

Table of Contents

Page 3 —— About the INMED Humanitarian Health Conference
Page 4 —— Award Recipients

Presenter Abstracts

Page	Poster Title	Presenters
5	Assessing Cervical Cancer Health Literacy Among Karen Women in the Omaha Area	Grace Berentson, Michaela Bartels, Monica Angeletti, Jennifer Liu
6	Assessing the Utility of Google Translate for Medical Translation in Rural Guatemala	Edith Riggs, Kenneth Stewart
7	Awareness of Terminal Illness: Implications for Survival and Well-being	John Eri, Ka Wai Wu, Sabritha Niroula
8	Barriers to Cancer Screening in Low- and Middle-Income Countries: A Global Literature Review	Joel Setya, Vinay Sriramanane, Samuel Kim
9	Bridging Gaps in Eye Care: After 20 Years of Ophthalmologic Care in Migori, Kenya	Carter Coleman, Peter Koulen
10	Enhancing Palliative Care: The Role of Spiritual Wellness Programs	Katelyn Junghans, Samuel Kim, Kenechukwu Osude
11	From the ER to the Street: The Urgent Case for Community-Based Care	Sean Nguyen, Casey Uffelmann, Nicole Bodenhausen
12	Global Disparities in Imaging for Tuberculosis Diagnosis	Anshal Vyas, Joel Setya, Vinay Sriramanane, Sahithi Tadakmalla, Danusri Varatharaj
13	Global Trends and Local Barriers in Bacterial Vaginosis and Treatment	Jessica Vergara, Kimberly Tiffany, Ben Brooks
14	Humanitarian Access and Aid Worker Security in Burkina Faso: Challenges and Strategic Recommendations	Graham Huntingtion
15	Integrated Approach to Preventing Obstetric Fistula and Improving Maternal Health: The Safe Birth Project in Uganda	Gabriella Thornton, Sharlene Teefey, Christian Wargo
16	Lost in the Gaps: Chronic Aspergillosis After Tuberculosis in an Underserved Mexican Patient - A Case Study on Diagnostic Challenges and the Impact of Resource Limitations	Nicolas Sesno, Shweta Thakur, Kevin Sullivan, Angela Muradov
17	Migration and the Experiences of those "Left Behind" in Rural Guatemala: A Qualitative Study	Saahil Golia, Dennis Yap, James Kim, Edith Riggs, Pedro DeCastro, Gautam Desai
18	Navigating Huntington's disease globally: A case report highlighting treatment challenges for a patient in Mexico	Nicolas Sesno, Shweta Thakur, Kevin Sullivan, Angela Muradov
19	Psychosocial Stress and Cardiovascular Risk in Displaced Populations: A Global Health Perspective	Vinay Sriramanane, Joel Setya
20	Robson Classification of Cesarean Births: A Contextual Review of Maternity Ward Birthing Practices at a Community Hospital in Central Uganda	Gabriel Kupovics, James Nyonyintono
21	The Role of Community Health Workers in Enhancing Mental Health Support in Resource-Limited Settings	Danusri Varatharaj, Srisahithi Tadakamalla
22	Vietnamese-Americans, Politics, and Health Rumors: Classifying Targeted Misinformation in an Asian Minority Population	Ethan Nguyen, Maggie Warren
23	You Can't Shop for a Heart Attack: Rethinking Healthcare Billing	Sean Nguyen, Casey Uffelmann, Nicole Bodenhausen

Page 24 --- Save the Date

About the Humanitarian Health Conference

The Humanitarian Health Conference (HHC) is an educational event with the goal of equipping learners to take the next step in partnering with the world's most marginalized people.

Target Audience: The HHC is focused on educating those involved in humanitarian health around the world, including in the USA. This includes physicians, pharmacists, dentists, advance practice providers, nurses, allied health professionals, public health professionals, healthcare administrators, students, and service-minded volunteers.

Poster Presentations

Conference organizers welcomed participants to present posters of their completed and/or ongoing professional work during the conference.

Poster Presentation Categories for Professionals and Students Included:

- Case Study
- Research and Innovation
- Global Health Education

Special consideration was given to the following topics:

- Impact of international rotations and experiences on learner development
- Impact of implementing public health services in communities with limited resources
- Clinical issues in resource-poor communities
- Sustainability implications for short-term international projects or partnerships
- Global Impact of medical mission
- Innovative approaches in global health

INMED

The Institute for International Medicine (INMED) exists to equip healthcare professionals & students with the unique skills necessary to effectively serve the world's most forgotten people. INMED is a graduate school offering didactic instruction in the full range of global health topics via online, hybrid, and in-classroom courses, as well as through conferences. We also complement such instruction with supervised service-learning experiences at over 45 INMED Training Sites in 25 low-resource countries. INMED learners can earn a Graduate Certificate, a Graduate Diploma or a Master's Degree in International Health. For more information, please visit inmed.us or contact us at office@inmed.us



Award Recipients

First Place

Integrated Approach to Preventing Obstetric Fistula and Improving Maternal Health: the Safe Birth Project in Uganda Gabriella Thorton, Sharlene Teefry, Christian Wargo

Second Place

Barriers to Cancer Screening in Low- and Middle-Income Countries: A Global Literature Review Joel Setya, Vinay Sriramanane, Samuel Kim



Assessing Cervical Cancer Health Literacy Among Karen Women in the Omaha Area

Grace Berentson¹, Michaela Bartels², Monica Angeletti, MD³, Jennifer Liu, MD⁴

Cervical cancer is one of the leading causes of death among Karen women, a predominant ethnic group in Myanmar. One of the largest and fastest growing Karen populations in the United States is located in Omaha, Nebraska. The objective of our study is to evaluate cervical cancer health literacy among Karen women and explore potential knowledge gaps that could be addressed with an educational intervention in the future. A survey was given to Karen women at the Karen Student Association at the University of Nebraska Omaha (UNO) and members of the Karen Christian Revival Church in Omaha, NE. The survey inquired about personal and medical history and evaluated health knowledge pertaining to the female reproductive system and cervical cancer. The results were significant in that a majority of Karen women rated their confidence in understanding health terminology as 'good', but most women answered the knowledge questions incorrectly or as 'I don't know.' Only 13.3% and 6.7% of Karen women have received a pap smear or HPV vaccine, respectively, in their lifetime which is much lower than the average rates for women living in the United States. These results demonstrate the potential discrepancy between presumed health literacy and true female reproductive health knowledge, and the room for growth available within cervical cancer screening in the Karen population. The next steps in our research project will be to provide educational materials about the female reproductive system, cervical cancer, and cervical cancer screening to the Karen population at the Karen Student Association at UNO and Karen Christian Revival Church. Afterwards, we will then re-survey the participants to evaluate the effectiveness of our educational intervention and its impact on health literacy, with an overall goal of improving health outcomes in the Karen population.

