Multidisciplinary International Research Training (MIRT) Program

Striving to Eliminate Health Disparities

Harvard MIRT Fellows Orientation!

The Harvard MIRT Program faculty and staff hosted a two day pre-travel orientation program at the Harvard T.H. Chan School of Public Health campus to welcome the 2017 fellows.

Above, our 2017 Harvard MIRT Fellows with Leslie Howes, Managing Director, Office of Human Research Administration, Harvard Longwood Medical Area Schools and Alyssa Speier, Assistant Director for Regulatory Affairs & Research Compliance, Harvard Chan School of Public Health.

“As a first generation college student pursuing a career in healthcare, I am honored to have been selected as a Harvard T. H. Chan School of Public Health MIRT Fellow. I know that this experience will provide me with the skills necessary to combat health disparities.” - Oswaldo Gomez, Harvard MIRT 2017 Peru

“As a Harvard Chan School MIRT Fellow, I hope I can learn how to use and integrate the currently known statistical, medical, and public health knowledge to best treat a particular ailment that plagues a community. Furthermore, I am eager to expand my knowledge of global health in Ethiopia in order to become a more knowledgeable and well-rounded physician, researcher, and global citizen.” - Keona Wynne, Harvard MIRT 2017 Ethiopia

“The Harvard T. H. Chan School of Public Health MIRT Program will be an amazing opportunity to engage in the field of public health and reinforce my desire to pursue an international career in research and medicine.” - Gabriel Santos, Harvard MIRT 2017 Chile
Meet the 2017 Harvard MIRT Fellows!

It is with great pleasure that we introduce our Harvard MIRT (MHIRT) 2017 fellows to the MIRT Program community. The new cohort of fellows come from eight universities around the country. We hope you’ll enjoy meeting them!

Jae’s Personal Statement

Hello! My name is Jae Williams and I am currently a junior at Washington University in St. Louis, majoring in Global Health and the Environment and obtaining minors in Spanish and Biology. Discussions in my courses have helped me expand my definition of a conscientious and informed physician: not only clinically trained, but also acutely attuned to cultural and social differences. Ultimately, pursuing a Masters of Public Health as well as a Medical Doctorate, will allow me to develop both of these skill sets. I am eager to pursue a global health career, because this field bridges the gap between science and culture in a way that can create positive change in a community. I am honored to have been selected for the Harvard MIRT Program this summer, and I am excited to conduct meaningful research in an international setting. As a future physician and researcher, I intend to work with a non-governmental organization to provide healthcare in developing countries. Having studied Spanish for several years, I am eager for an opportunity to gain conversational experience with native speakers in Peru and to immerse myself in a new culture. When not working, I enjoy yoga, spending time with friends and family, listening to music, and tutoring children in St. Louis.

Oswaldo’s Personal Statement

Hello everyone! My name is Oswaldo Gómez, and I’m from South Gate, California. I’m currently a junior majoring in psychobiology at the University of California in Los Angeles. I am very excited to perform research in Lima, Peru this summer. As a first generation college student pursuing a career in healthcare, I am honored to have been selected as a Harvard T. H. Chan School of Public Health MIRT Fellow. I know that this experience will provide me with the skills necessary to combat health disparities. I’m also very excited to travel experience outside of the U.S. in order to increase my cultural humility and to gain a better understanding of what healthcare is like in another country.
Ana Andrade
Undergraduate, Harvard College
MIRT Site: Peru

Ana’s Personal Statement

Hi! My name is Ana Andrade, and I’m a sophomore at Harvard College studying the Cognitive Neuroscience track of Psychology with a secondary concentration in Global Health and Health Policy. I mostly grew up in Massachusetts, but both my parents had immigrated from Brazil so growing up I was very much aware of the difficulties faced by lower income immigrant families. When I began college, I started learning about some of the realities around health disparities, and I became fascinated by health outcomes and the phenomena of declining health amongst immigrants who migrate to the U.S. I’ve always wanted to become a doctor, and although the end goal is still medical school, I also want to dive into my studies of psychology and global health to develop a broader understanding of people on the individual and population levels. I’ve worked as a research assistant for Professors Dana McCoy and Gunther Fink of Harvard on a project focused on early childhood development intervention strategies. This summer, I hope to push myself into global health research as well as immerse myself in Peruvian culture and hopefully leave finally fluent in Spanish! I’m so excited to meet and learn from everyone else involved with the Harvard MIRT Program this summer.

