



RUTGERS

Robert Wood Johnson
Medical School

2021 Distinction Symposium Abstracts

Distinction in Medical Education

Ariana Gover-Chamlou

Making the Case to Include Standardized Patients with Disabilities in Medical Education

Project Mentors: Dr. Carrie Coffield, PhD and Dr. Robert Lebeau, EdD

Research studies indicate that physicians and medical students often do not feel prepared to address the healthcare needs of individuals with disabilities. Patients with disabilities are more likely to report being treated badly by physicians, not listened to, and left out of the clinical decision-making process. Medical schools have adapted longitudinal learning curricula on disabilities to address these disparities. As studies have revealed that learning experiences led by individuals with disabilities have the greatest impact on students' knowledge and attitudes, some programs have incorporated standardized patients with disabilities into the clinical teaching curriculum. A 19-question survey was developed to assess medical students' attitudes, experiences, and interest in caring for patients with disabilities. The survey was distributed to 697 medical students at Robert Wood Johnson Medical School (RWJMS); 137 students (19.6%) responded. Most students reported prior personal experience with disabilities and occasional exposure to disabilities in medical school. However, the majority of students reported feeling "somewhat" or "not at all" prepared to care for patients with disabilities in clinical practice. Results suggest that medical students at RWJMS would benefit from opportunities to practice interview and physical exam skills with standardized patients with disabilities, in addition to more discussion about what is it like to live with a disability. Learning experiences that include clinical skill-focused activities with standardized patients with disabilities may help increase students' comfort and preparedness to care for patients with disabilities. With these results in mind, two clinical teaching modules featuring standardized patients with disabilities have been designed for the RWJMS curriculum.

Summer Nestorowicz

Addressing Bias Toward Overweight Patients: A Training Program for First-Year Medical Students

Project Mentor: Dr. Norma Saks

Background

Physicians may have biases toward overweight patients which influences clinical judgements and can lead to disparities in care. An increasing number of adults are considered overweight/obese, so it is important to address these biases in training future physicians.

Methods

Forty-five first-year medical students participated in art museum programs and physician presentations, or were part of the control group. Four validated measures: Beliefs About Obese Persons

Scale, Attitudes Toward Obese Persons Scale, Fat Phobia Scale, and the Harvard Implicit Association Test, and researcher-generated questions, measured levels of bias before and after activities.

Results

All participants demonstrated decreased bias. ANCOVA analysis did not reveal significant differences between the experimental and control groups. However, prior to the study 75% of participants had “preference for thin individuals.” Forty percent of those participating in study activities indicated a positive change by associating more positive traits with obese body shapes, compared to 29% of the control group. Study activities were rated positively.

Discussion

The art museum was a relaxing place for reflection on body types and biases. Physicians provided important instruction for de-stigmatization of patient care. Although there were no significant findings, the study has raised questions for continuing this work. What are most effective ways to address weight bias within the medical school curriculum? Could this work extend to other marginalized groups? The diversity in art and humanities creates a rich resource for discussing viewpoints and experiences. The small number of participants, timing, and lack of focus in museum sessions are noted as limitations.

Distinction in Research

Kamali Thompson

Lower Extremity Injuries in U.S National Fencing Team Members and U.S Fencing Olympians

Project Mentors: Dr. Guillem Gonzalez-Lomas - NYU Langone Health, Dr. Maya Ramagopal, Dr. Michael Dunn

Introduction: Fencing is growing rapidly in popularity and competitiveness with fencers beginning at a younger age and competing in more tournaments. We aim to describe and compare the lower extremity injuries experienced by fencers that have trained at the highest level in the sport. We hypothesized that athletes who fenced longer would suffer more knee and hip injuries and report lower IKDC and HOS scores.

Methods: This is an epidemiology study distributed to members of the U.S national team and Olympic team from 1980 to 2018. The electronic survey included questions regarding age, weapon, number of years fencing, number of national and Olympic teams, injuries on the dominant and nondominant hip and knee, time missed due to injury, and methods for treatment.