¹ Grace Berentson, University of Nebraska Medical Center, 42nd and, Emile St, Omaha, NE 68198; Telephone (402) 639-0067; Email grace.berentson@unmc.edu

² Michaela Bartels, University of Nebraska Medical Center, 42nd and, Emile St, Omaha, NE 68198; Telephone (402) 681-9422; Email mibartels@unmc.edu

³ Monica Angeletti, MD, University of Arizona-Tuscon, 1200 E University Blvd, Tucson, AZ 85721; Telephone (402) 802-2269; Email monicaangeletti@arizona.edu

⁴ Jennifer Liu, MD, Nebraska Medicine, 13325 Millard Ave, Omaha, NE 68137; Telephone (402) 778-5677; Email <u>illiu@unmc.edu</u>

Assessing the Utility of Google Translate for Medical Translation in Rural Guatemala

Edith E. Riggs¹, Kenneth B. Stewart DO²

Language barriers in medical settings can significantly impact patient care, particularly in rural and resource-limited areas.

Google Translate is one of the most widely used translation mobile apps used in the United States and has improved in accuracy over time but remains imperfect, especially for complex medical terminology, which compromises the integrity of the conversation meant to be translated. Years later, we have seen significant improvement to the algorithm used in the app which has increased accuracy of translation and cut translation errors between 55-85% across the 133 languages.

Spanish remains one of the most widely translated languages on Google Translate. In translating conversational Spanish to English and vise-a-versa, the accuracy reaches up to 90% but is less accurate when translating complex medical terms and sentences. This survey-based study assesses the utility of Google Translate in facilitating communication between English-speaking medical students and Spanish-speaking patients during a medical outreach mission in rural Guatemala. Participants rated their satisfaction, ease of communication, perceived translation accuracy and level of confusion created by the application, and opinion on using the application again for future medical encounters using a 0–10 scale. Patients and students also identified words or phrases that were inaccurately translated. Responses were analyzed using an interpretive framework to identify key themes and patterns.

A total of 25 surveys were completed, with 9 from medical students and 16 from patients. Most participants reported high satisfaction with Google Translate, with 10 patients rating it a perfect 10 for facilitating communication. Translation accuracy was rated similarly high, though some instances of confusion were noted. While 4 of 8 medical students found the app's translations highly accurate, they also acknowledged occasional difficulties, particularly with medical jargon. Despite these challenges, all surveyed medical students and majority of patients indicated they would use Google Translate again in future patient encounters.

Google Translate shows promise as a tool for overcoming language barriers in healthcare settings, particularly in underserved regions. It is essential to continue evaluating both provider and patient perspectives on the effectiveness of such tools to assess their feasibility in environments like international medical missions, and to define its role in clinical practice in diverse linguistic settings.

- E. Riggs¹, Kansas City University College of Osteopathic Medicine, 1750 Independence Avenue, Kansas City, Missouri 64106; Telephone (240)-440-9690; Email edith.riggs@kansascity.edu
- K. Stewart DO², Kansas City University College of Osteopathic Medicine, 1750 Independence Avenue, Kansas City, Missouri 64106; Telephone (800) 234-4847; Email KStewart@kansascity.edu

Awareness of Terminal Illness: Implications for Survival and Well-being

John M. Eri¹, Sabitra Niroula¹, Ka Wai Wu³, Daniel Bender⁴, Lynne Stephenson⁵

Conflicting evidence leaves the influence of awareness of a terminal illness on survival time unclear, highlighting the need for a comprehensive understanding of its broader effects on well-being and end-of-life care. This paper hypothesizes that while the direct impact of prognostic awareness on survival may be variable, it plays a crucial role in enhancing psychological well-being, quality of life, and engagement in end-of-life care discussions. This review first defines prognostic awareness and the factors influencing it. Second, it examines the existing literature on the correlation between awareness and survival. Finally, it synthesizes findings on the psychological and quality of life implications of being aware of a terminal prognosis. The expected findings suggest that while a definitive link between awareness and prolonged survival is not consistently demonstrated, awareness is associated with improved psychological well-being, better quality of life, and increased engagement in end-of-life planning. Ultimately, this review concludes that fostering accurate prognostic awareness, supported by sensitive communication, addresses the gap in knowledge by highlighting its importance for enhancing the overall experience of patients facing a terminal illness, even if its direct impact on life expectancy is not definitively established.

¹ John M. Eri, Rocky Vista College of Osteopathic Medicine, 780N 630W, St. George, UT 84770; Telephone (605) 521-7718; Email John.Eri@ut.rvu.edu

² Sabitra Niroula, Rocky Vista College of Osteopathic Medicine, 255 E Center St, Ivins, UT 84738; Telephone (435) 222-1236; Email Sabitra.Niroula@ut.rvu.edu

³ Ka Wai Wu, Rocky Vista College of Osteopathic Medicine, 255 E Center St, Ivins, UT 84738; Telephone (435) 222-1236; Email KaWai.Wu@ut.rvu.edu

⁴ Daniel Bender, Rocky Vista College of Osteopathic Medicine, 255 E Center St, Ivins, UT 84738; Telephone (435) 222-1236; Email Daniel.Bender@ut.rvu.edu

⁵ Lynne Stephenson, Rocky Vista College of Osteopathic Medicine, 255 E Center St, Ivins, UT 84738; Telephone (435) 222-1236; Email |stephenson@rvu.edu



Barriers to Cancer Screening in Low- and Middle-Income Countries: A Global Literature Review

Authors: Joel Setya1, Vinay Sriramanane1, Samuel Kim1, Simon Khagi

Background: The screening for breast, cervical, and colon cancers is acknowledged as being the most successful method of control for cancer globally. It is grossly underutilized in the low- and middle-income countries (LMICs), with over 70% of total cancer deaths due to systemic, financial, sociocultural, and policy-level barriers.