Gabriel Santos
Undergraduate, Georgetown University
MIRT Site: Chile

Gabriel’s Personal Statement

Hello! My name is Gabriel Santos and I am from San Juan, Puerto Rico. I am a pre-med rising junior at Georgetown University majoring in English and minoring in Science, Technology, and International Affairs with a focus on Global Health. After Georgetown, I plan to go to medical school and pursue an MD/MPH. I have always been interested in medicine, and growing up in Puerto Rico, I witnessed the disparities in healthcare on the island. Volunteering last summer at a clinic in San Juan, where many patients were from a low socioeconomic status, and my time as an undergraduate researcher in psychology increased my passion for public health and research. In my free time, I like going on runs, tutoring children, exploring Washington D.C., and above all traveling and learning about different cultures. I hope to one day have an internationally focused medical career that will allow me to travel to other countries and aid medically underserved populations. I have never been to another Spanish-speaking country and I look forward to immersing myself in Chilean culture, meeting new people, and learning research skills I can apply to my future as a healthcare professional. The Harvard T. H. Chan School of Public Health MIRT Program will be an amazing opportunity to engage in the field of public health and reinforce my desire to pursue an international career in research and medicine.
Hello! My name is Ana Manriquez. I am from Leon, Guanajuato, Mexico, but I grew up in Milwaukee, Wisconsin. I am a rising senior at Tufts University double majoring in Community Health and International Relations with a minor in Latino Studies. As a first-generation student, I am a part of the Bridge to Liberal Arts Success (BLAST) program at Tufts, an instrumental part of my undergrad career that has aided me in overcoming many struggles commonly faced by low-income, minority students. Additionally, my involvement in community based research and campus organizations like United for Immigrant Justice have also marked my time at Tufts. Those experiences paired with my life circumstances, such as growing up without health insurance and being a first-generation immigrant myself, have all sparked my interest in the health fields.

I’m very excited to spend the summer in Chile with the Harvard MIRT program. While traveling is something I am extremely passionate about, I am most looking forward to conducting international population based research. I know that with the Harvard MIRT program I’ll be able to combine the agency of having an active role in a research project, with the support and guidance that comes with being part of a team. Furthermore, this summer I’ll have the privilege of engaging in work with immediate and measureable outcomes in a country with a complex and rich history. Moreover, after spending a year abroad in Madrid, Spain, living in Latin America will allow me to draw real world comparisons about the current social and political climates and how they affect the health field. Finally, I am extremely excited to meet the other fellows, who like me, are passionate about the fellowship—I know that learning from one another will be one of the most enriching parts of the summer.

“My wish for you is that you continue. Continue to be who and how you are, to astonish a mean world with your acts of kindness. Continue to allow humor to lighten the burden of your tender heart.” — Maya Angelou
Keona Wynne
Undergraduate, Howard University
MIRT Site: Ethiopia