Results: There were 153 national team members between July 1980 and July 2018, 110 with contact information. A total of 77 athletes submitted the survey, consisting of 30 females and 47 males. Female fencers had more hip injuries and lower IKDC and HOS scores than their male counterparts. In total, there were 71 injuries to the dominant (front) knee and 28 injuries to the nondominant (back) knee. There were 32 dominant hip injuries and 5 nondominant hip injuries. Saber fencers reported the most dominant and nondominant hip and knee injuries.

Conclusion: The intense, repetitive and asymmetrical movements involved in fencing affect the weight bearing leg and the nondominant leg in all weapons. Special attention should be paid to female fencers as they experience more hip and knee injuries resulting in impaired joint function.

Ariana Gover-Chamlou

An Examination of Opioid Prescribing Practices within the Veterans Health Administration from 2012 to 2018

Project Mentors: Dr. Jill Williams, MD, Dr. Stephen Crystal, PhD, Dr. Anna Petrova, MD

In 2013, the Veterans Health Administration (VHA) launched a nationwide Opioid Safety Initiative (OSI) to address the effects of the opioid epidemic on Veterans in the United States. The OSI included new requirements for reporting opioid prescriptions from all VHA medical facilities into a centralized database. In an effort to remain transparent about the effects of the opioid epidemic on Veterans, the Department of Veterans Affairs has released a public dataset that reports the opioid prescribing rates from 146 VHA facilities in 2012 and 2018. This study is the first to analyze the recently published dataset. Paired t-test analysis reveals significant reduction in the percent of Veterans prescribed opioids from 2012 to 2018; however, there is geographic variation in the reduction of opioid prescribing across VHA facilities. Interestingly, the facilities with the greatest reduction in opioid prescribing rates were also those with the highest prescribing rates in both 2012 and 2018. Comparison between VHA and regional Medicare prescribers reveals comparable prescribing rates, though our findings suggest that high-prescribing VHA facilities were less successful in reducing opioid prescription rates than regional Medicare prescribers. While the VHA's efforts to maintain transparency throughout the opioid epidemic are admirable, publication of the number of opioid prescriptions, overdoses, and opioid-related deaths from all VHA facilities is essential to understanding how prescribing practices have changed and their effects on the Veteran population.

Distinction in Global Health

Efua H. Bolouvi

The Feasibility of Developing Culturally Acceptable Sexual and Reproductive Health Education Curriculum

Project Mentor: Dr. Mafudia Suaray

We Sabe is a collaborative tablet-based health and literacy curriculum project piloted in 2016 to deliver video-based lessons to a partnered junior secondary school in Freetown, Sierra Leone, West Africa. This effort was initiated with the aim to help rebuild and strengthen the educational system that was crippled by the country's recent Civil War and was further impacted by the Ebola Virus Disease epidemic, which led to the closure of schools for a whole academic year. As a result, We Sabe sought to help students learn while not being confined to the walls of their classrooms. With the development of its newly curated sexual and reproductive health education curriculum, the project aims to bridge the knowledge gap of teenagers which has led to an increased teenage pregnancy rate in Sierra Leone and address some of the socioeconomic and cultural determinants of teenage pregnancy. Secondly, with the incorporation of more advanced pregnancy-related topics in the lesson curriculum, it will positively impact on the maternal-infant mortality rates. There is yet comprehensive sex education curriculum that had utilized both top-down and bottom-up approaches in its development thereby assuring cultural appropriateness and sensitivity. Thus, this report focuses on the feasibility of curating a comprehensive and resourceful curriculum that is culturally competent and intellectually empowering to the learners. Though the curriculum is still in its early phase, the enthusiasm and engagement from the partner school and the targeted community is promising.