Objectives: The purpose of this literature review is to identify the key obstacles to the functional screening of cancer in the LMICs for breast, cervical, and colorectal cancers, emphasizing the comparison of trends in different regions.

Methods: We selected 20 peer-reviewed articles published from 2020 to 2024. Studies were grouped by barrier type (structural, economic, sociocultural, and policy-level), intervention strategy, and region.

Results: Of the 20 studies, 11 (55%) reported structural barriers, such as a lack of diagnostic modalities, a shortage of personnel, and geographic distance. 10 (50%) suggested barriers at the policy level, including inefficient referral systems and the absence of national screening programs. Further, 8 studies (40%) elucidated economic barriers, i.e., out-of-pocket costs, along with lost workdays because of travel. 7 studies (35%) described sociocultural barriers, including gender-based restriction, low health literacy, and stigma, illustrating prominent examples in North Africa and South Asia. Individuals with lower education levels had significantly lower screening uptake, with rates in Kenya dropping by 77% from those with high education (78%) to those who were illiterate (18%), compared to a 33% drop in the United Kingdom (91% to 61%). When CHWs were added to maternal care services, their task-shifting increased 25–30% in cervical screening. Due to interrupted outreach and follow-up, post-COVID data showed a 15–35% drop in screening rates.

Conclusion: The data demonstrated the significance of the varying barriers in each region, with proven interventions with statistical success. For example, programs that integrated cervical screening into maternal health visits in India and deployed mobile units in Brazil and Kenya showed meaningful increases in participation. These results suggest that combining community-based interventions with digital tools, task-shifting, and national policy alignment may increase participation rates. Further research is needed to assess sustainability and other impacts.

Joel Setya, University of Missouri - Kansas City School of Medicine, 2580 Forest Avenue, Kansas City, MO 64108; Telephone (847) 909-5635; Email js4vv@umsystem.edu

Vinay Sriramanane, University of Missouri - Kansas City School of Medicine, 700 E 8th St Unit 15Q, Kansas City, MO 64106; Telephone (314) 402-2727; Email vdscty@umsystem.edu

Samuel Kim, University of Missouri-Kansas City, 2540 Forest Avenue, Kansas City, MO 64108; 417-680-6627;sjkh69@umsystem.edu

Poster

Bridging Gaps in Eye Care: After 20 Years of Ophthalmologic Care in Migori, Kenya

Carter Coleman¹, Peter Koulen, Ph.D., FARVO²

Over one billion people globally live with vision impairment due to unmet eye care needs, predominantly in low-income countries. Preventable causes, such as cataracts and uncorrected refractive errors, are major contributors. Kenya faces significant challenges with an ophthalmologist-to-population ratio of approximately 1:420,000 nationally and as low as 1:3,000,000 in rural areas (WHO recommends 1:250,000). Barriers including cost and transportation further limit access. Recurring short-term medical mission trips (STMMTs) offer a means to address urgent needs, enhance continuity of care, and strengthen local health systems.

Since 2004, a U.S.-based ophthalmology team, partnered with non-profit organization Kenya Relief, has conducted biannual STMMTs to Migori, Kenya. Services include comprehensive eye exams, cataract and other ophthalmic surgeries, treatment of eye pathologies (e.g., glaucoma), and medication distribution. Collaboration with Kenya Relief's Brase Clinic promotes patient follow-up and sustainable care delivery. Services are priced according to regional standards to support, not undermine, local providers. Available data between 2022 and 2025 revealed that 3,074 patients were screened, and 630 surgeries were performed. This year, preliminary outreach screenings in rural areas around Migori contributed to an increase in patient volume by allowing for eligible patients to be identified for treatment prior to the team's arrival.

The biannual Kenya Relief ophthalmology trips have consistently delivered critical vision care services to underserved populations in Migori, Kenya. Continuity of care is achieved through ongoing partnerships with local providers, returning volunteer teams, and integration of local personnel. STMMTs serve as an effective bridge to meet immediate needs while also building long-term healthcare sustainability amongst local providers. Future directions include expanding structured training initiatives, increasing outreach screenings, and further integrating teleophthalmology. Special thanks to the Kenya Relief staff for their ongoing support and collaboration.

¹Carter Coleman, University of Missouri-Kansas City Medical School, 2411 Holmes St, Kansas City, MO, 64108; Telephone (314)-550-1345; Email cachpd@umsystem.edu ²Peter Koulen, Ph.D., FARVO, University of Missouri-Kansas City Medical School, Vision Research Center, Kansas City, MO 64131-4401; Telephone (816) 235-6773; Email koulenp@umkc.edu

Enhancing Palliative Care: The Role of Spiritual Wellness Programs

Katelyn Junghans¹, Samuel Kim¹, Kenechukwu Osude¹, Clarice Rodriquez¹, Leah Matthews¹, Stephen Foote DO²

Background:

Improving the quality of life (QOL) of patients with chronic or terminal illnesses is an essential pillar of palliative medicine. As medicine moves towards a more holistic model, programs targeting spiritual health (SH) and therein QOL have increased. This leads to the question: Do spiritual health programs improve patients' SH or QOL?

Methods:

Pubmed was queried for randomized controlled trials in English from 2015-2025. We included peer-reviewed papers including key terms "end of life care," "hospice care," "terminal care," "spiritual therapies," "spirituality," "religion," "faith healing," "religious beliefs," "prayer healing," and "prayer." We excluded papers describing pediatrics, non-randomized controlled trials, and those without a qualitative assessment of QOL or SH. 22 trials met our inclusion criteria. We then reviewed each trial's qualitative assessments, interventions, outcomes, themes, and demographics.