Keona’s Personal Statement

Greetings! My name is Keona Wynne, and I am a junior majoring in biology and minoring in chemistry at Howard University. Originally from rural Texas, my interest in public health, particularly health disparities, began at a very young age. I strongly believe it is a right for everyone regardless of age, education, race, or gender to have access to quality routine health care. Attending Howard University, a Historical Black College/University (HBCU) has only further instilled in me the desire to serve all, especially those who are disadvantaged. Currently, I am a volunteer at the Boy’s and Girl’s Club Clubhouse Six of Greater Washington where I serve as a mentor and tutor to youth. I also serve as the Secretary for a 501-3c non-profit, Comprehensive Medical Mentoring Program (CMMP), which aims to provide mentors in the medical field to minority students who aspire to be a career as health care professionals. Personally, I aspire to obtain my M.D./Ph.D. and investigate health disparities, particularly in the demographical differences in acute pain treatment and management. As a Harvard T. H. Chan School of Public Health MIRT Fellow, I hope I can learn how to use and integrate the currently known statistical, medical, and public health knowledge to best treat a particular ailment that plagues a community. Furthermore, I am eager to expand my knowledge of global health in Ethiopia in order to become a more knowledgeable and well-rounded physician, researcher, and global citizen.

Colbren Thomas
Undergraduate, Xavier University
MIRT Site: Ethiopia

Colbren’s Personal Statement

Hello, my name is Colbren Thomas, and I am from Mansfield, Louisiana. I am a junior biology major with a chemistry minor at Xavier University of Louisiana in New Orleans. I enjoy spending time with my family, traveling, and attending my local church. After graduating next year, I plan to pursue my MD. I aspire to become a world class physician that will touch the lives of the many people who may not have the means of obtaining quality health care. Coming from a disadvantaged community, I have seen impoverished communities throughout my life. These issues go far beyond the American borders. Participating in the Harvard MIRT program will give me firsthand experience with health disparities affecting millions around the world. Also, being of African descent, traveling to Africa will be a life-changing experience. The knowledge gained through my participation in the Harvard MIRT program will help me become a part of the solution to health issues plaguing Ethiopia, as well as the rest of the world. I am thankful for the opportunity to be a part of the Harvard MIRT program, and I am looking forward to working with the faculty and my colleagues in the program this summer.
Deja’s Personal Statement

Hello! My name is Deja Washington, and I am a first semester senior at Xavier University of Louisiana. I am from Gary, Indiana and grew up aware of the many issues in my community. When I moved away for college, I realized the issues that I, along with others in my community, dealt with were health disparities. Throughout my college experience as a mathematics major and biology minor, I was looking for a way to incorporate my passions to help eliminate the hardships faced by communities similar to mine. I got involved at school as the student director for orientation, where I worked directly with planning events geared towards transitioning new students from high school to college. I also worked as a mentor with the youth in my community my semester breaks, which helped me remain grounded in my reason for attending college. In the summer of 2016, I was fortunate to become a participant in the Biostatistics and Computational Biology summer program at Harvard. That experience created an opportunity for me to understand public health, specifically biostatistics and epidemiology and how these fields are vital for a multidisciplinary approach to preventive care. The program also solidified my goal to enter graduate school to obtain a PhD in biostatistics. This summer, I will be able to use my knowledge and experience in the public health field to create change and improvement in Ethiopia under the mentorship of the Harvard MIRT Program. I am looking forward to understanding my role as a researcher and a human as I begin this journey in Ethiopia as a Harvard T. H. Chan School of Public Health MIRT Fellow.

Sarah’s Personal Statement

Hi! My name is Sarah Holdren, and I am a junior at Elon University in Elon, North Carolina. I am pursuing an B.A. in Anthropology with the goal of eventually becoming a physician and researcher. I have always been fascinated by the ways in which our culture shapes our concept of health and disease. This interest has given me the drive to understand the human impact behind our own biomedical culture. During my time at Elon, I have been conducting research on the ways in which biomedical culture in the neonatal intensive care unit influences the infant feeding decisions of parents. I am eager for the opportunity to expand my interests in medical anthropology through the Harvard MIRT Program by being exposed to relevant health issues on a population level. I am extremely honored to have the chance to conduct health research abroad, immersing myself in a new culture, a new health paradigm, and a wonderful opportunity to learn.

