



Available online at [www.mchandaids.org](http://www.mchandaids.org)

INTERNATIONAL JOURNAL of  
MATERNAL and CHILD HEALTH and AIDS  
ISSN 2161-864X (Online)  
ISSN 2161-8674 (Print)  
DOI: 10.21106/ijma.431

**BOOK OF ABSTRACTS | HEALTH EQUITY**

**Third Annual Summer Research Summit on Health Equity Organized by the Center of Excellence in Health Equity, Training and Research, Baylor College of Medicine, Houston, Texas 77030, USA on June 9, 2020**

**ABSTRACT**

**Advancing Health Equity Through Innovations and Technology**

**Hamisu M. Salihu, MD, PhD;**✉ **Deepa Dongarwar, MS; Toi B. Harris, MD**

*Center of Excellence in Health Equity, Training and Research, Baylor College of Medicine, Houston, Texas 77030, USA*

✉ **Corresponding author:** Hamisu M. Salihu, [hamisu.salihu@bcm.edu](mailto:hamisu.salihu@bcm.edu)

This year's summit was unique given the COVID-19 pandemic: a major global outbreak that has imposed severe restrictions in all aspects of our life. At the outset, we were faced with three mutually exclusive options. First option was to cancel the summit in its entirety: this was the easiest and most obvious choice once the COVID-19 pandemic forced a near total lockdown all over the country with unprecedented disruptions of normal daily activities as the disease announced its thunderous touchdown on United States (US) soil. It was also the most-logical response faced with uncertainty regarding summit logistics and expected poor attendance due to the raging pandemic. Second option was to conduct a digital summit restricted to local audiences at Baylor College of Medicine: this option entailed implementing a virtual summit with attendance restricted to participants from our institution only. It sounded like a reasonable choice but that would impede the presence of diversity of topics, perspectives, insights and experiential learning opportunities, which are what render the summit exciting and worth attending. And finally, the last option was to conduct a digital unrestricted summit open to all interested audiences throughout the US. The conduct of a virtual summit open to all participants from around the country was initially considered daunting given the likelihood of amplified technical problems associated with an array of internet access differentials around the country, which would require a strong Information Technology (IT) presence throughout the sessions. Nonetheless, the attractiveness of going national with a virtual summit, despite the pandemic and logistical challenges, slowly gained converts and became the dominant choice. The response and level of participation in this first virtual summit showed an unanticipated surge despite the increase in registration fees to cover IT costs. This year, we had attendees from all regions of the US as well as from the United Kingdom. The range of topics was quite diverse

encompassing health disparities in relation to cancers, nutrition, musculo-skeletal disorders, amputation rates, vaccination uptakes and COVID-19 infections. Various solutions were passionately presented to address these disparities including novel health technologies, community engagement and partnerships, improvement in health literacy and alternative therapeutics. There were no hitches despite the complex breakout sessions, and above all, attendees were satisfied and offered outstanding evaluation scores. This was definitely a summit that metamorphosed from pessimism to a triumphant success!

Copyright © 2020 Salihu et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

## ABSTRACT 01

# The Socioeconomic and Health Impacts of Community Gardens

Erica Chow, BS; Bess Biscocho, BS,<sup>✉</sup> Kaylinda Tran, BS; Chaya Prasad, MD

Western University of Health Sciences, 309 E 2<sup>nd</sup> St, Pomona, CA 91766

<sup>✉</sup>Corresponding author: Bess Biscocho, bessmichell.biscocho@westernu.edu

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** The purpose of this paper was to examine the distribution of community gardens in disadvantaged communities, and how socioeconomic status affects utilization of the gardens.

**Methods:** A review of the literature revealed 20 papers regarding community gardens (CGs) with consideration of income and social status. Six of these papers presented self-reported income levels of its participants, while the remaining studies did not directly assess the income levels of the individual gardeners. Utilization trends were identified between high- and low-income gardeners.

**Results:** Higher-income gardeners identified their primary incentives for gardening as socialization, personal education and greater control of the quality and safety of their food. Lower-income gardeners cited food security and financial limitations as their primary priority in gardening. Additionally, low socioeconomic status neighborhoods that develop thriving CGs often find that the CGs elevate neighborhood pride and perception, creating a process of gentrification that drives away many low-income families that the CGs are meant to help.

**Conclusions and Global Health Implications:** Recommendations of the authors of the articles suggest promoting CG access to low socioeconomic communities through policy, future research, and collaborative community efforts to minimize these disparities.

**Key words:** • Community garden • Income • Socioeconomic • Disadvantaged communities • Food security

Copyright © 2020 Chow et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

## ABSTRACT 02

# Caribbean Diaspora Healthy Nutrition Outreach Project: A Qualitative and Quantitative Approach to Caribbean Health

**Farzanna S. Haffizulla, MD, FACP FAMWA**✉; **Anjali Ramoutar, MPH, BSc; Alyssa Eason, EdD, MS;**  
**Patrick Hardigan, PhD**

*Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine, 3200 S University Dr, Davie, FL 33328*

✉ **Corresponding author:** Farzanna S. Haffizulla, fhaffizull@nova.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Obesity prevention and associated co-morbidities require a multi-tiered, culturally sensitive, population-based approach. South Florida is home to approximately 75% of Florida's total Caribbean immigrant population. This project is the first Caribbean-focused intervention using the Go-Slow-Whoa which designates whether a food or beverage should be chosen frequently (Go-green), less often (Slow – yellow), or rarely (Whoa – red) based on nutritional content. Our aims were to: (1) create and evaluate culturally appropriate nutrition materials for the Caribbean diaspora population in Broward County (i.e. tailor existing GSW evidence-based materials for this population) and (2) quantify which social determinants of health are most relevant to this population.

**Methods:** The qualitative arm consisted of focus groups with 38 subjects from five Caribbean countries most represented in South Florida. The quantitative arm employed descriptive and inferential statistics to analyze social determinants of health obtained from a modified National Association of Community Health Centers' PRAPARE survey. Intercept survey data was also collected.

**Results:** We found that 92% possessed housing, and 92% do not have trouble paying for housing or electrical/heating bills. Most participants (65.8%) report that they primarily access health information at a clinic or doctor's office. While 50% face no barriers accessing healthcare, 50% participants faced at least one barrier. Most commonly, cost (34.2%).

**Conclusions and Global Health Implications:** Our intercept surveys indicated that our revised, culturally appropriate materials were helpful in making positive food and beverage choices. Further study is required to determine which SDOH variables are relevant to this population.

**Key words:** • Caribbean • Health disparities • Cultural research • Health equity • Minority health

*Copyright © 2020 Haffizulla et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 03

### A Head Start in the Direction of Child Wellness

---

Jennifer R. Gaertner-Otto, BS;<sup>1</sup>✉ Sara L. Grisales, BS;<sup>1</sup> Debra Canales;<sup>2</sup>  
Anil T. Mangla, BSc, MS, PhD, MPH, FRSPH<sup>1</sup>

<sup>1</sup>School of Osteopathic Medicine, University of the Incarnate Word, 4301 Broadway, San Antonio, TX 78209; <sup>2</sup>Head Start Program, City of San Antonio Department of Human Services, 106 S. St. Mary's, San Antonio, TX 78205

✉ **Corresponding author:** Jennifer R. Gaertner-Otto, jgaertne@student.uiwtx.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Childhood obesity and wellness remain prevalent concerns in the United States. Social determinants of health, specifically poverty, are paramount in influencing childhood obesity, wellness, and lifelong health outcomes. The San Antonio Head Start Program was enacted to provide health and education services to children and examine the state of childhood obesity and wellness.

**Methods:** The Head Start Research project collected 3,027 short 8-question surveys from caregivers of funded children from August 2018 until January 2019 within the San Antonio area. At an almost 100% response rate, this data is a representative sample of child health from low socioeconomic backgrounds, highlighting parental perceptions of child health, dental health, and nutrition.

**Results:** In comparing child wellness baselines between two major Independent School Districts (ISD), Edgewood ISD with a poverty rate of 56% exhibited overall optimal wellness data in comparison to San Antonio ISD with a poverty rate of 49%. The mean percentage of children consuming less than the recommended three vegetables per day was a startling 92%, and consuming less than three fruits per day was 85%. Further, a mean 46% of caregivers reported their physician did not ask about their child's learning, development, or behavior at their last health visit. Other survey answers were compared between schools and within districts.

**Conclusions and Global Health Implications:** Findings from the Head Start Project should be shared with the community caring for these children; these results are crucial to understanding the impact of socioeconomic barriers on child wellness within San Antonio and Texas.

**Key words:** • Public health • Social determinants of health • Childhood

Copyright © 2020 Gaertner-Otto et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

---

## ABSTRACT 04

### Implementing the American Association of Geriatric Psychiatry's Learning Objectives for Medical Students

---

Ali Abbas Asghar-Ali, MD;<sup>1,2</sup> Kathleen McDeavitt, MD;<sup>1</sup>✉ Shetal Amin, MD<sup>1</sup>

<sup>1</sup>Baylor College of Medicine, Houston, One Baylor Plaza, Houston TX, USA-77030; <sup>2</sup>Michael E. DeBakey VA Medical Center, 2002 Holcombe Blvd, Houston, TX 77030

✉ **Corresponding author:** Kathleen McDevitt, kathleen.mcdevitt@bcm.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background:** There is a shortage of physicians who specialize in treating geriatric patients, although >15% of the US population is above 65. Additionally, ageism among healthcare providers can lead to poor health outcomes. Early exposure may increase medical students' comfort level with the care of geriatric patients, which theoretically could combat the development of ageism. The American Association for Geriatric Psychiatry has identified 6 teaching points (normal aging, mental health assessment, psychopharmacology, depression, dementia, and delirium) that medical students should know.

**Methods:** We created a three-session geriatric psychiatry curriculum around these teaching points. IRB approval for implementation and assessment of effectiveness was obtained. Educational sessions were given by residents to cohorts of student volunteers completing their psychiatry clinical rotations at the Michael E. DeBakey VAMC. Data was collected in the form of surveys and quizzes that were given to the students before and after the implementation of the curriculum. Unmatched pre-test (n=49) and post-test (n=31) scores were compared using a one-sample t-test.

**Results:** The curriculum was given to 6 cohorts of medical and physician assistant students. Students reported ~20% increase in comfort levels with geriatric psychiatry ( $p < .01$ ) after the curriculum and scored ~10 percentage points higher on the quiz ( $p < .01$ ).

**Conclusions and Global Health Implications:** A short geriatric psychiatry curriculum for medical students, conducive for implementation during clinical rotations, can incorporate the major teaching points endorsed by experts in the field. This may be an effective way increase students' comfort level in caring for older adults and inspire enthusiasm for the field.

**Key words:** • Geriatric psychiatry • Undergraduate medical education • Medical student

*Copyright © 2020 Asghar-Ali et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 05

# Associations of Identity Development and Tobacco Use Among Lesbian, Gay, and Transgender Veteran Past and Current Tobacco Users

---

**Darius B. Dawson, PhD;<sup>1-3</sup>** **Michael R. Kauth, PhD;<sup>1-3</sup>** **David Latini, PhD, MSW;<sup>2,4-6</sup>** **Terri L. Fletcher, PhD<sup>1-3</sup>**

<sup>1</sup>South Central Mental Illness Research, Education, and Clinical Center, Houston, TX, USA; <sup>2</sup>Menninger Department of Psychiatry and Behavioral Sciences, Baylor College of Medicine, Houston, TX, USA; <sup>3</sup>Houston VA HRS&D Center for Innovations in Quality, Effectiveness and Safety, Michael E. DeBakey VA Medical Center, Houston, TX, USA; <sup>4</sup>Scott Department of Urology, Baylor College of Medicine, Houston, TX, USA; <sup>5</sup>Montrose Center and Montrose Research Institute, Houston, TX, USA; <sup>6</sup>Mental Health Care Line, Michael E. DeBakey VA Medical Center, Houston, TX, USA

✉ **Corresponding author:** Darius B. Dawson, dariusd@bcm.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Tobacco use is more prevalent among lesbian, gay, bisexual, and transgender (LGBT) veterans compared to heterosexual/straight and cisgender veterans and LGBT smokers are at greater risk of developing smoking-related diseases later in life, perhaps because of minority and cultural stress tied to LGBT identity. This study examined associations of tobacco use with development of identity such as LGB positive identity and identity dimensions, and internalized heterosexist discrimination among LGBT veterans.

**Methods:** LGBT veteran participants (N=158) completed surveys assessing tobacco use, identity, discrimination, and demographic information. Participants were grouped into one of three tobacco use categories (past user/no tobacco use in the past 3 months; intermittent user in the past 3 months; daily user). ANOVA analyses were used to analyze results across the three tobacco use groups.

