Recent PhD Student Publications


Epidemiology and Translational Science

PhD Program News

Phinally Done!

Several PhD students will finish their dissertations in the next few months. We asked them to briefly summarize their dissertation, any highlights of their PhD program, their professional plans after they graduate, lastly, any advice they have for fellow students.

Every day I am impressed by the contributions my classmates are making to the health of our communities and it is a pleasure learning more about the inspiring work everyone is doing. As a personal highlight, I was truly touched when my cohort threw me a surprise baby shower. I was completely shocked and showered with their kindess!!

My advice to students would be to take care and take time in selecting a primary mentor and identify someone who is willing to set dedicated time aside to guide and connect you to the people who will help you form your career. I've found setting up monthly “work in progress” meetings with some of my close mentors has helped me keep my research moving along, giving me defined deadlines and the opportunity to practice my professionalism skills.

Priya Prasad

My dissertation research focuses on conceptualizing, implementing, and interpreting qualitative evaluations of improvement initiatives in clinical settings. In addition, I am exploring the application of modern causal inference methods to the heterogeneous data sets available in hospital settings in order to provide efficient feedback to improve the quality of patient care. I hope to utilize my implementation and analysis skills developing and evaluating quality improvement initiatives in an academic medical center.

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Conferences, Awards

UCSF/Department of Epidemiology and Biostatistics/Issue 4/Spring 2016

Letter from Program Director
From guidelines to implementation: strategies to improve tuberculosis case detection

In order to win the battle to end the global tuberculosis (TB) epidemic, we will need new and better tools. Approximately one-third of the world’s population is infected with the TB bacterium, and in 2014 9.6 million people become sick with the disease and 1.2 million people died, meaning more than a third of all cases go undiagnosed or unreported each year. Thus, in order to achieve the current vision of the World Health Organization (WHO) of a 90% reduction in TB incidence worldwide, there is an urgent need to develop effective strategies for improving TB case detection in high burden settings.

My dissertation research focuses on three elements of improving case detection for TB: policy, implementation, and social implications. My first paper describes a tool I helped develop for the WHO called “ScreenTB” that assists high burden countries in developing policies and programs to screen for TB among sub-populations at high risk for the disease, by modeling the potential case detection yield, cost, and cost-effectiveness of screening for TB. My second paper presents the findings from a year-long pilot implementation of a TB screening program that I coordinated in primary care facilities in Jakarta, Indonesia, a country with an alarmingly high incidence of TB (over a million cases each year). My third paper explores the social implications of TB case-finding in a high-burden setting by presenting the results of a qualitative study I conducted on the current state of TB-related stigma in Dar es Salaam, Tanzania, and how it acts as a barrier to TB diagnosis.

Application of Causal Inference Methodology to the Science of Healthcare Quality Improvement

My dissertation research focuses on exploring the application of modern causal inference methods to the heterogeneous data sets available in hospital settings in order to provide efficient feedback to improve the quality of patient care. My dissertation papers cover three separate quality improvement initiatives or topics. The first manuscript uses data from an inpatient intervention to decrease the use of red blood cell transfusions and explores the application of causal inference methodology to aggregate data analyses. In the second manuscript I apply causal inference methodology to evaluate the effect of an intervention bundle on in-hospital mortality among patients with sepsis. And in the third manuscript I explore the effect of specialty care access time on cost and healthcare utilization outcomes in a cohort of UCSF primary care patients.

Graduates con’t

Kristin Hoef t
My dissertation is an evaluation of an oral health education curriculum for low-income Spanish-speaking parents of young children. Using qualitative and quantitative data, I am evaluating the acceptability and efficacy of the program as well as the underlying theoretical constructs that influence behavior change.

After graduation, I will continue to conduct academic research to further understand and improve oral health disparities, including working on a new study to learn about barriers and facilitators for parent-child dyads to follow dentist-prescribed cavity prevention regimens, and using that information to develop metrics for adherence that can be tracked in electronic health records. I have most enjoyed meeting fellow students and wonderful faculty. My advice to future students: Don’t forget to spend time exploring classes and resources beyond the epi program.