Results:

Demographic analysis found the highest density of studies from the United States (n=10), followed by China (n=3), and Iran (n=2). The mean length of studies was 11.82 weeks, with a mean of 107 participants, and a median age of 55. Morbidities included cancer (n=8), chronic disease (n=7), psychiatric conditions (n=5), and HIV (n=2). Therapies included individualized psychotherapy, group psychotherapy, mindfulness-based stress reduction, online psychoeducation, and exercise programs. Themes of meaning, peace, faith, and acceptance were consistently used to define SH. 14 of the 22 included studies saw statistically significant improvement in SH or QOL utilizing qualitative assessments, including FACIT-Sp, PHQ-9, GAD-7, and HADS.

Conclusion:

Implementing spiritual health programs shows promise for increasing the QOL and SH of palliative and end-of-life patients. While many studies have been completed, few retain statistical power to define the role of spiritual health programs. Standardizing assessments such as the FACIT-Sp, investigating cultural impact, and increasing participants to increase statistical power might offer subsequent direction.

^{1 –} Katelyn Junghans, University of Missouri-Kansas City School of Medicine, 2411 Holmes St, Kansas City, MO 64108; Telephone (636) 922-7660; Email: kjkv8@umsystem.edu.

^{2 -} Dr. Stephen Foote, DO, Division of Family Medicine, University Health at Lakewood; 7900 Lee's Summit Rd, Kansas City, MO 64139; Telephone: (816)404-7600; Fax: (816) 404-7612; Email: steven.foote@uhkc.org

From the ER to the Street: The Urgent Case for Community-Based Care

Sean Nguyen¹, Casey Uffelmann², Nicole Bodenhausen³

Health and housing are deeply intertwined. Chronic illness can drain savings, disrupt employment, and lead to eviction. Homelessness, in turn, worsens health through constant exposure to violence, disease, malnutrition, and stress. As the National Alliance to End Homelessness notes, "homelessness can be caused by chronic health issues—and homelessness can cause chronic health issues." The result is a devastating cycle where people are sicker, poorer, and with nowhere left to turn.

Emergency rooms become the default care providers. People experiencing homelessness are three times more likely to use an ER than the general population. Nearly 1 in 5 uninsured ER patients face bills that exceed 40% of their annual income. These are not just numbers but financial traps that often lead to even deeper instability. And while some resources exist, only 25% of those in need of homelessness services receive them, leaving millions without care.

There is a solution: Community Health Clinics (CHCs). These nonprofit clinics are designed to serve the underserved, providing preventative, affordable care. In 2023 alone, CHCs served over 31 million patients nationwide and helped reduce unnecessary ER visits. MedZou, a community health clinic affiliated with the University of Missouri School of Medicine, provided \$32,886.28 in primary care services that would have otherwise been inaccessible to uninsured patients. However, only 10 of MedZou's 18 appointment slots are regularly filled. Not because of a lack of need, but because patients experiencing homelessness face transportation challenges.

Unfortunately, these clinics are under threat. Of the ~4,000 CHCs in the U.S., a growing number are shifting toward for-profit models due to staffing shortages and declining Medicaid support. Between 2022 and 2023, Medicaid net margins fell by 2.9%, weakening the primary funding source that keeps these clinics alive.

At Forty Love, we invest directly in clinics like MedZou, support patients with personalized outreach, and advocate at the policy level to restore and expand Medicaid funding. We fund programs that integrate housing and healthcare, recognizing that stability starts with both a safe place and someone who cares.

- 1 Sean Nguyen, University of Missouri Kansas City School of Medicine, 2411 Holmes Street, Kansas City, MO 64108; Telephone (816) 590-5615; Email stnfnf@umkc.edu
- 2 Casey Uffelmann, University of Missouri School of Medicine, 1 Hospital Dr, Columbia, MO 65212; Telephone (636) 591-5065; Email cupzr@umsystem.edu
- 3 Nicole Bodenhausen, Blue Springs South High School, 1200 SE Adam's Dairy Pkwy, Blue Springs, MO 64014; Telephone (816) 874-3500; Email nibo2020@icloud.com

Global Disparities in Imaging for Tuberculosis Diagnosis

Authors: Anshal Vyas, Joel Setya, Vinay Sriramanane, Sahithi Tadakamalla , Danusri Varatharaj

Background: Tuberculosis (TB) remains a leading cause of morbidity and mortality worldwide, with the highest burden in low and middle-income countries (LMICs). Effective diagnosis and management of TB heavily rely on radiologic imaging. However, disparities in radiologic resources between LMICs and high-income countries (HICs) can lead to delays in diagnosis and treatment, adversely affecting patient outcomes.

Case Presentation: LMIC Case 1: A 3-year-old boy from Mozambique presented with prolonged fever, weight loss, and failure to thrive. Despite known TB exposure and dry cough, early evaluations were inconclusive due to a lack of X-ray imaging. Over several months, the child developed spinal deformities suggestive of Pott's disease. Eight months after symptom onset, X-ray imaging confirmed both spinal and pulmonary TB.

LMIC Case 2: A 67-year-old man from Nepal presented to a tertiary care center with a three-month history of low-grade fever and weight loss. Patient was previously treated for UTI and typhoid fever empirically. Due to limited imaging access, TB was not initially diagnosed. Persistent cough, abdominal pain and hepatosplenomegaly were noted. Advanced chest and abdominal imaging revealed pulmonary and extrapulmonary TB.

HIC Case: A 15-year-old male in the United States with no significant past medical history presented with a five-day history of cough, nasal congestion, and fever after returning from Senegal. The exam revealed decreased right lower lobe breath sounds. Chest X-ray revealed a right-sided pleural effusion, and subsequent CT imaging confirmed a loculated empyema. Chest tube drainage and PCR confirmed Mycobacterium tuberculosis. Anti-tuberculosis treatment was started in 5 days.

Discussion: In both LMIC cases, delays in radiologic evaluation contributed to advanced disease at diagnosis. In contrast, the HIC case was evaluated promptly, with rapid access to X-ray imaging confirming pulmonary TB diagnosis. Radiologic access promoted diagnostic timeliness and reduced disease severity in the HIC case despite presenting similar initial symptoms to both LMIC cases.