**Results:** Intermittent tobacco users were younger (M=38.65) than daily (M=45.54) and past users (M=52.86). Past users reported higher levels of education than daily and intermittent users. Intermittent tobacco users had a higher degree of identification with the LGBTQ community, greater concerns with acceptance of LGB identity, and greater discrimination in the workplace and other settings compared to daily users and past users ( $p < 0.05$ ).

**Conclusions and Global Health Implications:** Intermittent tobacco users report more difficulty in positive identity formation and identity acceptance and experience more workplace and other forms of discrimination than daily and past users, indicating possible use of tobacco to cope with these stressors. This research highlights an under researched group of veterans vulnerable to future disease burden.

**Key words:** • LGBT veterans • Tobacco use • Identity formation • Heterosexist discrimination

*Copyright © 2020 Dawson et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 06

# Resilience and Perceived Experiences of African American Health Care Professionals' Interaction with Organizational Support Offices

---

Jqar Washington, EdD;<sup>1</sup>✉ Renee Lastrapes, PhD;<sup>2</sup> Amy Orange, PhD<sup>2</sup>

<sup>1</sup>University of Texas Medical Branch, 301 University Blvd, Galveston, TX 77555; <sup>2</sup>University of Houston Clear Lake, 2700 Bay Area Blvd, Houston, TX 77058

✉ **Corresponding author:** Jqar Washington, jqar@hotmail.com

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** African Americans (AAs) comprise 13% of the U.S. population only 4% are physicians and surgeons, which is why the population is considered an underrepresented minority in the field of medicine (Rosenthal, 2015). According to the Association of American Medical Colleges (AAMC, 2018), in the past 37 years, medical schools experienced an increase in more diverse applicants, excluding AAs. Colleges and universities try to rectify this disparity by offering organizational support to AAs through

the Offices of Student Affairs and Admissions (Bolman & Deal, 2017). For this study, organizational support is defined as the supports the participants experienced at universities where they received training.

**Methods:** An explanatory sequential mixed method design was used for this study. Participants completed the Connor-Davidson Resilience Scale (CD-RISC) to measure the resiliency of AA healthcare professionals enrolled in health care training programs. The Survey of Perceived Organizational Support (SPOS) measured perceived experiences of organizational support. The population consisted of AA males and females currently working in health care. Participants reflected on their resiliency experiences when they were enrolled in health care programs.

**Results:** There was no significant relationship between perceived institutional supports and resiliency. The levels of resilience were the same for both genders.

**Conclusions and Global Health Implications:** Retention and graduation of AA students for health care programs is a pressing concern for higher education institutions (Laird, Bridges, Morelon-Quainoo, Williams, & Holmes, 2007) because patients seek medical care from professionals who look like them. Without AA health professionals, AAs will receive less-than exceptional healthcare (Collins, 2015). Research should focus on university programs designed to increase AA recruitment and retention for health training programs.

**Key words:** • Health care • Higher education • African Americans • Resiliency

*Copyright © 2020 Washington et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 07

# Beyond the Barriers: A Case Series on Advanced Stage Breast and Gynecologic Cancer in New Orleans

Avani Patel, BS<sup>✉</sup>; Mwamba Mvula, BA, MS; Anjali Deendyal, BS; William Robinson, MD

Tulane University School of Medicine, 1430 Tulane Ave, New Orleans

<sup>✉</sup> **Corresponding author:** Avani Patel, apatel20@tulane.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Breast and gynecologic cancer screenings are available to a wide population of female patients through insurance providers and various support programs, however these cancers remain prevalent in our population today. In the context of screening availability, barriers leading to late/end-stage breast and gynecologic cancers must be explored. This report aims to highlight unique barriers that contribute to presentation with late-stage breast and gynecologic cancer in women of low socioeconomic status.

**Methods:** Overall, six patients were reviewed who developed late/end-stage breast and gynecologic cancers. Female OB-GYN patients of low socioeconomic status were chosen with a diagnosis of early-stage breast or gynecologic cancer from 2015 to 2019 who were lost to care. A retrospective review of medical records was performed, and barriers were identified that impeded the completion of their treatment course.

**Results:** In this review, it was found that this sample of patients faced several comorbidities, such as positive HIV status, substance abuse disorder, heart disease, in addition to socio-economic factors such as incarceration, gun-violence, medication noncompliance and inadequate insurance. In each individual scenario, the patient encountered a unique barrier that prevented recommended follow-up. These barriers were found to have impeded treatment course leading to progression of malignancy.

**Conclusions and Global Health Implications:** As a result of this review, it was found that while these women had an early-stage diagnosis, they faced concomitant medical and/or social barriers to continue regular follow-up with their OB-GYN. These extraneous barriers were not adequately addressed leading to the progression of their disease process. As healthcare providers, it is imperative to develop a system equipped to address multifaceted aspects of patient care to reduce barriers to healthcare access, therefore preventing disease progression.

**Key words:** • Obstetrics • Gynecology • Barriers • Cancer • Justice

*Copyright © 2020 Patel et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 08

# Prevalence and Nature of Musculoskeletal Impairments in a Primary Care Clinic for Individuals Experiencing Homelessness

---

Sherry O. Pinkstaff, PhD, PT✉

University of North Florida, 1 UNF Dr, Jacksonville, FL 32224 and Mayo Clinic Florida, 4500 San Pablo Rd S, Jacksonville, FL 32224

✉ **Corresponding author:** Sherry O. Pinkstaff, s.pinkstaff@unf.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** There are approximately 3.5 million homeless individuals in the US. Homeless patients have higher rates of physical and mental illness, substance abuse, hospitalizations, and mortality. Once homeless, people often suffer additional health complications related to physical violence, exposure to the elements and unsanitary conditions, and malnutrition. Musculoskeletal care is an often-overlooked aspect of the medical needs of homeless patients. The Sulzbacher Center has been providing services to the homeless and those in unstable housing in Jacksonville, FL since 1995. In addition to shelter, they also provide health care. The Sulzbacher Center has identified musculoskeletal care as an unmet need for the individuals they serve. However, the true prevalence and nature of those impairments is not known.

**Methods:** The Gait, Arms, Legs and Spine (GALS) tool will be used to prospectively identify 100 patients with undiagnosed musculoskeletal impairments. A retrospective chart review of a 100 randomly selected patients seen during the previous year will also be performed. The clinic visit notes will be examined for patient chief complaint or provider diagnosis consistent with MSK impairment.

**Expected Outcomes:** The results of this study will inform an effort to establish a Physical Therapy clinic at the Sulzbacher Center. Moreover, it will add much-needed data about this patient population.



**Conclusion and Global Health Implications:** The Physical Therapy profession has tasked itself to “recognize health inequities and disparities and work to ameliorate them through innovative models of service delivery, advocacy, attention to the influence of the social determinants of health on the consumer, and collaboration with community entities to expand the benefit provided by physical therapy.” This research seeks to address these priorities.

**Key words:** • Homelessness • Physical therapy • Underserved • Rehabilitation

*Copyright © 2020 Pinkstaff. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 09

# University Occupational Therapy Clinics as a Viable Option for Reducing Health Inequities and Disparities in Mental Health

---

**Brittany Adams, OTD, MS, OTR/L** ; **Morgan Castelbuono, OT/s; Kelsey Fitzhugh, OT/s; Jeffery Joy, OT/s; Danielle Whitman, OT/s**

*Western New England University, 1215 Wilbraham Rd, Springfield, MA 01119*

 **Corresponding author:** Brittany Adams, [brittany.adams@wne.edu](mailto:brittany.adams@wne.edu)

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Hampden County, MA is 64% White, 24% Latino, 8% Black, and 2% Asian. Over one-third of the population lives with an income at or below 200% of the federal poverty level. White (43%) and Hispanic (40%) individuals make up the majority of this population group. In Hampden County, mental health (MH) disorders have the biggest impact on the community’s health, and in Springfield, MA hospitalizations for mental health-related conditions occur more than twice as often as all Massachusetts residents (1,995 vs 853 per 100,000). There is a clear need for accessible MH services among this population to reduce the need to postpone treatment due to financial burden. A university Occupational Therapy (OT) clinic has the potential to address these health inequities and disparities.

**Methods:** Three researcher-designed studies using semi-structured interviews and survey methodology were completed to examine the accessibility of local MH facilities, availability of MH services for college students, and trends in reimbursement in OT, in order to determine the need for a university OT clinic in Hampden County. A mixed design consisting of qualitative and quantitative methods were used within the studies.

**Results:** More than half of undergraduate and graduate students report that they experience high levels of stress and anxiety, yet indicated there are not enough resources on campus to help. To address this, more than half of participants indicated they would utilize alternative services on campus if they were to become available. It has also been determined through semi-structured interviews with MH practitioners that there are varying levels of accessibility based on the MH services being sought after in Hampden County, as well as significant challenges with financial reimbursement of MH services provided by OT’s.

**Conclusions and Global Health Implications:** Occupational therapy practitioners are uniquely positioned to address these challenges. A university OT clinic that provides free mental health services to those most in need could be a viable and innovative option for decreasing health inequities and disparities in Hampden County, MA.

**Key words:** • Mental health • University clinic • Occupational therapy • Health inequities • Health disparities

Copyright © 2020 Adams et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

---

## ABSTRACT 10

# A Dermatologist's Role in Bridging the Healthcare Gap in HIV+ LGBT+ patients

---

**Antonio Jimenez, BS;<sup>1</sup>✉ Paige Hoyer, MD;<sup>2</sup> Lindy Ross, MD<sup>2</sup>**

<sup>1</sup>The University of Texas Medical Branch, School of Medicine, 301 University Blvd, Galveston, TX 77555; <sup>2</sup>The University of Texas Medical Branch, Department of Dermatology, 301 University Blvd, Galveston, TX 77555

✉ **Corresponding author:** Antonio Jimenez, anrjimen@utmb.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** In 2018, 69% of 39,000 new HIV cases in the United States involved LGBTQ+ individuals; in addition, these statistics highlighted the disproportionate number of HIV diagnoses among gay and bisexual African American and Latino men and transgender women. Social stigmatization about their sexual orientation or HIV status often leads to an increased fear of discrimination from medical professionals. Dermatologists may be the first healthcare provider with whom HIV-positive LGBT+ patients interact with for benign/malignant dermatoses or STIs; therefore, they are in a unique position to promote an inclusive environment for their patients. The purpose of this study is to identify interventions that dermatologists can use to promote a safe environment for HIV-positive LGBTQ+ patients and further become knowledgeable and culturally competent on LGBTQ+ health.

**Methods:** A review of literature was performed using the PubMed database from 2000-2020. The articles selected focused on the implementation of strategies that build therapeutic relationships with HIV+ LGBT+ patients.

**Results:** Based on the articles that met criteria for review, two interventions were universally recognized as promoting inclusive care. The first intervention was the inclusion of a write-in option on initial paperwork for gender and patient-preferred pronouns. The second intervention is the utilization of non-judgmental language, especially when eliciting a sexual history from the patient.

**Conclusions and Global Health Implications:** HIV continues to be a global epidemic, with 1.7 million individuals diagnosed with the disease worldwide in 2018. As a disease that predominantly affects LGBTQ+ patients and has several cutaneous manifestations, dermatologists are responsible for promoting culturally competent care for their patients.

**Key words:** • General dermatology • Public health • HIV • LGBT+ health

Copyright © 2020 Jimenez et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

---

## ABSTRACT II

# Experiences of Health and Care of Formerly Chronically Homeless Individuals

---

Nick Christian;<sup>✉</sup> Joel Suarez; Chris Ulack; Brooke Wagen; Whitney Williams

Dell Medical School at the University of Texas, 1501 Red River St, Austin, TX 78712, USA

<sup>✉</sup>Corresponding author: Nick Christian, christian.nicholaus@gmail.com

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background:** Chronic homelessness causes an increased burden of chronic disease. Homeless and unstably housed individuals have similar burdens of disease and health outcomes. However, less is known about the healthcare experience and perceptions of health of patients who were formerly homeless after they secure stable housing. This qualitative research study investigates the healthcare experiences of the formerly chronically homeless after being permanently housed to help inform a theoretical model of care for this population.

**Methods:** Focus group interviews (n=25) were conducted with residents residing in a community housing formerly homeless individuals. The interviews lasted 60-90 minutes each, and asked a series of open-ended questions about participants' clinical experiences seeking care, their current everyday health challenges, and their life experience from when they were homeless. All data de-identified participants.

**Results:** We heard from 27 adults aged 34 to 65. Thematic analysis yielded four broad findings. First, all participants—insured and uninsured—faced major gaps in health care access. Second, participants often lacked trust in the health care system. Third, participants experienced discontinuities in care, regardless of their housing status. Fourth, misperceptions of the health care system strained doctor-patient relationships and inhibited the provision of care.

**Conclusions and Global Health Implications:** In this population of stably housed individuals who previously experienced homelessness, barriers to achieving health appear to persist after attaining stable housing in the form of poor access to care and mistrust in the healthcare system. Future efforts should focus on increasing trust and coordination of care through provider relationship and continuity.