"It is what we make out of what we have, not what we are given, that separates one person from another" – Nelson Mandela
MIRT 2017 Pre-Travel Orientation

A two day pre-travel orientation program was held on May 4 and 5, 2017 at the Harvard T. H. Chan School of Public Health campus. This annual pre-travel orientation welcomes our new MIRT fellows and prepares them for their fellowship experience. The orientation provides opportunities to meet fellow MIRT students and program faculty, get important information on travel health, ethical conduct of human research, scientific writing, travel safety, and cultural competency while gaining hands on skills necessary for conducting their own epidemiologic research. Thank you so much to all who participated in making orientation a success!

Dr. Edward Ryan (far left), Professor at Harvard Medical School and Director of Tropical Medicine, Division of Infection Disease at Mass General Hospital shared his expertise on travel health. Elizabeth Walsh (second from left), the Program Manager of Strategic Initiatives, Harvard Global Support Services shared her expertise on travel safety. Donald Halstead (middle), Instructor and Director of Writing Program at the Harvard Chan School shared his expertise on scientific writing. Alyssa Speier, Assistant Director for Regulatory Affairs & Research Compliance; Leslie Howes, Director, Office of Human Research Administration, Harvard T.H. Chan School of Public Health & Harvard Faculty of Medicine provided fellows with a lecture and led case study discussions on ethical conduct of human subjects research.

Thank You!
Every year our MIRT fellows and faculty work on diverse research projects to address the needs of communities of each site. In the Science Corner, we provide synopses of study findings from selected sites. In this issue, we present studies from MIRT 2016-2017. Please visit the MIRT Program website to read the complete list of abstracts.

**Nature and Science of Sleep**

**Objective:** The objective of this study was to determine the association between sleep and depression using both self-reported (subjective) and actigraphic (objective) sleep traits.

**Methods:** A cross-sectional study was conducted among 175 female primary caregivers of children with disabilities receiving care at a rehabilitation center in Punta Arenas, Chile. The eight-item Patient Health Questionnaire was used to ascertain participants' depression status. The Pittsburgh Sleep Quality Index was used to define subjective, or perceived, sleep quality. Wrist-worn actigraph monitors, worn for seven consecutive nights, were used to characterize objective sleep quality and disturbances. Interviewer-administered questionnaires were used to collect information on sociodemographic and lifestyle factors. Linear regression models were fit using continuous sleep parameters as the dependent variables and depression status as the independent variable. Multivariable models were adjusted for body mass index, marital status, smoking status, education level, and children's disabilities.

**Results:** Using an eight-item Patient Health Questionnaire score ≥10, 26.3% of participants presented with depression. Depressed women were more likely to self-report overall poorer (subjective) sleep compared to non-depressed women; however, differences in sleep were not consistently noted using actigraphic (objective) sleep traits. Among the depressed, both sleep duration and total time in bed were significantly underestimated. In multivariable models, depression was negatively associated with sleep duration using both subjective (β=-0.71, standard error [SE] =0.25; P=0.006) and objective sleep (β=-0.42, SE =0.19; P=0.026).

**Conclusion:** The association between sleep and depression differed comparing subjective and objective methods of assessment. Research strategies allowing for the integration of both perceived and objective measures of sleep traits are encouraged.


**Background:** The PTSD Checklist-civilian (PCL-C) is one of the most commonly used self-report measures of PTSD symptoms, however, little is known about its validity when used in pregnancy. This study aims to evaluate the reliability and validity of the PCL-C as a screen for detecting PTSD symptoms among pregnant women.

**Methods:** A total of 3372 pregnant women who attended their first prenatal care visit in Lima, Peru participated in the study. We assessed the reliability of the PCL-C items using Cronbach's alpha. Criterion validity and performance characteristics of PCL-C were assessed against an independent, blinded Clinician-Administered PTSD Scale (CAPS) interview using measures of sensitivity, specificity and receiver operating characteristics (ROC) curves. We tested construct validity using exploratory and confirmatory factor analytic approaches.