Samantha J. Cheng

Patterns of Food Allergy Among Hispanic Children of Central New Jersey

Project Mentors: Dr. Karen Wei-Ru Lin, Dr. Catherine Monteleone

Food allergies are a growing health burden in the United States, and immigrant populations are disproportionately affected. Even though Hispanics comprise 18.3% of the US population, characterization of food allergies in this group has been relatively neglected in literature. Through a cross-sectional survey of 86 guardians of Hispanic children with food allergies, our study found that Hispanic children have a higher rate of egg allergies than would be expected of children with longer nativity status in the United States (23.26% vs. 9.80%, $p < 0.0001$). Egg allergies were also unexpectedly severe among Hispanic children, as 40.0% of egg allergies elicited respiratory reactions. Among food-allergic Hispanic children, fruit (22.09%), pork (11.63%), and vegetable (9.30%) allergies were also uniquely represented, as these are not common food allergies otherwise in the US.

Aaron Lulla

Research and Cultural Experiences in Chile

Project Mentors: Dr. Javier Escobar, Dr. Leonel Rojo, Dr. Pablo Gaspar

In the summer between my M1 and M2 year, I traveled to the city of Santiago in Chile for a Summer Research Project and Cultural Experience. During my time in Chile, I worked with Dr. Leonel Rojo at the University of Santiago Chile and Dr. Pablo Gaspar at the University of Chile. In Dr. Rojo's lab I worked with his group to help establish a zebrafish colony, gave a talk on my PhD dissertation, and worked with Dr. Rojo to teach a pharmacology class for the university students. Finally, Dr. Rojo and I hosted a research symposium for researchers from all over Chile, during which we discussed the use of zebrafish for in vivo experiments with the attendees.

In Dr. Gaspar's lab, I worked on a psychiatric project to determine how early screening can be utilized for patients at risk for attenuated psychosis syndrome. I worked with lab members to conduct interviews of patients and analyze data. Additionally, I started the process of a medical student exchange program between the University of Chile and RWJMS.

Finally, during my time in Chile I had the opportunity to immerse myself in Chilean culture by living with Dr. Rojo and his family. I also traveled to El Yeso in the Andes Mountains, the home of Pablo Neruda, and the Museo del Memoria y los Derechos Humanos. My hope is that the relationships formed during my time in Chile will facilitate educational opportunities for future students in the exchange program.

Ardi Knobel Nuevo Mendoza

Financial Risk Protection from Impoverishing and Catastrophic Expenditure Due to Surgical Care in Colombia

Project Mentors: Dr. Gregory Peck and Dr. Joseph Hanna

Surgical, anesthetic, and obstetric (SAO) health-care system strengthening is necessary to address the estimated 5 billion individuals that lack access to emergency and essential surgical care, particularly in low- and lower-middle-income countries. To address this gap in care, a national situational analysis of a country's SAO system preparedness, service delivery, and financial risk protection is necessary to

inform system strengthening efforts. In 2020, Hanna et al. published a complete situational analysis of the SAO system in Colombia. To assess financial risk protection for SAO patients, the 2007 Colombian National Health Survey (NHS) was queried to obtain data on monthly household income, hospitalization and non-hospitalization costs, and loss of income for SAO patients and their households. Results show that 3.1 million Colombians (6.4% of the population) incurred impoverishing expenditure due to surgical out-of-pocket costs in 2007. 9.5 million Colombians (19.4% of the population) incurred catastrophic expenditure due to surgical out-of-pocket costs. These results represent the first non-modelled situational analysis of financial risk protection for SAO patients and their households in Colombia. The results are a baseline measurement that can be used to advocate for reforms to the national health insurance system to increase the proportion of surgical out-of-pocket costs covered and to address lost income due to SAO care. Furthermore, data on financial risk protection, along with the rest of the national situational analysis of Colombia's SAO system, can be incorporated into a national health metrics dashboard to inform future national health plans and SAO health-care system strengthening initiatives.