**Key words:** • Homeless; Chronic homelessness; Qualitative experiences; Health access

Copyright © 2020 Christian et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

## ABSTRACT 12

# Cross-cultural Differences in Vaccine Hesitancy and Attributions for Autism in Parents of Children with Autism

Jennifer Chang, PhD<sup>✉</sup>; Robin P. Goin-Kochel, PhD

Department of Pediatrics, Psychology Section; Texas Children's Hospital/Baylor College of Medicine, 6621 Fannin St, Houston, TX 77030

<sup>✉</sup>Corresponding author: Jennifer Chang, [jxchang@texaschildrens.org](mailto:jxchang@texaschildrens.org)

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Emerging research suggests that vaccine-hesitant parents (VHP) of children of autism spectrum disorder (ASD) were more likely to be people of color than White. We calculated the prevalence rates of VHP across racial/ethnic groups, compared beliefs of causes of ASD across hesitant and non-hesitant parents, and examined other cultural factors that may contribute to vaccine hesitancy.

**Methods:** Descriptive statistics determined the prevalence rates of VHP scores across cultural factors (e.g., race/ethnicity, education level, household income). Chi-square analyses compared proportions of VHP as well as personal beliefs about causes of families' children's ASD across cultural factors.

**Results:** 8,854 families completed the *Parents Attitudes about Childhood Vaccines* questionnaire (measure of vaccine hesitancy) and the *Revised Illness Perception Questionnaire-ASD* (measure of attributions for child's ASD). 22% of parents were vaccine hesitant. VHP were less likely to be White ( $p < .0001$ ) and were more likely to be American Indian, Black, Other, or Latinx. Across hesitance levels, VHP were more likely to attribute accident/injury, alcohol consumption, deterioration of child's immunity, diet, environmental pollution, worries about ASD, general stress, germ/virus, in utero stress/accident, negative attitudes, own decisions, own emotional state, poor medical care, stress at birth, and toxins in vaccines as causes of their child's ASD.

**Conclusions and Global Health Implications:** VHP were also less likely to endorse known causes of ASD (e.g., age, brain structure, and genetics) as causes of their child's ASD. Given similar trends of vaccine hesitancy in this study compared to recent studies, different patterns of agreement as a function of race by hesitancy status is expected. This information may inform the design of targeted, preemptive educational information about vaccine safety that may need to be tailored to different cultural groups.

**Key words:** • Autism spectrum disorder • Vaccines • Parent perception • Cultural diversity  
• Race/Ethnicity

Copyright © 2020 Chang and Goin-Kochel. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

---

## ABSTRACT 13

# Prolonged Untreated Disease and Limited English Proficiency: A Case of Van Wyk-grumbach Syndrome

---

**Natalie Guerrero, MD, PhD;<sup>1,2</sup>✉ Ionna D. Athanassaki, MD;<sup>1,2</sup> Meghna Sebastian, MD<sup>1,2</sup>**

<sup>1</sup>Texas Children's Hospital, Houston, Texas-77030; <sup>2</sup>Baylor College of Medicine, One Baylor Plaza, 6621 Fannin St, Houston, TX 77030

✉ **Corresponding author:** Natalie Guerrero, natalie.guerrero@bcm.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Children from limited English proficient (LEP) families have worse health outcomes compared to English-speaking families, which may be attributed to an increased risk of delayed presentation, diagnosis, and loss to follow up. This is likely related to a variety of social determinants. Van Wyk-Grumbach syndrome (VWGS) is a syndrome due to prolonged untreated primary hypothyroidism, and early diagnosis of hypothyroidism is critical to preventing VWGS from developing. The intersection of social determinants of health, particularly limited English proficiency, which may impact the development, diagnosis, and treatment of VWGS, has not been discussed previously.

**Methods:** We reviewed the details of this case via the patient's electronic medical record.

**Results:** Here we describe the case of an adolescent female diagnosed with VWGS whose primary caregiver is foreign-born and LEP, explore the factors that may have placed her at increased risk for a delayed presentation of VWGS, and discuss ongoing challenges of her disease management.

**Conclusions and Global Health Implications:** We briefly review the pathophysiology of VWGS, emphasize the importance of being sensitive to this atypical presentation of hypothyroidism, and explore the intersections of this case with limited English proficiency.

**Key words:** • Limited English proficiency • Van wyk-grumbach syndrome • Social determinants of health

*Copyright © 2020 Guerrero et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 14

# Health Disparities of Natural Disasters and its Relation to Emergency Response Systems: A Review

Sean Liu, BA<sup>✉</sup>; Abiodun Oluyomi, PhD

Baylor College of Medicine, Section of Epidemiology and Population Science, One Baylor Plaza, Houston, Texas-77030

<sup>✉</sup> Corresponding author: Sean Liu, sean.liu@bcm.edu

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Natural disasters are ubiquitous across the globe. As more information on disasters is becoming available, it is clear that their health effects are widespread and often disproportionately affect minorities or those of lower socioeconomic status. A framework for studying this disparity requires an understanding of the current state of natural disasters, examining disaster frequencies, health consequences, and epidemiology.

**Methods:** A review of the literature was conducted using PubMed and the keywords “natural disaster”, “health disparity”, and “emergency response”.

**Results:** Many studies have been conducted examining the impact of disasters on health disparities. Disparities in health outcomes occur due to several reasons: pre-disaster preparedness, healthcare delivery following disasters, and system wide imbalances in disaster response.

**Conclusion and Global Health Implications:** Globally, patterns have shown that extremes of disasters are becoming more common, meaning that areas that are prone to one type of disaster are seeing more severe forms of these disasters. In general, the major concerns following disaster events are safety related. These include immediate concerns (i.e. drowning and burns), intermediate concerns (i.e. infection and starvation), and long term concerns (i.e. chronic disease and disabilities). One major limiting factor to disaster research is the lack of a concerted effort between emergency response and epidemiological research. Because of this, disaster research often takes much longer than anticipated. This limits the ability to study and address health disparities related to natural disasters. While there have been efforts made by the national government to address this gap, there remains the need for a robust emergency response system.

**Key words:** • Disaster • Health disparity • Emergency response

*Copyright © 2020 Liu and Oluyomi. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 15

# Health Education and Development for Underserved Population (Heads Up): Developing Community Health Education in San Antonio Through Student Mobilization and Community Partnerships to Improve Health Beliefs and Outcomes

---

Jacob Atkins, MPH<sup>✉</sup>; Taelor Farrow, MS; Alfred Flores, BS; Jordan Jones, BA; Ramona Parker, RN, PhD, EdM

University of the Incarnate Word School of Osteopathic Medicine, 7615 Kennedy Hill Dr, San Antonio, TX 78235, USA

<sup>✉</sup>Corresponding author: Jacob Atkins, [jwatkin1@student.uiwtx.edu](mailto:jwatkin1@student.uiwtx.edu)

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** In San Antonio, Texas the prevalence of type 2 diabetes is higher in the Mexican American population than in Non-Hispanic whites. This paper aims to evaluate the effectiveness of diabetes health education programs that are centered on culturally sensitive lifestyle interventions and improve the efficacy of an osteopathic medical student-led diabetes health education initiative HEADS UP.

**Methods:** Authors synthesized literature utilizing an evidence matrix to evaluate strategies applied by local level health education programs with emphasis on culturally tailored methodology. Selection criteria included qualitative and quantitative studies published within the last 5 years with 25-300 participants. Most participants self-identified as Latino and were 18 years or older.

**Results:** Relevance of resource materials and effectiveness of intervention outcomes were tightly linked to researcher understanding of culture and collaboration with community partners. Local level interventions that recruited prominent community advocates or employed Promotores de Salud and used culturally tailored methods had improved outcomes, increasing health knowledge of diabetes and lifestyle modifications.

**Conclusion and Global Health Implications:** Our findings indicate a need to develop an understanding of the health literacy in underserved communities of San Antonio to develop relevant resources and a culturally tailored education plan. Our goal is to mobilize medical student-lead research alongside intervention participants to produce meaningful health outcomes among participants and to increase capacity for student growth and cultural humility. Developing these relationships between students and community partners will be essential to impacting the health of the underserved populations in San Antonio.

**Key words:** • Cultural humility • Osteopathic • Student-led • Diabetes • Underserved • Culturally tailored

*Copyright © 2020 Atkins et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 16

# Health Insurance Access in New Orleans Student Run Clinics

Nadia Sherif,<sup>✉</sup> Adedoyin Johnson; Samantha Janfaza; Torrence Tran; Justin Magrath

Tulane University School of Medicine, 1430 Tulane Ave, New Orleans, LA 70112, USA

<sup>✉</sup>Corresponding author: Nadia Sherif, nabdulhafiz@tulane.edu

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Students at Tulane University School of Medicine operate a network of seven clinics throughout the New Orleans area. Stationed at homeless shelters and rehabilitation centers, these clinics provide free healthcare to community members. The health insurance status of this patient population and the resulting health effects were determined. This study aims to identify methods that can be implemented to provide better access to healthcare.

**Methods:** In order to determine health insurance status and its related corollaries, 686 medical records from five clinics were examined as authorized by Tulane University IRB Study #944206.

**Results:** Overall, 52.6% of patients receive Medicaid, 20.3% of patients are uninsured, and 8.6% are on Medicare. These numbers differ greatly from that of the United States as a whole where 67.2% of Americans have private insurance and only 8.8% are uninsured<sup>1</sup>. The study further looked at insurance status based on clinic location and found stark differences, with a chi-squared p-value < 0.001. While at Grace House Clinic 75.4% of patients are on Medicaid and 13% are uninsured, at the New Orleans Mission, only 22% of patients are enrolled in Medicaid and 47.5% are uninsured. This represents an area for clinic improvement. Study members have continued to interview the clinics to determine differences in practice and identify remedies for this problem.

**Conclusion and Global Health Implications:** This study shows the patient population at the student clinics is significantly different than the overall US population. Having identified these inequities, future work will suggest and implement methods for improvement.

**Key words:** • Student run clinics • Homeless shelter • Healthcare • Health insurance • Medicaid • Uninsured

*Copyright © 2020 Sherif et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*



---

## ABSTRACT 17

# Hearing Aid Affordability: Striving for Equity in Hearing Health Care

---

**Anna M. Jilla, PhD, AuD;<sup>1</sup>✉ Carole E. Johnson, PhD, AuD;<sup>2</sup> Nick Huntington-Klein, PhD<sup>3</sup>**

<sup>1</sup>Cochlear Center for Hearing and Public Health, Center on Aging and Health, Bloomberg School of Public Health, Johns Hopkins University, 615 N Wolfe St, Baltimore, MD 21205; <sup>2</sup>Hearing Evaluation, Rehabilitation, and Outcomes (HERO) Laboratory, Department of Communication Sciences and Disorders, University of Oklahoma Health Sciences Center, 865 Research Pkwy, Oklahoma City, OK 73104; <sup>3</sup>Department of Economics, California State University – Fullerton, 800 N State College Blvd, Fullerton, CA 92831

✉ **Corresponding author:** Anna M. Jilla, [anna.jilla@gmail.com](mailto:anna.jilla@gmail.com)

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Hearing loss is highly prevalent among older adults affecting two-thirds of those over age 70. Hearing loss is associated with increased risk for social isolation, depression, hospitalization, and cognitive decline. Hearing aids are the most common treatment for non-surgical cases. The average price for one hearing aid is over \$2,000. The purpose of this study was to assess hearing aid affordability for Americans with functional hearing loss and to identify sociodemographic affordability disparities.

**Methods:** The catastrophic and impoverishment approaches were applied to 2016 American Community Survey data to determine the proportion of those with functional hearing loss who would face financial hardship if purchasing a hearing aid. Briefly, the catastrophic approach identifies whether costs exceed a given proportion of income, while the impoverishment approach determines whether post-purchase income would fall below the federal poverty level (FPL).

**Results:** A weighted analytical sample of 10,181,443 indicated that a purchase price of \$2,500 would cause 18% of American adults with functional hearing loss to fall below 100% of the FPL for the year, and 77% to spend more than 3% of their annual income. Rates of financial hardship were higher among non-White groups and varied significantly by other sociodemographic factors.

**Conclusions and Global Health Implications:** Results indicate that out-of-pocket costs for hearing aids are unaffordable for many Americans. Timely access to affordable treatment can mitigate the deleterious health effects of hearing loss. Health policies should address disparities in specific sociodemographic groups, particularly among the Medicare-eligible population.

**Key words:** • Accessibility • Sensory loss • Older adults

*Copyright © 2020 Jilla et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 18

# How Social Determinants of Health Affect Amputation Rates

Trung Nguyen, BS;<sup>1</sup> Lyssa Ochoa, MD<sup>2</sup>✉

<sup>1</sup>University of Incarnate Word School of Osteopathic Medicine, 7615 Kennedy Hill Dr, San Antonio, TX 78235; <sup>2</sup>San Antonio Vascular and Endovascular Clinic, 4025 E Southcross suite 15, San Antonio, TX 78222

✉ **Corresponding author:** Lyssa Ochoa, lochoa@thesaveclinic.com

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** This study seeks to review the definition and influence of social determinants of health (SDOHs). San Antonio will be used as a case study demonstrating the influence that income, culture, and health literacy has on rates of diabetes and lower extremity amputations (LEA).