**Results:** The reliability of the PCL-C was excellent (Cronbach's alpha =0.90). ROC analysis showed that a cut-off score of 26 offered optimal discriminatory power, with a sensitivity of 0.86 (95% CI: 0.78-0.92) and a specificity of 0.63 (95% CI: 0.62-0.65). The area under the ROC curve was 0.75 (95% CI: 0.71-0.78). A three-factor solution was extracted using exploratory factor analysis and was further complemented with three other models using confirmatory factor analysis (CFA). In a CFA, a three-factor model based on DSM-IV symptom structure had reasonable fit statistics with comparative fit index of 0.86 and root mean square error of approximation of 0.09.

**Conclusion:** The Spanish-language version of the PCL-C may be used as a screening tool for pregnant women. The PCL-C has good reliability, criterion validity and factorial validity. The optimal cut-off score obtained by maximizing the sensitivity and specificity should be considered cautiously; women who screened positive may require further investigation to confirm PTSD diagnosis.

MIRT Alumni Spotlight: Dr. Hazar Khidir

Hazar Khidir was an undergraduate student at Truman State University in 2012 when she participated in the MIRT Program in Addis Ababa, Ethiopia. During her fellowship, Hazar worked on a project titled “Sleep quality and sleep patterns in relation to consumption of energy drinks, caffeinated beverages, and other stimulants among Thai college students” (Lohsoonthorn V, et al. Sleep Breath. 2013 PubMed PMID: 23239460). This project highlighted the need to educate students on the importance of sleep and the influences of dietary and lifestyle choices on their sleep quality and overall health. In a short video on our website, Hazar speaks about her experiences in Ethiopia and the great benefits of participating in the Harvard MIRT program. Additionally, a recent article that she wrote for the Harvard Crimson entitled “Extinguishing Lady Liberty’s Flame” can be found here.

After participating in the Harvard MIRT Program, Hazar graduated from Truman University in 2012 with a double major in Anthropology and Biology. She was then accepted to medical school at Harvard University. She chose to take a year to pursue a longitudinal research project between her 3rd and 4th year of medical school, working through the Center for Global Health at Massachusetts General Hospital. Hazar spent the year working in Durban, South Africa on an HIV clinical research project. The project aimed to help HIV-serodiscordant couples conceive safely and avoid horizontal and vertical transmission of HIV. Hazar graduated from Harvard Medical School in May 2017. She will be starting her residency in Emergency Medicine at Massachusetts General Hospital and Brigham and Women's Hospital in June. Congratulations Dr. Khidir! We are so proud of you!

"As Americans, we sometimes take our privileges for granted, so much so that we can’t see that America is already great. We have been so hardened by the actions of a few, that we believe entire nations of people despise us. This could not be further from the truth. Refugees love our country more than we do and theirs is the ultimate unrequited love." – Extinguishing Lady Liberty’s Flame, by Hazar Khidir
MIRT 2016 Fellows at the New England Science Symposium

Harvard MIRT alumni presented their MIRT research findings at the March 2017 New England Science Symposium at Harvard Medical School in Boston, MA.

Alumni Updates

Do you have an update?
We want to highlight your professional accomplishments and personal milestones.
Help us keep you informed and let us know how you’re doing!
Please contact Lauren Friedman via email (hsphmirt@gmail.com).
We would love to hear from you!
MIRT/MHIRT is a national program designed to encourage students to pursue careers in biomedical and behavioral research. This program provides support for undergraduates and graduate students to receive research training in an international setting. MIRT is funded by the National Institute on Minority Health and Health Disparities (NIMHD). The Harvard T. H. Chan School of Public Health MIRT (formerly the University of Washington MIRT) Program was developed in collaboration with Dillard University, Xavier University, and Western Washington University. The program focuses on population-based health research in developing countries and builds on established linkages with academic institutions in Zimbabwe, Vietnam, Thailand, Republic of Georgia, Peru, New Zealand, Mexico, Malaysia, Ethiopia, Chile and Australia.

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Harvard MIRT Fellows with program staff at the 2017 MIRT Orientation