Interdisciplinary MPH Program
2015-16 Student Handbook

UNIVERSITY OF CALIFORNIA BERKELEY
SCHOOL OF PUBLIC HEALTH
Dear Interdisciplinary MPH Class of 2016:

Congratulations again on your acceptance to the Interdisciplinary MPH program at the School of Public Health, UC Berkeley. We look forward to a productive year of learning with you! In the months ahead you will be exposed to an incredibly rich academic environment not only within the School of Public Health, but also to the larger UC Berkeley campus. The richness of the UC Berkeley community lies not only in its courses and faculty, but you will find that some of the most important educational lessons and connections you will receive will come from your many talented classmates.

Our eleven month program will offer you a unique opportunity to gain the high yield skills that will allow you to take on the most pressing public health challenges of our day. These skills will be taught in your required courses, electives, and in our small group seminar that runs throughout the year. Our goal is that you will apply many of these skills as you develop, implement, and disseminate your MPH project.

The Interdisciplinary Program core faculty are committed to your success both during the year and after you graduate. As such, we will make ourselves available to advise you and expect that you will have regular individual advising sessions throughout the year. We are also available to be a resource in the event that non-Program related challenges arise. We also have a growing family of high achieving Interdisciplinary Program alumni who are working across the globe. You will have ample opportunity to interact with many of them in person and virtually.

The program faculty and staff look forward to getting to know each of you and working with you in the months ahead.

Best wishes,

Phuoc V. Le, MD, MPH, DTM&H
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Director, Interdisciplinary MPH Program
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Co-Director, Global Health-Hospital Medicine Fellowship
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TABLE OF CONTENTS

Welcome from Program Director 1
Core Competencies 2a-2b
Academic Calendar 3
Program Description 4
Program Curriculum 9
Learning Objectives 13
Core Faculty and Staff 15
Student Representation: Class Ombudsman and Social Director 17
Grading Criteria for Seminars 19
Summer 2015 Seminar Schedule 21
Fall and Spring Sample Seminar Syllabus 25

Appendices

Class of 2016 Student Profiles 29
FAQs for Incoming Interdisciplinary Students 39
UC Berkeley Standards of Ethical Conduct 43
Some Extra Resources for Interdisciplinary Students 47
How to Enroll in Classes in Other UCB Schools and Departments (except Haas Business School) 49
Policy and Procedure for Non-Haas Students to Take MBA Courses 51
Haas 2015 Electives for Non-MBA Students 53
BCourses Information 55
List of Courses Recommended by Previous Classes 57
Community Partner Agreement Form 65
Literature Review Guidelines 67
Example of CPHS Protocol (IRB) 69
Tips for Efficient Office of Human Subjects Approval (IRB) 89
Examples of Current Jobs Held by Interdisciplinary Alumni 91
Map of Locations of Interdisciplinary Alumni 93
Career Services Information 95
Examples of Recent MPH Project Papers:

“Evaluation of the ‘Design Sprint’ – a Design Thinking Pilot in the Castlemont
Best Babies Zone in Oakland, CA”  
“Nutrition and Dietary Counseling Practices in Internal Medicine Residency
Training”

Map and Key – UC Berkeley Campus (inside and outside back covers)
Interdisciplinary MPH Program Competencies

Upon satisfactory completion of the Interdisciplinary MPH seminars, project preparation, execution and presentation, graduates will have the following competencies, in addition to core competencies stated elsewhere for PH 200C, PH 200D, Epidemiology, and Biostatistics. The unique character of this program is the flexibility it offers students in designing a curriculum customized to meet their future professional needs. Each student’s curriculum is developed in collaboration with a faculty advisor and the program head, who must approve each course of study. Therefore, apart from the School’s required core course competencies, the competencies developed by graduates of the Interdisciplinary Program will be highly variable. They will depend on each student’s individual curriculum. The Interdisciplinary Seminar and MPH Project are the only non-core courses specifically required by the Interdisciplinary Program. The remainder of the students’ coursework consists of electives.