**Methods:** The U.S. Census Bureau 2010 and the American Community Survey 2014 Estimates were used for Bexar County-specific data regarding our selected SDOHs. The figures used throughout were borrowed with permission from 2016 Bexar County Community Health Needs Assessment Report. Specific aims such as poverty level, income, racial distribution, and health literacy were gleaned from these sources.

**Results:** The level of poverty, household income, minority status, and health literacy all directly correlate with rates of diabetes and LEA in San Antonio. The Center for Disease Control directs a project named “Healthy People” that determines the United States’ current health status, creates evidence-supported goals to improve wellbeing, and reassesses every decade. This study advocates for a similar project on a local level with community input which focuses on SDOHs and targeted intervention to mitigate their impact.

**Conclusion and Global Health Implications:** This project is conducted in a widening field dedicated to SDOHs and increasing understanding that resources must be placed in prevention and policy as much as medicine and maintenance in order to achieve greater health outcomes. This study reinforces these concepts by highlighting local health disparities and emphasizing the role of social determinants by using San Antonio as a case study.

**Key words:** • Social determinants of health • Lower extremity amputation • San Antonio

*Copyright © 2020 Nguyen and Ochoa. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 19

# The Influence of an Interprofessional Team and Four-Tiered System on the Uptake of Human Papilloma Virus (HPV) Vaccination During Annual Vaccination Drives

Kaylyn Snook, BS, MBS;<sup>1</sup> Mia Vento, BS;<sup>1</sup> Dr. Emma Santa Maria, PhD;<sup>1</sup> Anil Mangla, MS, PhD, MPH, FRSPH<sup>2</sup>✉

<sup>1</sup>University of the Incarnate Word School of Osteopathic Medicine, 7615 Kennedy Hill Dr, San Antonio, TX 78235, USA; <sup>2</sup>Texas Kidney Foundation, 4204 Gardendale #106, San Antonio, TX 78229, USA

✉ **Corresponding author:** Dr. Anil Mangla, atmangla5@gmail.com

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Human papillomavirus (HPV) is one of the most common sexually transmitted infections that infects epithelial mucosa and to lead to many types of cancer.<sup>1</sup> The HPV vaccine has been shown to prevent the ability of the virus to replicate, therefore is useful in protecting patients. The elevated number of HPV cases demonstrates the need for outreach programs to inform and provide options for parents and patients.<sup>2</sup> The purpose of this study was to analyze the delivery of HPV vaccination, in the underserved population at Southside and Southwest Independent School Districts.

**Methods:** This is the third consecutive year that the University of the Incarnate Word School of Osteopathic Medicine (UIWSOM) has put together at least four vaccine drives. This collection of data allowed UIWSOM to track vaccination acceptance rates at each event. In order to increase HPV vaccine coverage, a four-tiered system was implemented which reassured parents during the decision-making process.

**Results:** The interprofessional team to raise overall vaccination coverage was a strong contributor to the success rate of increased immunizations. In 2019 the total number of vaccines administered increased to 873, of which 169 were HPV doses, showing an acceptance rate of 97.9 percent.

**Conclusions and Global Health Implications:** The success of this program has significantly impacted the underserved population in South San Antonio to the point where the Texas Medical Association has requested for UIWSOM to provide a toolkit, HPV Vaccine Delivery Protocol, based on the UIWSOM vaccine drive success.

**Key words:** • HPV • HPV vaccine • Vaccination rates • Vaccination drives • Public health

*Copyright © 2020 Snook et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 20

# Identifying Social Determinants of Health Among Latino Communities: A Trend Analysis

---

Victoria Iwinski, MA<sup>✉</sup>; Karen Armknecht, MBA; Andrew Arvizu, BS

*Chicanos Por La Causa, 1525 N Oracle Rd, Tucson, AZ 85705*

<sup>✉</sup> **Corresponding author:** Victoria Iwinski, [victoria.iwinski@cplc.org](mailto:victoria.iwinski@cplc.org)

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Communities of color tend to have higher rates of chronic illness, lower quality of life, and lower life expectancy as compared to predominately affluent neighborhoods. The objective of the current study was to identify common social needs and social determinants of health within targeted Latino communities in order to innovate culturally responsive interventions tailored to improving health and quality of life outcomes.

**Methods:** A primary research-informed trend analysis was conducted among 10 social services/healthcare programs in Phoenix, Arizona. Primary data used were from recent community needs assessments, program evaluations, and social determinants of health assessments collected and analyzed by the non-profit organization.

**Results:** Common trends in social need and social determinants of health were captured. Most mutual social needs present were stable housing, employment opportunity, and healthcare access/navigation (specifically within monolingual, Spanish-speaking individuals). Highest occurring social determinants of health identified were low educational attainment, lack of rent-controlled/affordable housing opportunity, and poverty.

**Conclusions and Global Health Implications:** Social determinants and social needs need to be addressed in tandem. Partnerships across sectors and with legislative bodies will be one of the only ways we can start seeing increased health equity amongst communities of color.

**Key words:** • Social determinants of health • Social needs • Community engagement • Latino health

*Copyright © 2020 Iwinski et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 21

# In Vivo Somatic Genome Editing in Adult Liver

Mia Furgurson, BS; Kelsey Jarrett, PhD; Ayrea Hurley, PhD; William Lagor, PhD<sup>✉</sup>

Baylor College of Medicine, Molecular Physiology and Biophysics Department, 1 Baylor Plaza Houston, TX 77054

<sup>✉</sup>Corresponding author: William Lagor; William.Lagor@bcm.edu

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background:** Mutations in the low-density lipoprotein receptor (*LDLR*) lead to Familial Hypercholesterolemia (FH), a severe genetic lipid disorder of the liver, characterized by extremely high cholesterol levels and premature cardiovascular disease, and affects about 1 in 130,000 people worldwide. Women diagnosed with FH are less likely than men to achieve therapeutic levels of LDL-cholesterol with statin treatment. Recent studies show that women are prescribed statin therapy less than men, despite women's increased risk of death due to heart disease. Other studies show that women have more risk of adverse side effects with statin use without much benefit. Homozygous FH (HoFH) patients are non-responsive to cholesterol-lowering drugs, and often die before the age of 30 if untreated. Currently, the only curative option is a liver transplant, but with the emergence of gene therapy tools like the CRISPR/Cas9 system, permanent correction may be possible.

**Methods:** We tested whether Adeno-Associated Viral (AAV) vectors could be used for liver-directed genome editing with CRISPR/Cas9 to correct HoFH. AAV vectors were used to deliver CRISPR/Cas9, a sgRNA targeting the *Ldlr* locus, as well as a promoterless "repair cassette" introducing the corrected *Ldlr* coding sequence. Efforts are underway to selectively expand *Ldlr*-corrected hepatocytes.

**Results:** We found that the *Ldlr* locus can be targeted *in vivo* with AAV-CRISPR, and that an essential gene, Fumarylacetoacetate hydrolase (*Fah*) can be leveraged for selective expansion of gene-edited hepatocytes.

**Conclusions and Global Health Implications:** These methods provide a blueprint for permanent correction of HoFH and other liver diseases through somatic genome editing.

**Key words:** • CRISPR/Cas9 • Familial Hypercholesterolemia • FH • Gene therapy

Copyright © 2020 Furgurson et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

---

## ABSTRACT 22

# Inaugural Resident Driven Diversity and Inclusion (D&I) Committee

---

Danielle Gonzales, MD<sup>✉</sup>

Children's Mercy Kansas City, 2401 Gillham Rd, Kansas City, MO 64108, USA

<sup>✉</sup> **Corresponding author:** Danielle Gonzales, [dgonzales@cmh.edu](mailto:dgonzales@cmh.edu)

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Children's Mercy (CMH) serves a diverse patient population and strives to increase the diversity of the residency program by recruiting UIM (Underrepresented in Medicine) residents. These efforts highlighted the need to support the UIM Pediatric residents while in the program and cultivate an environment that allows mentorship and support for residents, which was the basis for developing the committee.

**Methods:** A network of medical school graduates nationwide was surveyed to obtain answers to the following questions: "Does your program have a Resident-Run committee focused on D&I" and "If yes, what are the details of the committee?"

**Results:** Few programs had a similar committee, those that did focused on recruitment of UIM students only. At CMH, 15 residents (21%) expressed interest in participating in the committee. Residents developed goals/projects based on expertise and personal experience of the members. Quarterly events included "Hard Topic Talks" on issues such as equal pay and cultural differences; workshops including imposter syndrome and implicit bias; journal club on current literature starting with the American Academy of Pediatrics (AAP) statement on Racism and impact on child health. Longitudinal projects included mentoring programs for medical students interested in Pediatrics (consists of ~50 resident mentors/medical student mentees) and pipeline programming in which trainees went to local schools to discuss careers in medicine. Residents served on the hospital D&I committee and provided mentorship and coordinated dinners for students who participated in CMH's UIM focused rotation.

**Conclusions and Global Health Implications:** The committee fostered a community of creativity among residents passionate about D&I initiatives and inspired them to generate their own projects.

**Key words:** • Dissemination • Implementation • Retention of diverse workforce • Resident initiatives

*Copyright © 2020 Gonzales et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 23

# Introduction of Street Medicine in Galveston: The New Way to Treat Individuals Experiencing Homelessness

Mario Zuniga Palma, MPH;✉ Nancy Trinh, BSA; Katie Kirk, BA; Dakota Rodgers, BA; Norma Perez, MD

University of Texas Medical Branch Student, 301 University Blvd, Galveston, TX 77555, USA

✉ **Corresponding author:** Mario Zuniga Palma, marzunig@utmb.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background:** Barriers to healthcare for the homeless population include competing needs and priorities, physical access to health services, and relationship barriers between professionals. Street Medicine is a program model focused on providing health care through interdisciplinary teams providing care directly on the streets. This model would limit the physical and psychological barriers to care and introduce new avenues of improving health care utilization amongst those experiencing homelessness.

**Methods:** Partnerships with Galveston Community Stakeholders with vested interests for homelessness were created. Preliminary needs and popular homeless congregation spots were determined with community partners to plan for future sites of model implementation. 382 individuals experiencing homelessness were identified and documented. Student volunteers were able to begin interacting and building rapport with the homeless population in Galveston.

**Conclusions and Global Health Implications:** Partnerships and preliminary interactions with homeless individuals in Galveston have illuminated the need for an intervention that can tackle the barriers on the island. Street Medicine is poised to eliminate these obstacles by providing care directly to the patient at their level and in our shared environment. Formal identification of the homeless sites will be recorded and tracked to facilitate consistency of service to the homeless. Multidisciplinary teams will consist of students from all schools and clinical faculty to begin care and to establish rapport. A needs assessment will be implemented to identify deficits in primary health problems for treatment or referral to other community programs and clinics.

**Key words:** • Homeless • Street Medicine • Galveston • Barriers • Community • Stakeholders

*Copyright © 2020 Palma et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 24

# Latinx Cultural Competency Trainings for Healthcare Providers

**Natalia Rodriguez, MPH;<sup>1</sup>✉ Abhirami Rajagopal, PhD, MPH;<sup>2</sup> Camden J. Hallmark, MPH;<sup>2</sup> Marlene McNeese, BS;<sup>2</sup> Shelby Johnson, BS;<sup>1</sup> Shital M. Patel, MD, MSc<sup>1</sup>**

<sup>1</sup>Baylor College of Medicine-Houston AIDS Education Training Center, 1 Baylor Plaza, MS 285, Houston, TX 77030, USA; <sup>2</sup>Division of Disease Prevention and Control, Center for Community Health Services at Houston Health Department, 8000 N Stadium Dr, Houston, TX 77054, USA

✉ **Corresponding author:** Natalia Rodriguez, natalia.rodriguez@bcm.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** The Hispanic/Latinx community is disproportionately affected by the HIV epidemic, accounting for 30% of all late HIV diagnoses.<sup>1</sup> Harris County, 43% Hispanic/Latinx, is one of the 48 counties identified with the highest HIV burden in the US (26,385 PLWH; >1,000 new HIV diagnoses annually).<sup>2</sup> Some healthcare providers remain incognizant of cultural barriers that affect the Hispanic/Latinx community. The development of cultural competency training is needed to care for this population living with, and at risk, for HIV.

**Methods:** The Baylor College of Medicine-Houston AIDS Education Training Center and the Houston Health Department brought in trainers from Hands United (Latino Commission on AIDS) to provide six training sessions (3 comprehensive and 3 condensed) on Latinx cultural competency. Participants were asked to complete a 20-question post-training survey to assess the training.

