
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**Secondary Trauma Prevention: A Qualitative Analysis of Hospital-based Violence Intervention Programs**

**Background:** Hospital-based Violence Intervention Programs (HVIPs) serve a growing role in preventing violent trauma by extending support that treats not only violent injuries, but socioeconomic risks as well. Violence is often perceived as solely a societal issue with no ties or parallels to health. When explored in more depth, however, one can see how violence emulates the concept of a contagion as evidenced by its designation as the 5th leading cause of death in the United States.

**Objective:** This paper reviewed the literature on HVIP impact to date and explored the characteristics of 29 HVIPs to compare program functionality.

**Methods:** Variables such as mechanism of injury, qualifying age, services offered, time length of services, and community involvement were reviewed and summarized to determine if a common framework could be identified and implemented to improve existing programs and aid in developing future ones.

**Results:** The resulting comparison showed a time frame of 6-12 months as the most common period for program service usage. Concerning mechanism of injury, 100% of programs included individuals injured by gunshot wounds and 82.7% of programs extended their screening to stab wounds and other violent blunt injuries. Employment and mental health were the two services represented most among several other forms of assistance, offered by 82.7% and 79.3% of programs, respectively.

**Conclusions:** Investigating the variability among these programs helped identify common characteristics that should be considered when assessing program progress and goals for emerging and emerging HVIPs while underscoring important questions with respect to optimizing program outcomes.



**DAVID VELÁSQUEZ**

- Medical student, 2021 MOLA-MRF Scholar
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**Designing an Intelligent Tutoring System for Latinx Breast Cancer Survivors**

**Background:** Breast cancer accounts for roughly 29% of all cancer diagnoses in the Hispanic population, yet educational resources tailored for Latinx women are quite limited. Breast cancer education can improve health-related quality of life (HRQoL) and breast cancer survivorship. Mobile and web-based applications can offer a scalable platform for breast cancer education. However, these methods often require higher literacy levels above the National Institute of Health (NIH) recommendations and typically cannot assess patient comprehension. Intelligent Tutoring Systems (ITS) can provide an innovative solution with a robust pedagogical framework. Based on the constructivist learning approach, ITS can be designed to yield comparable learning gains to that of a personalized human tutor in a cost-effective and scalable manner.

**Objectives:** Thus, we aim to develop a personalized ITS that can effectively query and interact with Latinx breast cancer survivors. We hypothesize that we can develop an ITS capable of conversing with Latinx breast cancer survivors by incorporating technology that allows for culturally appropriate communication and a fundamental understanding of linguistic features commonly used by the bilingual community (these include cognates, misappropriations, and code-switching between English and Spanish).

**Methods:** We will conduct an extensive literature review of the appropriate breast cancer survivorship educational content to incorporate within the ITS and construct a preliminary ITS model.

**Results:** Our breast cancer Survivorship Education ITS is designed to provide an experience that emulates a live human tutor applying constructivist educational pedagogy. The ITS interface has been configured with a reliable speech recognition for both native and non- native English speakers; an additional layer of interaction was included in the speech recognition engine to recognize long pauses in speech and utterances.

**Conclusion:** By working with an interdisciplinary team composed of computer scientists, physicians, medical students, psychologists, and social workers, we expect to successfully implement the proposed ITS and successfully pilot a limited set of interactions. Increasing the development of individualized educational technology-based solutions for Latinx breast cancer survivors will positively impact HRQoL and broaden accessibility of health education in Hispanic communities.



**KATHIE VÉLEZ:** she/her

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### **Case Fatality Rates Among Minority Populations With COVID-19 In Southern Nevada**

**Background:** From the last day of each month from May to December 2020, the Southern Nevada Health District's daily COVID-19 reports show black and Asian/Pacific Islander populations demonstrate higher rates of COVID-19 cases, hospitalization, and mortality as compared to the white population. These reports recorded higher rates of cases and hospitalizations, but lower rates of mortality in the Hispanic population as compared to the white population.

**Objective:** This study seeks to understand whether there are disproportionate rates of COVID-19 case fatalities affecting minority populations in Southern Nevada.

**Method:** Records were obtained from the SNHD epidemiology website. Daily reports from the end of each month - May to December 2020 - consisting of the demographics of COVID-19 mortality and confirmed cases were obtained to calculate the case fatality rates (CFRs) for each racial and ethnic group per month. White, black, Hispanic and Asian/Pacific Islander populations were included.

**Results:** The CFRs for the Hispanic population from May to December are 2.90, 1.76, 1.73, 1.70, 1.57, 1.41, 1.25, and 1.21, respectively. The CFRs for the white population from May to December are 9.09, 5.84, 3.70, 4.07, 4.10, 3.40, 2.71, and 2.45, respectively. The CFRs for the black population from May to December are 7.98, 5.13, 4.11, 3.7, 3.84, 3.44, 2.82, and 2.46, respectively. The CFRs for the Asian/Pacific Islander population from May to December are 9.78, 6.70, 4.80, 4.60, 4.45, 3.95, 2.99, and 2.65, respectively.

**Conclusions:** Our results indicate the risk of dying from COVID-19 are highest among the Asian/Pacific Islander population and the lowest among the Hispanic population. White, black and Asian/Pacific Islander populations demonstrate nearly 2-3 times greater CFRs as compared to the Hispanic population over several months. Our data may warrant further studies to compare CFRs among Hispanic populations across different regions and factors contributing to discrepancies related to the number of confirmed cases of COVID-19 and/or hospital recorded death due to COVID-19.