Catherine Tedeschi

GSRU Expansion to Arad, Romania: Surgical Volume and Access Research

Project Mentors: Adrian Balica, MD and Gregory Peck, DO, FACS

Objective: With an IRB approved research agreement achieved between Rutgers and Vasile Goldis University to begin global surgery indicator research data collection in Romania via establishment of a Global Surgery Research Unit (GSRU).

Background: As a commitment to improve surgical care worldwide, the 2015 World Health Assembly included essential and emergent surgical and anesthetic care, including trauma as part of Universal Health Coverage. In order to achieve this goal, the Lancet Commission on Global Surgery (LCoGS) proposed that every country in the world measure six core surgical indicators to determine timely access to safe and affordable surgical and anesthetic care. This data collection is intended gauge the current state of their national surgical system and to promote multi-sectorial and multidisciplinary action to strengthen it, with goals set for 2030.

Methods: Retrospective surgical log and chart review were performed from May to June 2018 to attain surgical volume, timely access to operating room, and postoperative mortality. Hospital and system preparedness was assessed via the Hospital Assessment Tool (HAT) and interviews with hospital officials in order to determine surgeon, anesthesiologist, and obstetrician (SAO) provider density.

Results: The results of this study were mixed. Though the Arad County Hospital System had sufficient SAO density with 21.3 providers per 100,000 population, their surgical volume was lacking with only a projected 1,549 procedures per 100,000 population. Overall, their unadjusted postoperative mortality was 1.14%.

Conclusions: Our future goal is to further develop the GSRU through student and faculty collaboration from both institutions to establish sustainable data collection. We highlight our initial approach as having limitations with retrospective. A needs assessment moving forward will improve upon necessary systems sciences such as participatory action research and situational analyses.

Distinction in Service to the Community

Nathalia Arias-Alzate, Yessenia Leon, Anna Levitt, Ila Nimgaonkar

Establishing a Spanish-Speaking Mood Disorder Self-Help Support Group in New Brunswick

Project Mentors: Dr. Karen W. Lin, Susan Giordano, Maria Pellerano

Mental health services are underutilized by Spanish-speaking individuals in New Brunswick for many reasons including cost, access, language barriers, and stigma. To address this, RWJ students established a Spanish mood disorder support group in partnership with Lazos America Unida and the Depression and Bipolar Support Alliance starting in January 2019. The sessions followed a format where group members introduced themselves and suggested topics they wanted to discuss that day, such as an incident from someone's week, or broader mental health topics. The topics were discussed by the group one by one, with a trained facilitator moderating the conversation, and peers providing support and empathy. The sessions closed with attendees reflecting on a positive experience.

The group met weekly until in-person meetings had to be discontinued due to the COVID-19 pandemic in March 2020. At the same time, mental wellness needs increased in the community, with more people feeling isolated due to quarantine measures, depressed due to the loss or sickness of loved ones, and stressed and anxious due to lack of access to resources and the fear caused by the pandemic. In order to promote mental wellness while maintaining health and safety, the project was adapted to a remote platform by establishing a virtual support group and by creating videos centered on mental health-related topics for Lazos America Unida to share on their Facebook page. In the long-run, we plan to resume in-person support group meetings once it is safe to do so.

Opeposi Adetunji, Megan Hazel, Lindsey Szymanski, Anevea Tinnery

How to be a Super Friend: Disability Education for Children

Project Mentor: Dr. Caroline Coffield

How to be a Super Friend is an education program partnership with the East Brunswick Public Library that teaches children about disabilities. Rather than focusing on classical medical and educational interventions for individuals with disabilities, we explain developmental, learning, and physical disabilities in age-appropriate discussions and activities in order to prevent stigma, lessen prejudice, and eliminate negative attitudes. We hope that our "Super Friends" will grow up with a better understanding of what disabilities are and be less likely to consider them a personal tragedy or deficit. Through lessons targeted for children ages 7 to 9, we constantly underscore that it is natural to be different from one another. Our goal is to have a positive impact on child development by educating children about acceptance of peers. In doing so, we plan to create an inclusive environment, promote social skills, lessen bullying in schools, and create many super friends.