Conclusion: Radiologic access plays a critical role in the timely diagnosis and management of tuberculosis. These cases demonstrate that patients in LMIC face extended wait times for access to advanced imaging, leading to a delayed diagnosis and more advanced disease. In contrast, early imaging access in HIC expedites diagnosis and treatment plans. Strengthening radiologic infrastructure and expanding diagnostic imaging capacity in LMICs is essential to reduce diagnostic delays, limit disease progression, and improve TB-related outcomes globally.

Anshal Vyas, University of Missouri-Kansas City School of Medicine 700 E 8th St Unit 7J, Kansas City, MO 64106; (314) 402-2727; avxcw@umsystem.edu

GLOBAL TRENDS AND LOCAL BARRIERS IN BACTERIAL VAGINOSIS DIAGNOSIS AND TREATMENT

Jessica Vergara*1, MS. Kimberly Tiffany1. Ben Brooks, PhD1.2.

*Corresponding Author: jessica.vergara@rvu.edu

- (1) Rocky Vista University, College of Osteopathic Medicine, Ivins, UT
- (2) Rocky Vista University, College of Osteopathic Medicine, Parker, CO

Background

Bacterial vaginosis (BV), characterized by a shift from Lactobacillus-dominant flora to polymicrobial dysbiosis, is the most common cause of abnormal vaginal discharge among reproductive-age women globally. It is associated with heightened susceptibility to sexually transmitted infections, adverse obstetric outcomes, and considerable quality-of-life impairments. Despite its high prevalence, BV remains poorly understood and notably recurrent, with up to 58% of individuals experiencing relapse. In low-resource and global health contexts, limitations in diagnostic access, treatment variability, and culturally embedded stigma present additional challenges. The growing reliance on over-the-counter therapies, such as intravaginal boric acid and probiotics—often used without clinical oversight—further underscores the need for a comprehensive evaluation of diagnostic and treatment standards.

Aim

This review examines diagnostic variability, treatment limitations, recurrence factors, and the role of nonstandard and partner-based therapies, with a focus on underserved populations.

Methods

A literature review was conducted using PubMed to identify studies published between 2015 and 2025. Search terms included "bacterial vaginosis" AND ("global medicine" OR "public health" OR "low resource"). Articles were evaluated to compare diagnostic practices, including Amsel and Nugent criteria, and examine treatment accessibility and recurrence trends. Original treatment protocols for BV were also identified by locating notable guidelines published in the early 2000s and comparing them with current WHO and CDC recommendations to assess shifts in standard-of-care.

Conclusion

Findings from this literature review highlight the need for more accessible diagnostics, better regulation of alternative treatments, and culturally competent patient education. A global health approach is essential to reduce recurrence and improve outcomes for those affected by BV in resource-limited settings.

Keywords: Bacterial vaginosis, vaginal microbiome, low-resource medicine, global health, public health, diagnostic disparities

Humanitarian Access and Aid Worker Security in Burkina Faso: Challenges and Strategic Recommendations

Graham Huntington¹

For the last decade, extremist violence in the Sahel has escalated rapidly. Despite efforts, political and economic instability has left the conflict largely uncontested by the Burkinabé government. As with many protracted crises, Burkina Faso faces limited healthcare infrastructure, systemic corruption, and a severely underfunded Humanitarian Response Plan. Humanitarian actors in Burkina Faso face two particularly acute challenges. Approximately half the country is controlled by various extremist groups that have besieged urban areas across the country, effectively trapping nearly two million people. These sieges have significantly impeded humanitarian and healthcare access. The second major challenge is due to increased attacks on healthcare and humanitarian workers. Repeated attacks on healthcare personnel and facilities have led to the withdrawal of numerous organizations, reducing an already limited healthcare and humanitarian presence in Burkina Faso. With these challenges in mind, the research utilized a literature review to analyze possible solutions and mitigation strategies to address concerns over humanitarian access and aid worker security in Burkina Faso.

The review identified key recommendations for providing safe and effective humanitarian aid. Policy changes, such as lifting local restrictions on cash-based assistance and removing requirements for armed escorts, can promote humanitarian involvement and community trust. Strengthening coordination mechanisms can help deconflict military and humanitarian operations and better address unmet needs of the target population by reducing redundancy in resources. Localizing humanitarian responses also enhances the efficiency and relevance of aid delivery by prioritizing applicable and achievable goals. Any significant improvement to humanitarian response in Burkina Faso will necessitate changes to data collection and management. Developing a comprehensive data management system is essential for documenting aid worker security and humanitarian access concerns as well as allowing for real-time adaptations to the dynamic humanitarian environment in Burkina Faso. Finally, additional operational strategies such as risk assessment systems, pre-deployment training, and context-dependent use of armed security may strengthen the protection of aid workers and facilitate more consistent humanitarian access.

An increasing number of humanitarian crises now face significant barriers to access accompanied by targeted attacks on healthcare and humanitarian workers. In Burkina Faso, 5.9 million people are currently in need of humanitarian assistance. Health outcomes in this population are directly dependent on aid workers' ability to operate safely and without obstruction.

¹ Graham Huntington, Brown University School of Public Health, 69 Brown St, Providence, RI 02912, Telephone 802-458-2226, Email grahamchuntington@gmail.com





Integrated Approach to Preventing Obstetric Fistula and Improving Maternal Health: The Safe Birth Project in Uganda

Gabriella L Thornton¹, Sharlene A.Teefey, M.D.², Christian Wargo³

Obstetric fistula remains a devastating yet preventable complication of obstructed labor in low-resource settings. In rural Masaka, Uganda, where prolonged labor without access to emergency obstetric care is common, the Safe Birth Project—launched in January 2017 by Microfinancing Partners in Africa—aimed to address both healthcare access and financial barriers through a dual model of ultrasound implementation and microfinancing.

The project equipped 27 village health centers (VHCs) with portable ultrasound machines and trained midwives to identify high-risk pregnancies requiring delivery at a health facility rather than at home, where nearly half of births occur. Midwives also educated mothers about obstetric fistula to reinforce the importance of facility-based delivery.

To address financial barriers, microfinancing initiatives were introduced. Impoverished mothers identified by midwives received a piglet, were trained in piggery care, and repaid the project with two piglets after breeding. Profits enabled women to pay for healthcare, send children to school, and launch small businesses.