Confere nces

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Kathryn Ray
Attended “Summer Institute in Statistics and Modeling of Infectious Diseases”, UW, 2015
Traveled to India in January for a RCT study site visit at Aravind Eye Hospital, Pondicherry

Priya Prasad
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Kristen Aiem jow
Clinic on Dynamical Approaches to Infectious Disease Data, Jacksonville, CA, December 2015
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Heidi Moseson
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Caroline Tai
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4th Annual Symposium on Global Cancer Research
5th Annual Conference Breast Cancer & African Americans

Cecily Miller

Josh Demb
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Awards

Maya Mascarenhas
• Soroptimist Doctoral Fellowship for Scientists Working to Advance Women’s Health/Wellbeing/Rights
• UCSF Osher Center for Integrative Medicine Predoctoral Fellow 2015-2016

Natalie Engmann
• Best Poster Award, UCSF Breast Oncology Program Retreat. February 2016

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Epidemiology Tools Series

Methods and Applications of Agent-Based Modeling
May 23rd at 2:00 – 5:00pm
MH 1401
RSVP: https://ucsf-epitools-magdalena-cerda.eventbrite.com

Magdalena Cerda, PhD
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Strengthening Epidemiologic Research: An EpiTools Medley
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Jan Vandenbroucke, PhD
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Floof eagerly anticipates the visiting speaker dinner parties

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On the field……

Congratulations to Kristen Aiemjoy on two recent fellowship awards! Shown here in Ethiopia conducting her dissertation research.

On the social side……

PhD Students Happy Hour …… after all the drinks and food.

Next generation epidemiologists

PhD student, Cecily Miller welcomes Jonah Penn last September 2015.

1st year PhD students visiting Rae Wannier and baby Leo.

Congratulations to Jonah Penn last September 2015.

Eugenie Poirot

Strategies that aim to reduce the human reservoir of malaria infection favor the use of antimalarial drug regimens that block malaria transmission. Primaquine remains the only available drug with potential to reduce transmission of Plasmodium falciparum malaria. However, its recommended use has been limited due to safety concerns over hemolytic effects in patients with glucose-6-phosphate dehydrogenase deficiency (G6PD). My dissertation focuses on bringing forth new evidence and tools for responding to malaria infections, including research to support the safe use of primaquine for falciparum malaria in G6PD deficient individuals, which has important implications for malaria elimination.

I have accepted a 2-year post-doctoral fellowship position in the Epidemic Intelligence Service Class of 2016 with the U.S. Centers for Disease Control and Prevention. For the first time in 7 years, I will tackle issues of public health importance other than malaria — my primary research focus — which is both exciting and intimidating.

The diverse faculty are truly wonderful and passionate about their research. Having access to such a collabora-
tive, inter-disciplinary group of researchers fosters an enriching learning experience.

Advice to students, you were selected to come here for a reason. Don’t ever doubt that you belong. Take the time to find the right advisor and decide what type of relationship you need to help you succeed. You will sometimes fail but that’s okay. Failure often leads to even greater success. And when you do fail, ask for help. Graduate school is filled with highs and lows so always have a champagne flute and a box of tissues handy.

Cecily Miller

Tuberculosis (TB) infects one third of the world’s population and kills over 1.2 million people each year; in order to combat the disease there is an urgent need to develop better strategies to find and treat those sick with the disease. My dissertation research focuses on three elements of improving case detection for TB globally: policy, implementation, and social implications.

My career goal is to continue working in the field of global TB control, in the areas of policy development and implementation in high-burden settings.

For me the highlight of our PhD was the breadth of training we received, from advanced biostatistics methods to implementation science fundamentals to professional development.

Advise for students is to find mentors that inspire you— they shape you, both professionally and personally.

Heidi Moseson

Nearly half of all pregnancies worldwide are unintended (41%). Even within the United States, one in two women will experience an unintended pregnancy by age 45. The public cost of unintended pregnancies in the United States is estimated to be over $21 billion dollars each year. On an individual level, unintended pregnancy have ramifications that affect a woman’s health, her educational, professional and personal aspirations, as well as her current and future family life. In my dissertation research, I implement an innovative measurement strategy to provide a better understanding of the number of women affected by unintended pregnancy and abortion. I also conduct prospective, in-depth research into the influences affecting the risk of unintended pregnancy, as well as young women’s decisions regarding pregnancy resolution, and gaps in needed support throughout this process. The overall objective is to generate evidence to inform an intervention to reduce the incidence of unintended pregnancy in young women, and to help clinicians and policy makers alike to improve care for women and girls with unintended pregnancies.

After graduation I am considering several reproductive epi postdocs, women’s health oriented foundation positions, biostatistical consulting, and more.