**Results:** Of the 315 healthcare providers who attended at least one of the trainings, 99 participants (31%) completed the post-training survey. Results indicated high satisfaction with the training quality (4.56 out of 5.00), educational content (4.70 out of 5.00), and knowledge gained (4.77 out of 5.00).

**Conclusion and Global Health Implication:** Comprehensive and condensed training sessions led by expert trainers are an effective way for healthcare providers to learn about cultural competency for the Latinx community with, and at risk, for HIV. Training sessions such as these may lead to improvement of minority health and elimination of HIV disparities in the HIV epidemic.

**Key words:** • HIV disparities • Hispanic/Latinx • Cultural competency • Latinx minority health

*Copyright © 2020 Rodriguez et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*



---

## ABSTRACT 25

# Leveraging Health Informatics and Geographical Information System to Explore Health Disparities in Access and Utilization of Physical Therapy Services

---

Sang (Sam) Pak, PT, DPT;✉ Victor Cheuy, PhD

<sup>1</sup>Department of Physical Therapy and Rehabilitation Science, University of California San Francisco, San Francisco, California, USA

✉Corresponding author: Sang (Sam) Pak, sam.pak@ucsf.edu

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Health Disparity refers to a difference in the quality of health and access to healthcare across population groups closely linked with social, economic and/or environmental disadvantage. There remains insufficient data concerning racial/ethnic disparities related to access and utilization of physical therapy.

**Methods:** A retrospective cohort study from 2016-2018 to determine if disparities exist in access and utilization of physical therapy among racial/ethnic groups. Health informatics and Geographical Information System (GIS) from census data and electronic health record data were used. Pearson chi-square and Kruskal-Wallis tests with Bonferroni-corrected post hoc pairwise comparisons were used to compare demographic and healthcare outcomes.

**Results:** Analysis consisted of 8403 patients representing four racial/ethnic groups: Asian (n=2026), Black (n=635), Latinx (n=918), White (n=4824). Compared to other races/ethnicities, Blacks had the longest time to schedule appointments (10.7 days,  $p<.0001$ ), longest total time to receive physical therapy (20.4 days,  $p<.0001$ ), lowest number of visits (4.0 visits,  $p<.0001$ ), and the highest Charlson Comorbidity Index scores (1.9,  $p<.0001$ ). Blacks and Latinx had the highest rates of having only one visit without follow-up appointments (23% and 21%, respectively,  $p=0.01$ ). Blacks had the highest proportion of MediCal insurance users (31% vs 8-21%). MediCal users had the longest average time to schedule compared to all other payor plans (11.8 vs 7.4-8.9 business days,  $p<.001$ ).

**Conclusions and Global Health Implications:** Results show significant racial/ethnic differences in access-to-care and clinical outcomes. The use of Health informatics and GIS to process spatial relationships of geographic environment and health outcomes are essential to augment the investigation of health disparities research.

**Key words:** • Health informatics • Geographical information system • Health disparity  
• Health outcomes • Physical therapy

*Copyright © 2020 Pak et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 26

# COVID-19: Unmasking the Face of Health Disparities

**Olusegun Bakare**, MBBS, MPH(c); **Beverly I. Anaele**, MPH<sup>✉</sup>; **Russell McIntire**, PhD, MPH

Thomas Jefferson University, College of Population Health, 901 Walnut Street, 10<sup>th</sup> Floor, Philadelphia, Pennsylvania, USA

<sup>✉</sup> **Corresponding author:** Beverly I. Anaele, bia002@jefferson.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** According to the Centers for Disease Control and Prevention (CDC), the U.S. suffered from 70,802 cumulative COVID-19 related deaths as of May 6, 2020. COVID-19 has affected all racial groups, but rates are disproportionately higher among African-American populations. To further understand this issue, the following study investigated racial disparities in mortality and healthcare access in Pennsylvania (PA) using Geographic Information Systems mapping (GIS).

**Methods:** We used ArcGIS version 10.3.1 (ESRI) to create county-level choropleth and point data maps of Pennsylvania. Data on COVID-19 deaths from May 4, 2020, percentages of African-American populations (2010), and primary care provider access (2017) were obtained from PolicyMap.

**Results:** Geographic visualizations suggest a correlation between counties where the majority of African-Americans live and heightened levels of COVID-19 deaths. Philadelphia county, in Southeastern PA, has a 46% African-American population according to the 2010 U.S. Census and had one of the highest levels of COVID-19-related mortalities in the state (118.1-424.0 deaths on May 4, 2020). Yet, there were relatively high and homogenous percentages of healthcare access across counties, as the lowest estimated number was 78.8%.

**Conclusions and Global Health Implications:** These results likely suggest a need for increased attention toward social determinants of health and public health programming for minority populations rather than singular attention toward healthcare access. Still, 64% of racial data from the PA Department of Health (2020) was missing as of May 7. In order to quantify racial disparities in COVID-19 outcomes and identify the causes of these disparities, PA needs to comprehensively report COVID-19 race statistics.

**Key words:** • COVID-19 • Health inequity • Disparities • African-Americans • Pennsylvania • GIS

*Copyright © 2020 Bakare et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 27

# Parents' Perceptions of a New Primary Care Intervention to Improve Health, Education and Financial Outcomes for Families with Low Income

Mary Beth Bennett, MA<sup>✉</sup>; Laura Rosen, MPP; Michael K. Hole, MD, MBA

Dell Medical School at the University of Texas, 1501 Red River St, Austin, TX 78712, USA

<sup>✉</sup>Corresponding author: Mary Beth Bennett, mbennett@utexas.edu

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Families with low income face barriers to reaching health, educational, and financial goals. Parents at every income level want prosperous futures for their children. We're launching a children's savings account (CSA) program rewarding families for healthy behaviors with postsecondary education scholarships. Similar programs have improved mothers' mental health and children's socio-emotional development.

**Methods:** We assessed how parents perceive preventive healthcare and early childhood education, along with the educational goals they have for their children. We conducted in-depth, qualitative interviews of parents who meet the following criteria: (1) at least one child 3-years-old or younger, (2) maximum income of 185% of federal poverty level, and (3) no parent with an advanced degree (e.g. master's). We interviewed 11 parents. We will interview four more by May 2020.

**Results:** All parents were interested in participating in a milestone-based CSA program through their health clinic. All hoped their child(ren) would attend college, and 64% worried that failing to attend college would limit their children's career prospects. Parent responses conveyed themes including: (1) they believe pre-kindergarten enrollment foreshadows better school performance, (2) they struggle to afford high-quality childcare, and (3) the high cost of childcare prevents them from pursuing career goals.

**Conclusions and Global Health Implications:** Health professionals should consider social and economic interventions as ways to improve patient health and quality of life. Further research is needed to identify the best approaches to whole-family care during frequent visits to pediatric clinics.

**Key words:** • Early childhood • Parent motivations • Preventive health • Financial health  
• Savings program • Incentives

*Copyright © 2020 Bennett et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 28

# The Diversity Assessment – A Tool to Facilitate Diversity Literacy in Graduate Medical Education

Neema Pithia, MD;<sup>1</sup>✉ Valencia P.Walker, MD, MPH;<sup>2</sup> Sarah Gustafson, MD<sup>3</sup>

<sup>1</sup>University of California Los Angeles, Department of Pediatrics, Los Angeles, CA 90095, USA; <sup>2</sup>University of California Los Angeles, Department of Neonatology, Los Angeles, CA 90095, USA; <sup>3</sup>University of California Los Angeles Harbor Medical Center, Department of Pediatrics, 1000 W Carson St, Torrance, CA 90502, USA

✉ **Corresponding author:** Neema Pithia, npithia@mednet.ucla.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** An ideal method for acquiring diversity literacy during graduate medical education (GME) training remains controversial. Common barriers include competing demands for knowledge acquisition and increasingly limited time constraints.

**Methods:** One Institution's Pediatric Residency Diversity Committee created the Diversity Assessment (DA) after literature review and internal discussion. Anonymized, optional questionnaires were administered to postgraduate year (PGY) I - 4 Pediatrics and Medicine-Pediatrics trainees at an annual Spring Retreat over two consecutive years (2018-2019). DA questions elicited trainee attitudes about addressing diversity literacy in Graduate Medical Education and the impact on patient care. It also probed trainees' preferred learning methods.

**Results:** Of the 92 trainees, 66 (72%) provided responses. The predominant 2018 self-identified racial/ethnic demographics were white (51%) and Asian (39%). The vast majority were 26-30 years old (86%), heterosexual (81%) and women (78%). Socioeconomic status was primarily upper middle (46%) and middle (36%) class. Agreement with the statements, "Diversity education is important," and "Diversity education directly affects patient care and outcomes," were rated at 4.1 and 4.4 respectively on a five-point Likert scale (LS). The 2018 DA found that trainees were least comfortable addressing barriers faced by patients with disabilities (3.2 out of 5). The 2019 DA had no significant change within this field. The 2018 findings identified noon conferences as a preferred method for diversity education.

**Conclusions and Global Health Implications:** The valuation of diversity literacy remains high among all trainees. In response to DA results, specific diversity-focused content was added to noon conferences. Additional investigations are needed to assess the impact of this intervention.

**Key words:** • Diversity education • Residency • Literacy • Graduate medical education • Diversity Assessment

*Copyright © 2020 Pithia et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 29

# Plant Antinutrients and the Gut Microbiome: A New Dimension

**Ardawna Jael Green, BS;<sup>1</sup>✉ Jennifer Spinler, PhD;<sup>2,3</sup> Deepu Karri;<sup>4</sup> Debra Dianne Murray, PhD;<sup>1</sup> Paul Nakata, PhD;<sup>5</sup> Kendal D. Hirschi, PhD<sup>5</sup>**

<sup>1</sup>Human Genome Sequencing Center, Molecular and Human Genetics, Baylor College of Medicine, Houston, TX, 77030, USA; <sup>2</sup>Texas Children's Microbiome Center, Department of Pathology, Texas Children's Hospital, Houston, Texas, USA; <sup>3</sup>Department of Pathology & Immunology, Baylor College of Medicine, One Baylor Plaza, Houston, Texas, USA; <sup>4</sup>Rice University, Houston, TX, USA; <sup>5</sup>USDA-ARS Children's Nutrition Research Center, Houston, TX, 77030, USA

✉ **Corresponding author:** Ardawna Jael Green, Ardawna.Green@bcm.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background:** Plant-based diets and the gut microbiome influence intestinal health. Nutrient bioavailability varies among plant varieties with equivalent micronutrient levels as a result of various factors including antinutrient content. Feeding studies comparing different plants for their effects on the microbiome are often ambiguous because of multiple differences in genotypes and phenotypes.

**Methods:** A mutant of the forage crop *Medicago truncatula* has been characterized that contains a single genetic variant that reduces the concentration of calcium oxalate, an antinutrient, but has identical calcium content to wild-type plants. We have shown in mouse feeding studies that this mutant increases bioavailable mineral content. Our work is now addressing how these same plants impact the consumer's microbiome. We are currently growing large amounts of the two plants to perform a large scale feeding study.

**Results:** In a pilot study, six mice (3 on each diet) were fed for 20 days; 16S rRNA gene sequencing of the pre-feeding and post-feeding fecal pellets was completed to determine changes in microbial diversity. Microbiome analysis indicated significant differentiation between pre-diet and post-diet microbiomes, with trends in separation between wild-type and mutant diet microbiomes.

**Discussion, Conclusion and Global Health Implications:** This data suggests that the antinutrient impacts the microbiome. These integrated plant, animal, and microbial approaches may lead to better strategies to improve mineral bioavailability from plant-based diets. Modified crops and novel probiotics could become part of dietary regimes for resource-limited populations identified as at-risk for mineral deficiencies and the diseases caused by a lack of these bioavailable nutrients in the diet.

**Key words:** • Medicago • Oxalate • Calcium • Microbiome

*Copyright © 2020 Green et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 30

# The Role of Global Private Public Partnerships in Addressing Global Health Equity: A Zimbabwe Hospital Case Study

Sergio M. Navarro, MBA;<sup>1,2,3</sup>✉ Andile Dube;<sup>4</sup> Chris Lavy, MD<sup>3</sup>

<sup>1</sup>Department of Surgery, Baylor College of Medicine, Houston, USA; <sup>2</sup>Saïd Business School, University of Oxford, Oxford, UK; <sup>3</sup>Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford University, Oxford, UK; <sup>4</sup>National University of Science and Technology, Bulawayo, Zimbabwe

✉ **Corresponding author:** Sergio M. Navarro, sergio.michael.navarro@gmail.com

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Introduction:** Global private public partnerships (PPPs) can be seen as a mechanism to develop healthcare infrastructure in Zimbabwe on a cost effective and sustainable basis. This case study examines the future PPPs in the Zimbabwe healthcare ecosystem based on the development of the Zimbabwe Orthopedic Hospital (ZOH), which will serve to provide orthopedic surgical services to adults and children in Zimbabwe.