Stephanie Chisom Amaefuna, Victor Mensah, Nanaama O'Hene

Science Career Exploration and Healthy Living

Project Mentors: Dr. Eric Jahn, Susan Giordano

Science Career Exploration and Healthy Living (SCEHL) was created to address the underrepresentation of specific racial and ethnic minorities within the healthcare field. Literature has supported the notion that mentoring and medical exposure to youth can positively influence future career choice exploration. According to the U.S. Census Bureau, over 60% of the New Brunswick population is made up of Hispanic/Latinos and Black/African Americans. In partnership with the Civic League of Greater New Brunswick, a not-for profit community-based organization focused on strengthening minority families, the Science Career Exploration and Healthy Living Initiative was created.

Science Career Exploration and Healthy Living encourages 7th and 8th grade students in the New Brunswick Community to explore careers in healthcare. The monthly meetings involve mentoring, interactive workshops related to medicine and health, and healthcare career panel discussions. These workshops ranged from performing physical exams with stethoscopes to discussing mental health and coping mechanisms with one another. The activities encouraged students to enhance their leadership, collaboration, and problem-solving skillsets. Meetings also engaged the students in discussions about health disparities in urban communities and their role in living a healthy life. Each year, a panel of minority healthcare professionals was assembled to talk with the students about their journeys into their respective healthcare fields. Students were given the opportunity to ask questions and breakout into smaller groups with speakers whose career paths they found most interesting. This project served as a practical tool to encourage healthcare career exploration as well as healthy living among middle school students in New Brunswick.

Daphney Noel, Adrienne Viola, Michael Enich

Robert Wood Johnson AIDS Program EMPOWER 2.0: Mentorship & Health Education for HIV+ Youth

Project Mentors: Roseann Marone and Gail Burack

Perinatally infected individuals with HIV are more likely to experience barriers to healthcare—especially around transition to adult care. The purpose of this project was to help the youth independently manage their care. This program developed as an extension of the EMPOWER program. Program goals were to 1) pair perinatally transmitted HIV/AIDS with a medical student mentor, and 2) develop engaging patient education modules for health promotion.

Patients were paired with medical student mentors. Mentors attended clinic appointments, youth advisory board meetings, and even had virtual communications at the outbreak of the COVID-19 pandemic. Patient education modules were vetted by an advisory group of patients. Module topics included HIV/AIDS 101, social services, insurance, life skills and COVID-19.

This pilot program provides a model of self-management education that may prove helpful with other chronic illness populations. This program provides an opportunity for mentorship and education for young adult patients. Patient education modules could be an effective way for providers to do multimedia in-clinic education.

Navjot Singh & Farsha Rizwan

Healthy Small Meals Initiative

Project Mentor: Dr. Paul Weber

Our project, the Healthy Small Meals Initiative aims to conduct brief seminars on a pertinent topic followed by demonstrations of preparing several healthy small meals. Each presentation focused on common health topics aimed at the high-risk population of the Ozanam Men's Shelter, such as Diabetes, High Blood Pressure, Easy ways to exercise, and Cholesterol. We also provided a demonstration of how to prepare a healthy small snack in using the food provided at the shelter, or how to differentiate between food options at the shelter. A recipe book was left at the shelter so residents could reference different sessions and different recipes. We also conducted Q&A sessions for the residents to answer their own health questions to the best to our ability. Each presentation was set to be interactive and guide residents on understanding their own health. Feedback was obtained after each session, and appropriate changes were made to accommodate the As COVID approached, we then created informational packets for the shelter to use to distribute information regarding COVID, the vaccine, and easy ways to protect yourself.