The highlight of the PhD Program thus far: Receiving a grant from the Society for Family Planning to conduct my very own study on women’s experiences with abortions in Liberia - a place with special significance to me, and working with surveillance colleagues in Liberia during the peak of the Ebola epidemic.

My advice for students is to take advantage of your time in the program! No matter how busy you feel, you will probably be busier after you graduate - take advantage of the luxury of focusing on your own training, gain all the skills you can and work on the interesting projects and enjoy it while it lasts!
Eugenie Poirot presenting her dissertation, “Evaluating the safety of malaria treatment in glucose-6-phosphate dehydrogenase deficient patients” Drs. Roly Gosling, Eric Vittinghoff, and Joelle Brown were on her Dissertation Committee.

Dr. Joelle Brown (Assoc. Professor DEB), Eugenie Poirot, Dr. Ingrid Chen (Academic Coordinator Global Health Group) and Dr. Roly Gosling (Assoc. Professor DEB)

The PhD doctoral students have organized a writing group to provide feedback and support as we work on writing our dissertation papers. The writing group consists of 7 students who have passed their qualifying exams across multiple cohorts. A faculty member from the Department of Epidemiology and Biostatistics department joins each of our sessions.

We generally review two works-in-progress per session. All materials are submitted to the group in advance for review and the group provides feedback during the session. We have had 6 faculty members join us so far and over 8 sessions since November 2015. It’s been a great opportunity for us to meet faculty in our department, learn about one another’s research, and get invaluable feedback on our writing.

Social Justice Epidemiology Journal Club

Led by Assistant Professor Meghan Morris, PhD, MPH and PhD student Ekland Abdiwahab, MPH

The objective of this club is to bring together faculty and graduate students across UCSF to promote scholarly dialogue and collaboration. Discussions focus on understanding the political, social, and cultural factors and contexts that result in differences in health status between groups and how rates vary based on resource distribution. Sessions thus far have centered on income inequality pathways/mechanisms, socioeconomic position of neighborhoods and communities, wage & employment, and the effects of incarceration on health in the U.S. Future sessions will cover criminalization of drug possession, neighborhood segregation, and the healthcare system & health insurance. In addition, the club provides opportunities for faculty and PhD students to introduce new theoretical or methodological approaches to health disparities research and to participate in regular works in progress sessions to receive and provide feedback on papers, grants, and other works in progress focused on health disparities topics.

NEW NIH AWARD FOR TRAINING PROGRAM IN AGING AND CHRONIC DISEASE AT UCSF

The UCSF Department of Epidemiology and Biostatistics is recruiting for predoctoral and postdoctoral trainees for the Training for Research on Aging and Chronic Disease (TE-TRAC). The program emphasizes integration of evidence from populations to translational applications in practice and policy. The faculty for this new training program is prominent in research and translation in the epidemiology of aging and chronic disease. The program is supported by a NIH T32 grant. Drs. Mary Haan, Maria Glymour and Robert Hiatt are the program directors.

“The rapid population aging is affecting our abilities to prevent disease and provide care to our communities” said Dr Haan, Chair of the Department.

The TE-TRAC focuses on chronic diseases and aging, including Alzheimer’s disease and related disorders, cancer, musculoskeletal, and cardiometabolic disorders. Dr. Glymour emphasized that the unique strengths of the program are: (1) integration of population and implementation science research; (2) didactic and experiential training using implementation science to prevent and delay incidence and progression of major aging related chronic conditions; (3) emphasis on rigorous methods for longitudinal research in complex data sets; (4) use of multi-level data linkages, including genomics, clinical information drawn from electronic medical records, and environmental or social profiles. Dr. Haan explained that the implementation science and translational component of the program focuses on clinical practice, interventions and health policy.

The program emphasizes development of trainees as independent researchers in a new era of translational science, big data and aging and chronic disease epidemiology.

This spring, several classes have been launched under the aegis of Independent Studies, with substantial support and guidance from faculty. These include “Introduction to Causal Inference”, “Social Policy Factors Influencing Health”, “Advanced Readings in Health Disparities”, “Econometric Methods for Evaluating Social Policy” and “R programming”. Many thanks to faculty mentors Drs. Sudhinaraset, Dr. White, Dr. Dehledorf, and Dr. Shiboski, and student mentors or organizers, Yea-Hung Chen, Alyssa Mooney, Megha Mehrotra, and Stephen Assimwe. All of this activity is complemented by two journal clubs, the Social Justice Journal Club and the Epi Methods Journal Club. Many thanks to Dr. Meghan Morris and PhD student Ekland Abdiwahab for leading these.