**Methods:** A framework for global PPPs and the specific partnership used for ZOH was outlined using an innovative healthcare funding platform. All planned operative pediatric procedures to be performed in the first ten operative years were included. Data on clubfoot clinic locations, surgical training to be conducted, along with the number of patients treated were estimated and projected.

**Results:** An examination of successful PPPs for healthcare delivery in global surgery was conducted, with projections for pediatric procedures and hospital usage were generated using the framework. Clubfoot, burn contracture and angular lower limb deformities are expected to be the three most common pathologies treated surgically. Furthermore, the ZOH has the potential to support the training of 200 medical staff, along with 50 clinical officers, expanding the national surgical capacity of the country, treating more than 4,000 patients over the next decade.

**Conclusion and Global Health Implications:** Global PPPs, such as the one implemented for ZOH, can sustainably improve the surgical care of pediatric patients. The strategic impact of long-term training commitments and long-term patient care can be realized through expanding pediatric and adult surgical care through establishment of ZOH using an innovative funding structure.

**Key words:** • Private public partnerships • Cost effectiveness • Surgical care • Orthopedics • Healthcare Infrastructure

*Copyright © 2020 Navarro et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 3 I

# United: A Trainee Multi-institutional Approach to Diversity, Inclusion and Equity

---

Danielle Gonzales, MD<sup>✉</sup>; Rachel McCommon, MAEd

Children's Mercy Kansas City, 2401 Gillham Rd, Kansas City, MO, 64108. University of Missouri-Kansas City, 5000 Holmes St, Kansas City, MO 64110, USA

<sup>✉</sup> Corresponding author: Danielle Gonzales; dgonzales@cmh.edu

Reviewers: Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Children's Mercy Hospital (CMH) and University of Missouri-Kansas City (UMKC) recognized a need to provide support for and build community across both institutions' UIM (Underrepresented in Medicine) trainees, which was the basis of developing UNITED.

**Methods:** UNITED, a trainee group, helped trainees develop relationships across subspecialties and advocate for diversity among all training programs. Goals for UNITED included: (1) build community among UIM trainees and trainees new to Kansas City, (2) develop a platform for collaboration and idea exchange among programs; (3) create culturally-competent work environments; and (4) recruit and retain a diverse workforce. Mission statement and purpose were shared with all program directors followed by nominated trainees to comprise the group.

**Results:** About 20 trainees volunteered for UNITED and served as ambassadors for their programs. A survey of UNITED members (N=17) about diversity gaps that exist in trainee environments identified issues with unconscious bias (70%), cultural competency (64%), dimensions of diversity (58%), gender equity (58%), LGBTQ+ competency (52%), and conscious bias (41%). Through several meetings, UNITED members determined ways to address diversity gaps and the goals for UNITED. UNITED met every 1-2 months for educational workshops, social events and planned events for the larger community.

**Conclusions and Global Health Implications:** UNITED brought together trainees across institutions for the first time. They were dedicated to make change regarding diversity gaps, cultural competency and diverse workforce retention and developed ways to accomplish this.

**Key words:** • Diversity • Inclusion • Equity • Retention • Diverse workforce • Diversity gaps

*Copyright © 2020 Gonzales et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 32

# Developing a Health Career App to Promote Student Interest in Pursuing Cancer Research Careers and to Enhance Active Learning for Minority Stem Students

Yue Xie, PhD;<sup>1</sup>✉ Dhitinut Ratnapradipa, PhD;<sup>1</sup> Kendra Ratnapradipa, PhD<sup>2</sup>

<sup>1</sup>Department of Population Health, Sam Houston State University, 1905 University Ave, Huntsville, TX 77340, USA; <sup>2</sup>Department of Epidemiology, University of Nebraska Medical Center, 42<sup>nd</sup> and Emile St, Omaha, NE 68198, USA

✉ **Corresponding author:** Yue Xie, yxie@shsu.edu

**Reviewers:** Deepa Dongarwar and Hamisu M. Salihu

**Background and Purpose:** Shortage of cancer researchers including underserved minorities is a national concern. Yet, only 10% of college students have ever considered cancer research as a career, while 21% of college students are interested in conducting cancer research and 26% in providing cancer care. Barriers to pursuing cancer careers include limited awareness of learning paths leading to such careers.

**Methods:** As a part of a larger research project to promote cancer research careers, the research team recruited underrepresented minority undergraduate computer science students to create an App that would allow students, parents, and career counselors to look up more than 50 college majors and link them to potential cancer related careers.

**Results:** An Android App and a web version were deployed and undergoing active testing, while an iOS version is still under development.

**Conclusion and Global Health Implication:** Shortage of cancer researchers, especially minority researchers, is a concern. Research shows that students who received cancer career guidance are eight times more likely to consider a cancer research career. This app would bridge the information gap and potentially help recruit more students including minorities into this career track. Additionally, to the minority STEM students who participated in this project, it offered a rare opportunity to gain experience in a real life full lifecycle software development project and help nurture their continued interest in pursuing a STEM career.

**Key words:** • Cancer • Research • Career • Minority • STEM • Health career • Mobile app

*Copyright © 2020 Xie et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*



## ABSTRACT 33

# Understanding Rate and Characteristics of Admission from the Emergency Room for Patients with Intellectual Disability

Elisha Acosta, MD<sup>✉</sup>; Acara E. Turner, BS; Blessing Felix-Okoroj, BS; Tara Everett, BSA; Deepa Dongarwar, MS; Hamisu M Salihu, MD, PhD

Baylor College of Medicine Center of Excellence in Health Equity, Training and Research, 1 Baylor Plaza, Houston, TX 77030, USA

✉ Corresponding author: Acosta Elisha M, Emacosta@bcm.edu

Reviewer: Toi Harris, toih@bcm.edu

**Background:** Studies have identified that patients with intellectual disability (IDD) visit the emergency department (ED) more often than their neurotypical peers. However, there is limited information on disposition from the ED for patients with IDD. The goal of this investigation is to compare rates of admission from the ED and the characteristics of patients with IDD who get admitted from the ED.

**Methods:** This was a retrospective study using the Nationwide Emergency Data Sample (NEDS) to investigate the associations between the diagnosis of IDD and admission to the hospital in patients 18 years of age or older in the years 2016-2017 who present at the ED. The top 10 associated diagnoses at the time of admission among the entire study population and among those with a diagnosis of IDD were also assessed.

**Results:** Adults with IDD were almost 4 times more likely to be admitted to the hospital from the ED than neurotypical patients (OR 3.94; CI = 3.63-4.28). This was most prominent for those 18-39 years old where those with IDD were almost 6 times more likely to be admitted than those without IDD (OR 5.83; CI = 5.25-6.47). Additionally, for the 18-39 year old cohort with IDD, 5 of the top 10 associated diagnoses were psychiatric.

**Conclusions and Global Health Implications:** Patients with IDD are admitted from the ED at higher rates than their neurotypical peers, especially in the 18-39 year old age range. Identifying the major contributors to increased admission for patients with IDD may help improve the care of patients and reduce cost associated with inpatient admission.

**Key words:** • Intellectual disability • Hospital admission • Emergency room

*Copyright © 2020 Acosta et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 34

# Clinical Outcomes of Ambulatory Noninvasive Ventilation in Chronic Obstructive Pulmonary Disease

Christopher Nemeah, MD;<sup>1</sup> Deepa Dongarwar, MS;<sup>2</sup> Emanuella Oguduwa, BS;<sup>3</sup> Hamisu M. Salihu, MD, PhD;<sup>4</sup> Jairo Barrantes Perez, MD, FCCP<sup>5</sup>✉

<sup>1</sup>Department of Internal Medicine, Baylor College of Medicine, Houston, Texas, USA; <sup>2</sup>Baylor College of Medicine Center of Excellence in Health Equity, Training and Research, Houston, Texas, USA; <sup>3</sup>Baylor College of Medicine, Houston, Texas, USA; <sup>4</sup>Department of Pulmonary and Critical Care Medicine, Baylor College of Medicine, Houston, Texas, USA

✉ **Corresponding author:** Jairo Barrantes Perez, jhperez@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Chronic Obstructive Pulmonary Disease (COPD) is one of the leading causes of mortality and disability worldwide. The use of Noninvasive Positive Pressure Ventilation (NIPPV), methods such as Continuous Positive Airway Pressure (CPAP), Bilevel Positive Airway Pressure (BPAP), Volume-Assured Pressure Support (VAPS) appear to be associated with significant decrease in frequency of exacerbation, hospital admissions and mortality in patients with COPD and chronic hypercapnia; however, the evidence supporting this conclusion is scarce and has not been widely validated in large prospective studies. As a result, the overall impact of ambulatory use of NIPPV in COPD is less known due to its subsequent underutilization.

**Methods:** In this review, the Nationwide Inpatient Sample (NIS) data set was used to evaluate patient characteristics for adult hospitalizations for all the COPD spectrum including asthma, bronchiectasis and other COPD conditions such as chronic bronchitis and emphysema between January 2002 and December 2017. Using joinpoint analytics and an adjusted survey logistic regression model, the association between NIPPV and in-hospital mortality for asthma, bronchiectasis and other COPD was ascertained.

**Results:** Notably, incidence for all subtypes of COPD has increased over the study period and prevalence appears to differ across racial and socioeconomic backgrounds. Furthermore, ambulatory use of NIPPV was associated with decreased in-hospital mortality in COPD.

**Conclusion and Global Health Implications:** We acknowledge, however, the limitations of this study and the need for further prospective evaluations. More information remains to be elucidated including, but not limited to device settings, pCO<sub>2</sub> threshold for therapy onset, and logistical patterns of cost-effectiveness; nevertheless, these findings support a strong signal at large scale for potential benefit and warrant further investigation.

**Key words:** • COPD • NIPPV • In-hospital mortality • NIS • Hospital admissions

Copyright © 2020 Nemeah et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

---

## ABSTRACT 35

# Trends In Premature Deaths Among Women Living with HIV/AIDS and Cervical Cancer

---

Emmanuella Oduguwa, BS; Deepa Dongarwar, MS; Hamisu M. Salihu, MD, PhD<sup>✉</sup>

Baylor College of Medicine Center of Excellence in Health Equity, Training and Research, 1 Baylor Plaza, Houston, TX 77030, USA

<sup>✉</sup>Corresponding author: Hamisu M. Salihu. Hamisu.Salihu@bcm.edu

Reviewer: Toi Harris, toih@bcm.edu

**Background:** There is a lack of updated information on premature death and years of potential life lost (YPLL) among HIV-positive women with cervical cancer. We hypothesize that increased access to preventive resources such as antiretroviral therapy (ART), pre-exposure prophylaxis (PrEP), and HPV vaccines has reduced premature mortality and YPLL in these women over the previous decades.

**Methods:** We used data from the National Inpatient Sample (NIS) database from 2003 to the third quarter of 2015, and restricted the analysis to HIV-positive women with or without cervical cancer. Joinpoint regression models were run to identify trends in the rates of HIV and cervical cancer. Overall and age stratified YPLL were calculated for HIV-positive women with or without cervical cancer. Adjusted survey logistic regression models were built to determine the predictive factors of in-hospital mortality among women living with HIV.

**Results:** Among hospitalized women, low-income, NH-Blacks, and patients aged 40-59 years experienced greater frequencies of both HIV and cervical cancer. The prevalence of HIV hospitalizations increased by an average annual percentage of 0.9% (95% CI: 0.3, 1.6). YPLL decreased in HIV-positive women living with and without cervical cancer by 4.9% and 4.3% respectively. The trajectory for YPLL was not uniform across age groups. YPLL decreased substantially in women aged 20-29 with HIV/cervical cancer comorbidity. Among women with HIV only, YPLL dropped considerably in patients <20 years and those aged 20-29. However, YPLL increased among HIV-positive older women. Cervical cancer remained a significant predictor of mortality among HIV-positive women when adjusted for age, race, and insurance coverage.

**Conclusions and Global Health Implications:** Within a large, national sample from 2003-2015, we found an overall declining trend in YPLL in women living with HIV with or without cervical cancer. In-hospital mortality among HIV-positive women was associated with cervical cancer, age, race, and insurance coverage. We recommend further investigation into the quality of HIV and cervical cancer treatment and prevention services for the socio-demographic groups described.