Though interrupted by COVID-19, data from July 2021 to June 2024 was collected from 18 VHCs with both ultrasound machines and microfinancing projects. During this time, ANC attendance rose from 16,720 to 19,735; first-trimester scans increased; and deliveries grew from 4,991 to 5,676. There were zero maternal deaths and zero obstetric fistulas. Since the project's start, 898 piglets were distributed (240 lost to swine fever), and 605 mothers (92%) generated income sufficient to fund their healthcare and improve their families' lives.

By equipping midwives, connecting mothers to care, and empowering women economically, the Safe Birth Project offers a scalable, sustainable model for overcoming healthcare barriers in resource-limited settings.

¹Gabriella Thornton, University of Missouri-Kansas City Medical School, 2705 McGee Trafficway, apt 1402, Kansas City, MO 64108; Telephone: (314) 422-1239; Email <u>gltq53@umsystem.edu</u>

²Sharlene A. Teefey M.D., Mallinckrodt Institute of Radiology, Washington University School of Medicine, 660 S Euclid Ave. St Louis, MO, 63110; Work telephone (314) 362-2928; Email <u>steefey@wustl.edu</u>

³Christian Wargo, Executive Director, Microfinancing Partners in Africa, 518 South Hanley St. Louis, Mo., 63105, Work telephone: 314-776-1319, Email: cwargo@microfinancing.org

Lost in the Gaps: Chronic Aspergillosis After Tuberculosis in an Underserved Mexican Patient - A Case Study on Diagnostic Challenges and the Impact of Resource Limitations

N. Sesno¹, S. Thakur², K. Sullivan³, A. Muradov⁴, J. Decker⁵

Tuberculosis (TB) remains a leading cause of global morbidity, with chronic pulmonary aspergillosis (CPA) as a significant sequela in patients with post-tubercular lung damage.

We present the case of a 58-year-old woman from rural Mexico with a history of TB, pulmonary fibrosis, CPA, and type 2 diabetes, who experienced progressive respiratory and systemic symptoms after completing TB therapy. She was empirically treated with fluconazole for presumed CPA but lacked access to follow-up testing, continuing antifungal therapy for over two years without reassessment. At a free monthly clinic operated by The Flying Samaritans, she underwent galactomannan testing and repeat imaging, which showed the resolution of fungal infection, and was safely taken off antifungal medication.

This case illustrates the diagnostic challenges and treatment fragmentation patients face in resource-limited settings. It underscores the vital role of non-governmental organizations in restoring continuity of care, improving patient education, and enabling safe, evidence-based treatment transitions in global health settings.

N. Sesno, Kansas City University, 525 E Cottonwood Rd Apt 2, Palm Springs, CA 92262;
 Telephone (760) 224-1257; Email nicolas.sesno@kansascity.edu
 Thakur, Kansas City University, 1509 Carmel Ave, Chula Vista CA 64106;
 Telephone (925) 523-9090; Email shweta.thakur@kansascity.edu
 Sullivan, Kansas City University, 15809 Maple St, Overland Park, KS 66223;
 Telephone (316) 993-8972; Email kevin.sullivan@kansascity.edu
 A. Muradov, California State University, San Marcos, 1898 Matin Circle, Unit 189 San Marcos, CA 92069; Telephone (858) 254-6576; Email angelamuradov@gmail.com

Migration and the Experiences of those "Left Behind" in Rural Guatemala: A Qualitative Study

S. Golia¹, D. Yap², J. Kim³, E. Riggs⁴, P. De Castro⁵, G. Desai⁶

Migration significantly impacts not only those who leave but also the individuals and communities left behind. This qualitative study explores the perspectives of rural Guatemalans on those considering migration, those who once considered it but chose to stay, and those affected by the migration of others. Surveys were conducted among 42 participants aged 15 to 83, with responses analyzed for recurring themes. While 21% of respondents actively considered migration, primarily for economic opportunities and family reunification, 79% cited strong social ties, career stability, and local improvements as reasons to stay. Most participants (60%) knew multiple migrants, with women more likely to report emotional hardships and men emphasizing economic consequences. Of those affected, 56% reported negative effects, including loneliness and economic strain, while 24% cited positive effects such as financial support from remittances and less competition for job opportunities. These findings highlight the critical role of family and social networks in migration decisions and the need for policies that support non-migrating individuals, particularly in addressing social and mental health challenges within rural Guatemalan communities.

1 S. Golia, Kansas City University, 1750 Independence Avenue, Kansas City, MO 64106; Telephone (800) 234-4847; Fax (816) 654-7000; Email Saahil.Golia@kansascity.edu

2 D. Yap, Kansas City University, 1750 Independence Avenue, Kansas City, MO 64106; Telephone (800) 234-4847; Fax (816) 654-7000; Email DennisKristoffer. Yap@kansascity.edu

3. J. Kim, Kansas City University, 1750 Independence Avenue, Kansas City, MO 64106; Telephone (800) 234-4847; Fax (816) 654-7000; Email James.Kim@kansascity.edu

4. E. Riggs, Kansas City University, 1750 Independence Avenue, Kansas City, MO 64106; Telephone (800) 234-4847; Fax (816) 654-7000; Email Edith.Riggs@kansascity.edu

5. P. De Castro, Kansas City University, 1750 Independence Avenue, Kansas City, MO 64106; Telephone (800) 234-4847; Fax (816) 654-7000; Email Pedro.DeCastro@kansascity.edu

6. G. Desai, Kansas City University, 1750 Independence Avenue, Kansas City, MO 64106; Telephone (800) 234-4847; Fax (816) 654-7000; Email GDesai@kansascity.edu

Navigating Huntington's disease globally: A case report highlighting treatment challenges for a patient in Mexico

N. Sesno¹, S. Thakur², K. Sullivan³, A. Muradov⁴, N. Thomas⁵, G. Desai⁶

Huntington's disease (HD) is an autosomal dominant neurodegenerative movement disorder characterized by progressive motor, cognitive, and psychiatric decline. It results from increased CAG (cytosine, adenine, guanine) repeats in the *Huntingtin* gene (HTT), leading to dysregulation of subcortical motor circuits and eventual functional disability.