This year, we launched the Vittinghoff Award for Methodologic Innovation and Excellence in Epidemiologic, Clinical or Translational Research, recognizing current and recent trainees in the department leading research with novel methods or novel applications of rigorous epidemiologic methods. The first awardee will be recognized at the departmental meeting on June 3, at 1 pm. We hope everyone can join us to celebrate Dr. Vittinghoff’s (still-developing) legacy and the first trainee to be selected for this award.

Finally, next week, we will have two workshops—see page 7. Please RSVP if you can to help us get the right sized room and the right number of snacks. Even if you didn’t RSVP, feel free to drop in, just please note that if you haven’t RSVP’d you are under special obligation to share your snacks with the people around you (which you should do anyway, nothing helps with learning new methods like sharing a chocolate chip cookie).

Thanks as always for the many faculty, staff, and post-docs who make the PhD program a success. Please join me in celebrating the accomplishments and contributions of our students and soon-to-be alumni.

Letter continued

Maria Glymour, S.D.
Associate Professor and Director,
Epidemiology and Translational Science PhD Program

Dr. John Engmann and Kristen Aiemjoy presenting their research

PhD Students Raj Kalapatapu, Kathryn Ray, Megha Mehrotra, Alyssa Mooney, Josh Demb, Natalie Engmann and Kristen Aiemjoy presenting their research.
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Journal Clubs

Epi Methods Journal Club

Led by PhD Student Ekland Abdawahab, MPH

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**Dissertation Spotlight: Cecily Miller, MPH**

"From guidelines to implementation: strategies to improve tuberculosis case detection"

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**Dissertation Spotlight: Priya A. Prasad, MPH**

"Application of Causal Inference Methodology to the Science of Healthcare Quality Improvement"

My dissertation research focuses on exploring the application of modern causal inference methods to the heterogeneous data sets available in hospital settings in order to provide efficient feedback to improve the quality of patient care. My dissertation papers cover three separate quality improvement initiatives or topics. The first manuscript uses data from an inpatient blood cell transfusions and explores the application of causal inference methodology to modeling the potential intervention to decrease the use of red blood cell transfusions and explores the application of causal inference methodology to aggregate data analyses. In the second manuscript I apply causal inference methodology to evaluate the effect of an intervention bundle on in-hospital mortality among patients with sepsis. And in the third manuscript I explore the effect of specialty care access time on cost and healthcare utilization outcomes in a cohort of UCSF primary care patients.

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**Cecily Miller**
- Union World Conference on Lunch Health, in Liverpool, UK , October 2016

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- RSVP: https://ucsf-eptools-lan-vandenbroucke.eventbrite.com

**Jan Vandenbroucke, PhD**
- Leiden University Medical Center
- Floof eagerly anticipates the visiting speaker dinner parties

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As we approach the end of the 2015-2016 academic year, we have lots to celebrate. Eugenie Poirot completed her dissertation on evaluating the safety of malaria treatment in glucose-6-phosphate dehydrogenase deficient patients (with support from committee members Dr. Roly Gosling, Dr. Eric Vittinghoff and Dr. Joelle Brown). In the next few weeks, Eugenie is moving on to her new role with the Epidemiology Intelligence Service (she will be stationed in New York). Although we will sorely miss Dr. Poirot’s lively contributions to the Ph.D. program, it is wonderful to see her moving along on such an important path, following in the footsteps of some of our department leaders in the EIS. In the next few months, several other students will finish their dissertations, and this newsletter highlights some of their research.

In other big news, our app for fellow students was successful. This year, two students will be selected to briefly summarize their dissertation, any highlights of the Ph.D. program, their professional plans after they graduate, and lastly, any advice they have for fellow students.

Every day I am impressed by the contributions my classmates are making to the health of our communities and it is a pleasure learning more about the inspiring work everyone is doing. As a personal highlight, I was truly touched when my cohort threw me a surprise baby shower. I was completely shocked and showered with their kindness!!

My dissertation research focuses on conceptualizing, implementing, and interpreting quantitative evaluations of improvement initiatives in clinical settings. In addition, I am exploring the application of modern causal inference methods to the heterogeneous data sets available in hospital settings in order to provide efficient feedback to improve the quality of patient care.

I hope to utilize my implementation and analysis skills developing and evaluating quality improvement initiatives in an academic medical center.