**Key words:** • HIV • Cervical cancer • Comorbidity • YPLL

*Copyright © 2020 Oduguwa et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 36

# Acute Care Utilization and Mortality in Transition-aged Patients with Sickle Cell Disease in the United States: Prevalence and Temporal Trends

**Titilope Fasipe, MD, PhD**<sup>✉</sup>; **Deepa Dongarwar, MS**; **Ria Brown, BS**; **Megan Abadom, BS**;  
**Elyse Lopez, BA**; **Hamisu M. Salihu, MD, PhD**

Baylor College of Medicine Center of Excellence in Health Equity, Training and Research, 1 Baylor Plaza, Houston, TX 77030, USA

<sup>✉</sup>Corresponding author: Titilope Fasipe, ishola@bcm.edu

Reviewer: Toi Harris, toih@bcm.edu

**Background:** Sickle cell disease (SCD) is a genetic blood disorder that results in vaso-occlusive events and shortened lifespan. Medical advancements have led to a decrease in childhood mortality in SCD, but the transition period is associated with poor outcomes. We analyzed recent US hospitalizations and mortality trends in the transition-aged population and evaluated for differences between individuals with and without SCD.

**Methods:** Nationwide Inpatient Sample (NIS) database was utilized to analyze hospitalizations between 2003-2017 among individuals within the age range of 16 to 24 years. Diagnoses were coded using ICD-9-CM and ICD-10-CM. Statistical analyses included: bivariate analyses to assess the association between socio-demographic characteristics, joinpoint regression analysis to describe trends in mortality rates, average annual percent change (AAPC) measures were calculated, and adjusted survey logistic regression to assess the association between patient characteristics and in-hospital mortality.

**Results:** Our data captured 37,344,532 total patients between the age of 16 and 24 who were hospitalized between 2003 and 2017. Patients with SCD comprised 1.20% of the population with a significant +3.2% AAPC in hospitalizations. When comparing SCD to non-SCD hospitalization trends, we observed differences in gender, against-medical-advice discharge status, zip code income, and payer. SCD in-hospital mortality rates showed a non-significant -0.7% AAPC. However, in contrast to non-SCD patients, the odds ratios for in-hospital mortality significantly increased with age for SCD patients.

**Conclusion and Global Health Implications:** During the transition period, SCD patients have an extremely increased likelihood of mortality. Proposed interventions to address this disparity must include targeting social determinants of health.

**Key words:** • Sickle cell disease • Transition age • Hospital mortality

*Copyright © 2020 Fasipe et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 37

# Trends of In-hospital Mortality Among Children with Acute Myeloid Leukemia: A Population-based Study

Maria I. Castellanos, MD;<sup>1</sup>✉ Deepa Dongarwar, MS;<sup>2</sup> Rachele Wanser, BS;<sup>2</sup> Ibeth Caceres, BS;<sup>2</sup> Charles Park, BS;<sup>2</sup> Jacquelin Rodriguez, BS;<sup>2</sup> Hamisu M. Salihu, MD, PhD<sup>2</sup>

<sup>1</sup>Department of Pediatrics, Section of Pediatric Hematology/Oncology, Baylor College of Medicine, Houston Texas, USA; <sup>2</sup>Center of Excellence in Health Equity, Training and Research, Baylor College of Medicine, Houston, Texas, USA

✉ **Corresponding author:** Maria Castellanos, mc34@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Acute myeloid leukemia (AML) represents 15-20% of all pediatric acute leukemias with overall survival rates approximately 70%. Survival rates have increased in the past three decades, however, further progress on survival rates has reached a plateau. Disparities in survival for children and adolescents with AML exist, reducing the overall survival. Reasons for the observed higher mortality rates among Hispanic and Black children with AML are likely multifactorial, however, remain understudied. The purpose of our study is to evaluate the trends of all cause in-hospital mortality among children and adolescents with AML and to investigate whether factors such as rurality, hospital size, and type of hospital play a role in mortality.

**Methods:** We conducted a retrospective cross-sectional study of 69,237 hospitalizations for pediatric patients with AML under 20 years of age between 2003-2017. We conducted bivariate analyses to assess the association between various patient characteristics and hospital characteristics and inpatient mortality. We used joinpoint regression to assess temporal trends in the national incidence of in-hospital death among all pediatric AML hospitalizations. We used survey logistic regression to generate adjusted odds ratios to measure our variables of interest.

**Results:** The incidence of mortality was highest among patients aged 15 to 19 years, Black children, those insured with public insurance, and with lower zip income quartile status. The overall in-hospital mortality rates remained the same throughout the study period. Black children and adolescents experienced higher risk of mortality compared to other racial/ethnic groups (odds ratio [OR] 1.36 p<0.04).

**Conclusions and Global Health Implications:** Racial disparities in survival of Black children with AML remain significant, meriting further investigation.

**Key words:** • Acute myeloid leukemia • Survival • Racial disparities

*Copyright © 2020 Castellanos et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 38

# Multiple Sclerosis in a Multi-Ethnic Population in Houston, Texas: A Retrospective Analysis

Vicki Mercado;<sup>1</sup> Deepa Dongarwar, MS;<sup>1</sup> Kobby A. Wiafe, BS;<sup>1</sup> Patrick Costello, BA;<sup>1</sup> Kristen Fisher, DO;<sup>2</sup> Hamisu M. Salihu, MD, PhD;<sup>1</sup> Fernando X. Cuascut, MD, MPH<sup>1,3</sup>✉

<sup>1</sup>Baylor College of Medicine Center of Excellence in Health Equity, Training and Research, 1 Baylor Plaza., Houston, TX 77030, USA, <sup>2</sup>Harris Health System, Smith Clinic, Houston, TX, 77054, USA, <sup>3</sup>Baylor College of Medicine, Maxine Mesinger Multiple Sclerosis Center, Houston TX, 77030

✉ **Corresponding author:** Fernando X. Cuascut, fernando.cuascut@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Multiple Sclerosis (MS) is an autoimmune demyelinating condition of the central nervous system (CNS) that leads to gradual disability. Increased knowledge about MS in different populations has advanced our understanding of disease epidemiology. Notably, recent studies have shown that African Americans (AA) and Hispanics with MS have a higher disease burden and greater disability in earlier stages of disease compared to Caucasian patients.

**Objective:** Describe differences in clinical presentation, MRI findings, treatment regimens, disability progression, and overall clinical outcomes in a multi-ethnic group with MS.

**Design:** A retrospective chart analysis of a patient cohort from an MS center in Houston, TX. Included are a total of 61 African Americans, 40 Hispanics and 11 Non-Hispanic White patients with MS who were seen in the clinic from March 2019 to March 2020. A neurologist abstracted patient data from medical records and the study design was IRB approved.

**Results:** AA MS patients displayed more motor dysfunction, higher proportion of severe disability scores (EDSS >4.5), longer time from symptom onset to diagnosis, and decreased probabilities of a neurological evaluation at diagnosis compared to Hispanics. Smoking heightened the risk for severe disability at diagnosis and an early neurological evaluation was a protective factor against subsequent severe disability. A greater proportion of AA MS patients had progressive brain atrophy.

**Conclusions and Global Health Implications:** Compared to Hispanics, MS in AA is characterized by a higher incidence of motor dysfunction, advanced clinical disability and radiological abnormalities at earlier stages, and a smaller likelihood of diagnosis by a neurologist.

**Key words:** • Multiple sclerosis • Disparities • Minorities

*Copyright © 2020 Mercado et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 39

# Patterns and Predictors of Local Failure in Cervical Cancer

**Alfredo Echeverria, MD;<sup>1,3</sup>✉ Michelle Ludwig, MD MPH PhD;<sup>1</sup> Deepa Dongarwar, MS;<sup>1</sup> Jennifer Lopez, BS;<sup>2</sup> Maria Vigil, BA;<sup>2</sup> Christina Maxey, BSA;<sup>2</sup> Nina Truong;<sup>2</sup> Hamisu Salihu, MD PhD<sup>2,3</sup>**

<sup>1</sup>Department of Radiation Oncology, Baylor College of Medicine, Houston, TX; <sup>2</sup>Center of Excellence in Health Equity, Training, and Research, Baylor College of Medicine, Houston, TX, USA; <sup>3</sup>Department of Family and Community Medicine, Baylor College of Medicine, Houston, TX, USA

✉ **Corresponding author:** Alfredo Echeverria, echeverr@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Purpose:** To identify factors at the time of presentation that predict for paraaortic lymphatic failures after definitive chemoradiation.

**Methods:** We identified 138 patients with IBI-IVA cervical cancer treated with definitive chemoradiation between 2008 and 2014. Tumor size/stage and patient factors were gathered. The number, size and specific lymph node location was recorded before therapy and at the time of any failure. Median follow up was 23 months.

**Results:** Eighty-two (59.4%) patients presented with pelvic lymph node (PLN) involvement at the time of presentation. Presence of involved PLNs was associated with a higher rate of paraaortic lymph node (PALN) involvement at the time of presentation (39.0% vs. 0%  $p < 0.001$ ). PALNs were involved in 8 (19.5%) patients with FIGO Stage IBI-IIA1, 8 (14.0%) with stage IIA2-III, and 16 (40.0%) with stage IIIB-IVB cancer at presentation ( $p = 0.009$ ). PALN failure occurred in 10.9% of patients. Patients at risk for PALN failure were those with  $\geq 3$  PLNs at presentation (17.2% vs. 5.4%  $p = 0.026$ ), those with  $\geq 3$  PALNs at presentation (23.8% vs. 8.5%  $p = 0.038$ ) and those with concurrent primary failures (48.3% vs. 0.9%  $p < 0.001$ ) or distant failures (40% vs. 2.8%  $p < 0.001$ ). Those who had  $\geq 3$  PALNs at presentation were 6.09 times as likely (95%CI: 3.28-8.20) to die as compared to those with  $< 3$  PALNs. Similarly, those with  $\geq 3$  PLNs had about 5 times increased likelihood (HR=4.92, 95% CI=1.36-7.75) to die when compared to those with  $< 3$  PLNs. As compared to those with tumor volume  $< 70$ cc, those with tumor size of  $\geq 70$ cc had increased likelihood to die (HR=2.28, 95% CI: 0.6-8.69)

**Conclusions and Global Health Implications:**  $\geq 3$  PLNs at presentation were associated with higher rates of PALN failure. Those with primary tumor sizes  $\geq 70$ cc,  $\geq 3$  PALNs or PLNs at presentation had worse survival outcomes. This may suggest the need for escalation of radiotherapy or chemotherapy in these patients.

**Key words:** • Cervical cancer • Local failure • Paraaortic lymphatic failures • Pelvic lymph node

*Copyright © 2020 Echeverria et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 40

# Trends in Appendicitis Among Pregnant Women, the Risk for Cardiac Arrest, and Maternal-fetal Mortality

Jalyce Taylor, BS, BA;<sup>1</sup>✉ Deepa Dongarwar, MS;<sup>1</sup> Hamisu M. Salihu, MD, PhD<sup>1,2</sup>

<sup>1</sup>Center of Excellence in Health Equity, Training, and Research, Baylor College of Medicine, Houston, TX, USA; <sup>2</sup>Department of Family and Community Medicine, Baylor College of Medicine, Houston, TX, USA

✉ **Corresponding author:** Taylor, Jalyce jalyce.taylor@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Appendicitis is the most common extra-uterine surgical emergency requiring immediate intervention during pregnancy. However, risks for mortality and morbidity among pregnant women with appendicitis remain poorly understood. This study was conducted to determine the temporal trends of appendicitis in pregnant women, and to calculate the risk of maternal-fetal mortality and near-miss marker (i.e. cardiac arrest) among pregnant women in general, and by race/ethnicity.

**Methods:** We conducted this retrospective study using data from the Nationwide Inpatient Sample (NIS) from January 1, 2002 through December 31, 2015. Joinpoint regression was used to estimate and describe temporal changes in the rates of all and acute appendicitis during the 14-year study period. We also estimated the risk of cardiac arrest, maternal and fetal mortality among mothers of various racial/ethnic groups with a diagnosis of acute appendicitis. Within each group, patients without acute appendicitis were the referent category.

**Results:** Out of the 58 million pregnancy hospitalizations during the study period, 63,145 cases (10.74 per 10,000 hospitalizations) were for acute appendicitis. There was a 5% decline (95% CI: -5.1, -5.0) in the rate of appendicitis hospitalizations over the period of the study. After adjusting for covariates, pregnant mothers with acute appendicitis had increased likelihood when compared to those without acute appendicitis to suffer fetal loss (OR: 2.05, 95% CI: 1.85-2.28) and nearly five-fold increase for inpatient maternal death.

**Conclusion and Global Health Implications:** In conclusion, appendicitis during pregnancy remains an important cause of in-hospital maternal-fetal mortality overall and regardless of race/ethnicity.