We present the case of a 39-year-old Mexican female with a history of HD who experienced rapid worsening of symptoms after moving to Mexico. During this period, she developed worsening involuntary movements, dystonia, bradykinesia, dysarthria, and rigidity. Upon her second presentation, she was initially treated with haloperidol, which was later transitioned to olanzapine at follow-up, leading to symptomatic improvement.

This case highlights a clinical course that deviates from the typical trajectory of HD, emphasizing the challenges faced by patients in resource-limited settings. It underscores the necessity of a multidisciplinary approach that integrates pharmacologic, psychological, and supportive care to enhance quality of life. Addressing these barriers through global health initiatives is crucial to ensuring continuous care and advancing research into improved treatment options for HD patients.

 ¹N. Sesno, Kansas City University, 525 E Cottonwood Rd Apt 2, Palm Springs, CA 92262;
 ¹Telephone (760) 224-1257; Email nicolas.sesno@kansascity.edu
 ²S. Thakur, Kansas City University, 1509 Carmel Ave, Chula Vista CA 64106;
 ¹Telephone (925) 523-9090; Email shweta.thakur@kansascity.edu
 ³K. Sullivan, Kansas City University, 15809 Maple St, Overland Park, KS 66223;
 ¹Telephone (316) 993-8972; Email kevin.sullivan@kansascity.edu
 ⁴A. Muradov, California State University, San Marcos, 1898 Matin Circle, Unit 189 San Marcos, CA 92069; Telephone (858) 254-6576; Email angelamuradov@gmail.com

Psychosocial Stress and Cardiovascular Risk in Displaced Populations: A Global Health Perspective

Authors: Vinay Sriramanane¹, Joel Setya¹

Background: People who are displaced, whether they are refugees, asylum seekers, or internally displaced persons, face a higher risk of developing cardiovascular disease (CVD), shaped by a mix of chronic stress, trauma, and the instability that often defines their day-to-day lives. Conditions like PTSD, depression, and anxiety are more common in these communities and can lead to inflammation, high blood pressure, and metabolic problems.

Objective: The research aimed to establish identifiable physiological effects, behavioral factors, access barriers to care, and geographic patterns while investigating COVID-19 pandemic disruptions.

Methods: We peer-reviewed PubMed articles published from 2020 to 2024 to evaluate their findings, examining how psychosocial stress affects cardiovascular health outcomes in displaced groups. The review organized its findings under five sections that examined psychosocial stress and PTSD alongside cardiovascular disease prevalence, healthcare system problems, behavioral risk factors, and population demographics.

Results: The 30 studies reported PTSD prevalence between 25% and 68%, most notably among Syrian refugees, as well as Rohingya and Ukrainian refugees. Researchers found that depression affected between 30% and 55% of displaced people, while they observed anxiety in 20% to 50% of participants. The affected populations displayed hypertension levels between 35% and 60%, as well as heart disease and ischemic event occurrences between 15% and 35%. Metabolic syndrome affected 25% to 45% of research participants according to nine scientific studies. Ten studies demonstrated that the COVID-19 pandemic resulted in a 30-50% reduction in mental health and chronic disease care, while six studies mentioned integrated care models that handled cardiovascular health and mental health requirements.

Conclusion: The study shows that psychosocial stress serves as a primary risk factor for cardiovascular disease among displaced people. Psychosocial stress directly disrupts inflammation and autonomic regulation, creating harmful health behaviors and indirectly preventing care access. Health systems must implement combined intervention strategies that unite mental health resources with cardiovascular disease assessment and treatment services. More research is needed to evaluate both these models' sustainability and effectiveness, especially in contexts with limited resources after crises have passed.

Vinay Sriramanane, University of Missouri - Kansas City School of Medicine, 700 E 8th St Unit 15Q, Kansas City, MO 64106; Telephone (314) 402-2727; Email vdscty@umsystem.edu

Joel Setya, University of Missouri - Kansas City School of Medicine, 2580 Forest Avenue, Kansas City, MO 64108; Telephone (847) 909-5635; Email <u>is4vv@umsystem.edu</u>

Robson classification of cesarean births: a contextual review of maternity ward birthing practices at a community hospital in central Uganda

Gabriel Kupovics, BS1, James Nyonyintono, MD2

Cesarean section (CS) is a major, life-saving obstetric intervention that can be employed to reduce pregnancy- and childbirth-related complications. Over the past thirty years, CS rates have nearly tripled globally. These rising rates have prompted individual hospitals and clinics to evaluate CS rates at their facilities and to identify practices and protocols that could benefit from intervention. In this study, we utilize the Robson Ten-Group Classification System to identify groups at higher risk of CS in the maternity ward of Kiwoko Hospital, discussing our findings within the context of the local community.

¹ Gabriel Kupovics, BS, University of North Texas Health Science Center Texas College of Osteopathic Medicine, 3500 Camp Bowie Blvd, Fort Worth, TX 76107; Telephone +1 (214) 793-0107; Email gabrielkupovics@my.unthsc.edu

² James Nyonyintono, MD, Kiwoko Hospital, R9Q6+RM2, Kiwoko, Uganda; Email james@kiwokohospital.com

The Role of Community Health Workers in Enhancing Mental Health Support in Resource-Limited Settings

Authors: Danusri Varatharaj, Sahithi Tadakamalla, Anshal Vyas, Joel Setya, Vinay Sriramanane

Background: Mental health remains a major challenge in low and middle-income countries due to limited resources and inadequate services. In this case, Community Health Workers (CHWs) are becoming essential in providing support to underserved communities. This study focuses on successful CHW-led programs like the Friendship Bench in Zimbabwe and Group Support Psychotherapy in Uganda, which have proven effective in reducing depression and anxiety, raising mental health awareness, and expanding access to care, making mental health support more accessible and culturally relevant through community-based care.

Case Presentation 1:The Friendship Bench is a mental health program in rural Zimbabwe that uses local Village Health Workers (VHWs), often called "grandmothers," to provide problem-solving therapy to women with depression. Through weekly sessions and peer-support groups called Circle Kubatana Tose (CKT), women share their struggles, find solutions, and support each other.