**Key words:** • Appendicitis • Cardiac arrest • Maternal-fetal mortality

*Copyright © 2020 Taylor et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*



## ABSTRACT 41

# Self-reported Physical Activity Levels in Patients with Cerebral Palsy

Jensine' Norman, MD;<sup>1</sup>✉ Joslyn Gober, DO;<sup>1</sup> Deepa Dongarwar, MS;<sup>2</sup> Sana Erbatl, BS;<sup>2</sup> Nicole Gras, BA;<sup>2</sup> Andres Bryan;<sup>2</sup> Matthew Morones, MS;<sup>2</sup> Hamisu M. Salihu, MD, PhD;<sup>2</sup> Sruthi Thomas, MD, PhD<sup>1,3</sup>

<sup>1</sup>H. Ben Taub Department of Physical Medicine and Rehabilitation, Baylor College of Medicine, Houston, TX; <sup>2</sup>Baylor College of Medicine Center of Excellence in Health Equity, Training and Research Houston, TX; <sup>3</sup>Department of Neurosurgery, Baylor College of Medicine, Houston, TX

✉ **Corresponding author:** Jensine' Norman, jensine.norman@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Children with cerebral palsy (CP) have physical limitations leading to reduced levels of physical activity and a secondary higher risk of developing metabolic diseases. Healthcare professionals can modify morbidity associated with chronic health disease by promoting physical activity within the context of an individual's functional performance. The aim of this study was to examine the level of physical activity in children ages 5-18 with CP.

**Methods:** Children with CP and their caregivers were recruited to complete the PROMIS Physical Activity measure and the CanChild GMFCS FR Questionnaire. Spearman correlation was conducted between the caregiver and child-rated PROMIS scores. The Wilcoxon signed rank test, percentage agreement test, and weighted Cohen's Kappa test were conducted to compare the scores provided by the caregiver and the participant.

**Results:** 65 children were enrolled. The child/caregiver's self-reported functional level corresponded to the provider-documented GMFCS level ( $p < 0.0001$ ). Self-reported physical activity was below that of typically developed individuals but within one standard deviation. Adjusting for age, race/ethnicity and sex, those with GMFCS level  $>3$  were 88% (95% CI: (0.03-0.39) less likely to receive a higher caregiver-rated PROMIS score compared to those with GMFCS score  $<3$ . Participants with a GMFCS level  $>3$  were 97% less (95% CI: 0.01-0.30) likely to receive a higher self-reported PROMIS score.

**Conclusion and Global Health Implications:** Children who were GMFCS IV-V had low caregiver or self-reported PROMIS physical activity scores. These findings quantify physical activity in this population and can be used in future studies assessing the success of potential interventions to improve physical activity.

**Key words:** • PROMIS • Physical activity • Cerebral palsy • GMFCS

*Copyright © 2020 Norman et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 42

# Factors Associated with Prolonged Length of Stay in Pediatric Patients Hospitalized for Suicidal Ideation or Suicide Attempt Requiring Transfer to a Psychiatric Facility

Marina Masciale, MD<sup>✉</sup>; Deepa Dongarwar, MS; Hamisu M. Salihu, MD, PhD

*Baylor College of Medicine Center of Excellence in Health Equity, Training and Research*

<sup>✉</sup> **Corresponding author:** Marina Masciale, masciale@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Pediatric hospitalizations for suicidal ideation (SI) and suicide attempt (SA) are on the rise, and little is known about factors influencing length of stay (LOS). Our study seeks to determine whether socioeconomic or comorbid conditions serve as predictors for prolonged length of stay (pLOS) in children hospitalized for SI/SA requiring transfer to a psychiatric facility.

**Methods:** This was a retrospective cross-sectional study utilizing data from the National Inpatient Sample (NIS) from 2016-2017. We included children <18 years old hospitalized with a primary or secondary ICD-10-CM diagnosis of SI or SA who were dispositioned to a psychiatric facility. Exposures of interest were patient socio-demographics and hospital characteristics. Outcome of interest was pLOS, defined as a LOS >3 days. We used log binomial regression to generate adjusted prevalence ratios (PR) with 95% confidence intervals (CI) to measure the association between each patient and hospital characteristic and pLOS.

**Results:** Of 12,715 hospitalizations meeting inclusion criteria, 5,475 (43.1%) had pLOS. After adjusting for socio-demographics and hospital characteristics, predictive factors for pLOS were Medicaid use (PR 1.35; CI 1.06-1.73), urban non-teaching hospital location (PR 4.61; CI 2.33-9.12), urban teaching hospital location (PR 3.26; CI 1.84-5.76), and comorbidities of mood disorder (PR 2.3; CI 1.66-3.19), depression (PR 1.48; CI 1.16-3.15), and bipolar disorder (PR 1.41; CI 1.05-1.9). Hispanics had a decreased likelihood of pLOS (PR 0.69; CI 0.52-0.93). Otherwise, age, zip income, sex, and hospital region were not significant predictors of pLOS.

**Conclusions and Global Health Implications:** Among children hospitalized for SI/SA who require transfer to a psychiatric facility, Medicaid payor, urban hospital location, and comorbidities of mood disorder, depression, and bipolar disorder were predictive of pLOS. Further research is needed on how to decrease disparities in LOS among this vulnerable population.

**Key words:** • Pediatric suicide • Hospitalization • Psychiatric placement • Prolonged length of stay

*Copyright © 2020 Masciale et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

---

## ABSTRACT 43

# An Assessment of the Social Determinants of Health in an Urban Emergency Department

---

**Edgardo Ordonez, MD, MPH;<sup>1,2</sup>✉ Katherine Dowdell, MD;<sup>1</sup> Natasha M. Navejar, BS;<sup>2</sup>  
Deepa Dongarwar, MS;<sup>2</sup> Aya Itani, MD, MPH;<sup>1</sup> Lauren D. Garner, BS;<sup>2</sup> Jalyce Taylor, BS;<sup>2</sup>  
Hamisu M. Salihu, MD, PhD<sup>2</sup>**

<sup>1</sup>Henry J.N.Taub Department of Emergency Medicine, Baylor College of Medicine, Houston, Texas, USA; <sup>2</sup>Baylor College of Medicine Center of Excellence in Health Equity, Training and Research, Houston, Texas, USA

✉ **Corresponding author:** Edgardo Ordoñez, edgardo.ordonez@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Social determinants of health (SDOH) have significant impacts on patients who seek care in the emergency department (ED). We administered a social needs screening tool and needs assessment survey to assess SDOH and evaluate for trends in patients visiting our ED.

**Methods:** A survey was distributed via convenience sampling to adult ED patients to capture self-reported socio-demographic information and data about social needs. We categorized the questions related to SDOH based on the ICD-10-CM coding format and created a composite variable called “SDOH Strata” based on SDOH Index scores (0-5-low, 6-10-middle, or ≥11-high). We conducted bivariate analyses using the socio-demographic characteristics of the patients and their SDOH Strata and conducted multinomial logistic regression to examine the association between the patients’ socio-demographic characteristics and the SDOH Strata.

**Results:** A total of 269 surveys were completed. In our study population Hispanic/Latino patients were more than five times as likely to be in the higher impact stratum (OR: 5.12, 95% CI: 2.12-10.38). Those who were undocumented immigrants had 6.40 times increased adjusted odds of being in the higher impact stratum (95%CI: 1.73-10.86). Additionally, people having Spanish as their primary language were 5.56 times as likely to be in the higher impact stratum. Those on the health systems’ financial assistance program had 4.21 times the adjusted odds (95% CI: 1.40-6.24) and those who were uninsured had 84% increased likelihood to be in the higher impact stratum.

**Conclusions and Global Health Implications:** In our patient population, patients that were noted to have the highest impact burden of the SDOH were those that identified as Hispanic/Latino, Spanish-speaking, undocumented immigrant status, and on the financial assistance program or uninsured.

**Key words:** • Social determinants of health • Emergency department • Social needs  
• Social emergency medicine

*Copyright © 2020 Ordonez et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*

## ABSTRACT 44

# Comparing Homicidal Ideations with Homicides and Assaults Among Racial and Ethnic Groups

Samuel E. Willis, MD<sup>✉</sup>; Deepa Dongarwar, MS; Derek L. Lockett, BS; Eunique L. Williams, BS; Hamisu M. Salihu, MD, PhD

Baylor College of Medicine Center of Excellence in Health Equity, Training and Research, 1 Baylor Plaza, Houston, TX 77030, USA

<sup>✉</sup>Corresponding author: Samuel E. Willis, samuelw@bcm.edu

Reviewer: Toi Harris, toih@bcm.edu

**Background:** Despite the decline in the national homicide rate since 1993, the psychological and socioeconomic effects of homicide persist throughout society. Amongst African American males under 44 years of age, homicide is the leading cause of death. Overall, minorities are disproportionately exposed to gun fatalities, which is associated with higher rates of mental health disorders. This investigation compares perpetrators of homicide with victims of homicide and assault based on varying socioeconomic, demographic, clinical, and hospital characteristics, such as race, age, income quartile, and primary payer.

**Methods:** We conducted a retrospective cross-sectional analysis of inpatient hospitalizations in the US using data from the Healthcare Cost and Utilization Project's (HCUP) National Inpatient Sample (NIS) to identify patients between 2010 and 2017. International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) codes were then used to identify patients with a primary or secondary diagnoses of homicidal ideation or homicide/assault victim during this time period. Prevalence of homicidal ideation and homicidal/assault was calculated among victims among NH-Whites, NH-Blacks and Hispanics. We conducted adjusted survey logistic regression to generate adjusted odds ratios (OR) and 95% confidence intervals (CI) representing the association between each patient and hospital characteristic as exposure and homicidal ideation and homicidal/assault victim as outcome.

**Results:** The total hospitalizations in the US from 2010-2017 was 288,999,700. Blacks in age group 15-29 had the highest prevalence of homicidal ideations and homicides/assaults at 45.3/10000 and 105.3/10000. Hispanics of the same age group had the lowest prevalence of homicidal ideation at 18.5/10000 however they had a higher prevalence of homicides/assaults at 47.3/10000 compared to Whites at 42.4/10000. Blacks had a sharp rise of homicidal ideation from less than 5 per 10000 in 2010 to 30 per 10000 in 2012 with a slowed yet continuous rise. Whites and Hispanics had a similar pattern of rise from less than 5 per 10000 to just above 10 per 10000 in 2012 at which point it leveled for Whites and slightly increased to 15 per 10000 for Hispanics. Blacks were 41% more likely to have homicidal ideations and 2 times as likely to be murdered or assaulted compared to Whites. Hispanics were 30% more likely to experience homicide or assault compared to Whites.

**Conclusions and Global Health Implications:** Minorities, Medicaid recipients and the young experience higher levels of homicidal ideations and homicides/assaults. Young African Americans from the lowest income areas experience the most.

**Key words:** • Homicide • Homicidal ideations • Assaults • Blacks and hispanics

Copyright © 2020 Willis et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.

---

## ABSTRACT 45

# Effects of Narcolepsy During Pregnancy on Maternal-fetal Outcomes

---

**Annise Wilson, MD<sup>✉</sup>; Deepa Dongarwar, MS; Krystal Carter, BS; Maricarmen Marroquin, BS; Hamisu M. Salihu, MD, PhD**

*Baylor College of Medicine Center of Excellence in Health Equity, Training, and Research, 1 Baylor Plaza, Houston, TX 77030, USA*

<sup>✉</sup> **Corresponding author:** Annise Wilson, annise.wilson@bcm.edu

**Reviewer:** Toi Harris, toih@bcm.edu

**Background:** Narcolepsy is a sleep disorder characterized by excessive daytime sleepiness. The aim of this study was to determine whether narcolepsy in pregnancy is associated with adverse maternal-fetal outcomes.

**Methods:** A retrospective, cross-sectional analysis was performed using the Nationwide Inpatient Sample (NIS) for the period 2008-2017. ICD-9 codes were used to identify records from 2008 to mid-2015 and ICD-10 codes for late 2015 to 2017. The primary exposure was narcolepsy with and without cataplexy and the endpoints were a composite of maternal-fetal outcomes or risk factors. Most statistical analyses for the study were run using R while trends analyses were performed using Joinpoint Regression procedure.

**Results:** A total of 7742 hospitalized pregnant women with Types 1 and 2 narcolepsy were identified (0.02%), of which 938 (12%) were diagnosed with cataplexy. Statistically significant outcomes included obesity (OR 2.99, CI 2.4-3.74), anemia (OR 1.41, CI 1.13-1.77), pre-pregnancy hypertension (OR 1.93, CI 1.37-2.7), pre-pregnancy diabetes (OR 1.7, CI 1.08-2.84), and gestational hypertension (OR 1.58, CI 1.13-2.20) in the ICD-9 group. Similar findings were noted in the ICD-10 group with the exception of gestational hypertension, gestational diabetes, and anemia. No association was found with pre-term delivery or stillbirth.

**Conclusions and Global Health Implications:** Compared to pregnant women without narcolepsy, those with narcolepsy have a significantly higher rate of obesity, pre-pregnancy hypertension, diabetes, and gestational hypertension. Given these important findings, we propose a global approach of screening for narcolepsy among women of reproductive age with pre-existing risk factors preconceptionally to minimize adverse maternal-fetal outcomes.

**Key words:** • Narcolepsy • Cataplexy • Pregnancy • Delivery • Maternal morbidity

*Copyright © 2020 Wilson et al. Published by Global Health and Education Projects, Inc. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in this journal, is properly cited.*