Case Presentation 2: The Group Support Psychotherapy (GSP) program in northern Uganda is a mental health initiative aimed at supporting people living with HIV by providing group-based therapy that focuses on social support, coping skills, and income-generating activities. A study involving 1,140 participants compared GSP with standard Group HIV Education (GHE), with each group attending eight weekly sessions.

Discussion: The Friendship Bench and Group Support Psychotherapy (GSP) are powerful examples of how CHWs can provide effective mental health care in low-resource settings. The Friendship Bench achieved remarkable results, reducing depression rates from 68% to 12% and anxiety symptoms from 52% to 4% in just six weeks. In Uganda, the GSP program showed improvements in depression and functional outcomes compared to standard HIV education six months after the intervention. These programs illustrate the impact that community-based mental health support can have in areas with limited access to traditional healthcare services.

Conclusion: The Friendship Bench in Zimbabwe and Group Support Psychotherapy (GSP) in Uganda prove that community-based mental health care can make a prominent difference in low-resource settings. Scaling such models through policy support and sustainable funding could strengthen mental health systems in similarly underserved regions worldwide.

Danusri Varatharaj, University of Missouri-Kansas City, 2501 Troost Avenue, Kansas City, MO 64108; 636-891-2941; dv8hb@umsystem.edu

Srisahithi Tadakamalla, University of Missouri-Kansas City, 2580 Forest Avenue, Kansas City, MO 64108; 314-609-2436; stcng@umsystem.edu

Vietnamese-Americans, Politics, and Health Rumors: Classifying Targeted Misinformation in an Asian Minority Population

Ethan M. Nguyen, B.A.1, Maggie Warren, M.A2

It has long been understood that minority populations are prone to more health misinformation and, subsequently, have worse health outcomes. Despite representing a large proportion of Asian Americans in the US, research exploring precursory factors that contribute to health disparities in Vietnamese Americans is profoundly lacking. The Vietnamese-American community's (VAC) strong diasporic identity, rooted in generational trauma and cultural preservation, likely serves as an underlying reason for their vulnerability to misinformation. This study aims to establish a baseline understanding of how Vietnamese-American communities and their health outcomes are impacted by cultural, political, and rhetorical themes found in their media sources.

This study employs a four-step methodology inspired by previous research on political misinformation conducted by researchers at George Washington University. Media examples from three prominent VTMS were translated, reviewed, and analyzed for misinformation techniques using established categories. Cultural and thematic elements specific to the VAC were identified, classified, and evaluated. Our study identified three common categories previously identified by researchers at GWU, indicating a clear connection between political and health misinformation in this diasporic group. The wide majority of misinformation falling into Cold War Politics, Historical Trauma, and Power Dynamics points to the relevant notion that Vietnamese American health is directly tied to their idiosyncratic war-torn identity. Further, the identification of new contemporary themes used to perpetuate health misinformation to the Vietnamese American community, such as Persona-Based Credibility and Cultural Appeal to Piety, indicates a wider expanse of rhetorical persuasion than previously thought.

In conclusion, VTMS effectively leverage cultural and historical traumas to disseminate health misinformation, undermining trust in modern healthcare and contributing to health disparities within the VAC. Our findings identify a pervasive issue facing this community and should serve as an inspiration for healthcare providers and community leaders to develop tools to filter and challenge misinformation in minority communities.

- 1. Ethan Nguyen, University of Missouri-Kansas City School of Medicine, 2411 Holmes Street, Kansas City, MO 64108; Telephone (702) 480-7683; Email emn6nd@umkc.edu
- 2. Maggie Warren, University of Missouri-Kansas City School of Humanities and Social Sciences, 5000 Holmes Street, Kansas City, MO 64110; Email mkwx9y@umkc.edu

You Can't Shop for a Heart Attack: Rethinking Healthcare Billing

Casey Uffelmann¹, Sean Nguyen², Nicole Bodenhausen³

Imagine waking up to a medical bill that's more than half your annual income. For millions of Americans, this isn't a rare misfortune, it's a devastating norm. Medical debt causes over half of all personal bankruptcies in the U.S. and does not stop there. It pushes individuals and families into poverty, destabilizes communities, and fuels one of the nation's most urgent social crises: homelessness.

Though the prices are often similar, healthcare spending is different from buying a car or any other purchase a consumer can make. First, the cost of healthcare is often unknown when making healthcare decisions. Second, there is limited opportunity for comparison shopping. Finally, many procedures are "priceless" in that patients would be willing to pay anything for them. A clear example of this situation is cancer treatment, which is essential to treat to prevent death in most cases, but averages over \$100,000 per year to treat. These factors emphasize how healthcare differs from traditional consumer goods and why unique approaches are necessary to ensure affordability and equity in medical care.

There has been progress in recent years. The No Surprises Act (2022) requires facilities and providers to inform uninsured and self-pay patients of the estimated costs of non-emergency services in advance. However, this leaves gaps in coverage. Providers are not obligated to give good faith estimates to insured patients, and for underinsured patients, this can be devastating. Emergencies can leave patients recovering from a serious health event with a crushing medical bill. Ground ambulance services are not covered in the No Surprises Act and are a major source of surprise out-of-network bills.

The solution is advocacy. Policies like good faith estimates for insured patients and federally defining underinsurance would create greater billing transparency. Additionally, the No Surprises Act should be expanded to cover ground ambulance services. These policies will better protect patients from financial ruin and inevitable consequences like homelessness. We invite partners, providers, and policymakers to join us in rebuilding a healthcare system where cost does not collapse care, and where every person has the chance to come back stronger.

- 1 Casey Uffelmann, University of Missouri School of Medicine, 1 Hospital Dr, Columbia, MO 65212; Telephone (636) 591-5065; Email cupzr@umsystem.edu
- 2 Sean Nguyen, University of Missouri Kansas City School of Medicine, 2411 Holmes Street, Kansas City, MO 64108; Telephone (816) 590-5615; Email stnfnf@umkc.edu
- 3 Nicole Bodenhausen, Blue Springs South High School, 1200 SE Adam's Dairy Pkwy, Blue Springs, MO 64014; Telephone (816) 874-3500; Email nibo2020@icloud.com

Save the Date

2026 Humanitarian

Health Conference

May 28 - 29, 2026

Visit inmed.us for more information.