• Demonstrate understanding of the organization of the health care system in the USA
• Use information technology to access, evaluate, and interpret public health data
• Apply evidence-based principles to critical evaluation and decision-making in public health
• Articulate the complexities of interdisciplinary research; challenges and opportunities
• Demonstrate skill in bibliographic software (Endnote), Power Point and Excel
• Critically evaluate PowerPoint presentations for communication effectiveness
• Understand basic principles in the design and implementation of qualitative research
• Understand the role that community organization approaches play in improving public health services in local communities
• Understand the role of the built environment in modulating health outcomes and how Public Health professionals might influence the design of new or remodeled physical environments
• Engage in dialogue and learning with other professional groups to advance public health goals
• Use a variety of communication methods to advocate for community public health programs and policies
• Apply information gathered from practical experiences in field placements to advocacy, organization, and implementation of public health activities
• Promote high standards of personal and organizational integrity
• Demonstrate ability to conduct a basic ethical analysis of a public health intervention
• Describe the attributes of successful leadership in public health and know one’s leadership style
• Articulate an achievable mission, set of core values, and vision; and how to apply them
• Demonstrate effective organizational skills and the ability to communicate with and enlist the support of potential participants and stakeholders
• Demonstrate team building skills
• Apply appropriate communication methods to work effectively with individuals and groups
• Demonstrate understanding of the objectives of the IRB process, and successfully complete the application process for IRB Human Subjects approval and/or waiver
• Develop a Memorandum of Understanding
• Understand the fundamental financial practices in non-profit organizations
• Demonstrate the ability to develop a public health message for media use
• Perform comfortably in an on-camera interview
• Demonstrate professional quality presentation skills, comfort with difficult Q&A, and effective call to action
• Demonstrate ability to design, execute, and analyze a Public Health project
• Prepare a public health manuscript for peer reviewed publication (some students only)
• Complete a comprehensive literature review on a defined public health topic, including synthesis of themes and findings across multiple studies
• Develop clear, measurable, time-specific project (SMART) objectives
• Research best practice models to inform project design
• Formulate a research plan, including determination and application of appropriate research methods (quantitative, qualitative or mixed)
• Develop and ensure the implementation of sustainability and/or replicability plans
• Develop and implement project dissemination plans to ensure communication of results with all project stakeholders and with public health community
• Identify public health organizations and agencies whose mission intersects with project work
• Assess potential for substantive community partnership
• Describe and apply CDC Principles of Community Engagement
• Develop work plans with community partners to ensure clear communication and mutual benefit
• Understand and apply basic framework for cost-effectiveness analysis
• Identify public health funders and write competitive grant proposals (some students only)
• Understand and apply basic framework for conducting policy reviews
• Actively synthesize and reflect on course and project work across the MPH program to inform future career
# University of California, Berkeley

## Academic Calendar

### Summer 2015, Fall 2015, and Spring 2015

### Summer Sessions 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic and Administrative Holiday</strong></td>
<td>Monday, May 25, 2015</td>
</tr>
<tr>
<td>First Six-Week Session begins</td>
<td>Tuesday, May 26, 2015</td>
</tr>
<tr>
<td>Ten-Week Session begins</td>
<td>Monday, June 8, 2015</td>
</tr>
<tr>
<td>Eight-Week Session begins</td>
<td>Monday, June 22, 2015</td>
</tr>
<tr>
<td>First Six-Week Session ends</td>
<td>Thursday, July 2, 2015</td>
</tr>
<tr>
<td><strong>Academic and Administrative Holiday</strong></td>
<td>Friday, July 3, 2015</td>
</tr>
<tr>
<td>Second Six-Week Session begins</td>
<td>Monday, July 6, 2015</td>
</tr>
<tr>
<td>Three-Week Session begins</td>
<td>Monday, July 27, 2015</td>
</tr>
<tr>
<td>Second Six-Week Session ends</td>
<td>Friday, August 14, 2015</td>
</tr>
<tr>
<td>Eight-Week Session ends</td>
<td>Friday, August 14, 2015</td>
</tr>
<tr>
<td>Ten-Week Session ends</td>
<td>Friday, August 14, 2015</td>
</tr>
<tr>
<td>Three-Week Session ends</td>
<td>Friday, August 14, 2015</td>
</tr>
</tbody>
</table>
Fall Semester 2015

Winter Commencement

FALL SEMESTER BEGINS

Convocation

Instruction Begins

Academic and Administrative Holiday

Academic and Administrative Holiday

Non-Instructional Day

Academic and Administrative Holiday

Formal Classes End

Reading/Review/Recitation Week

Last Day of Instruction

Final Examinations

FALL SEMESTER ENDS

Academic and Administrative Holiday

Academic and Administrative Holiday

Academic and Administrative Holiday

Academic and Administrative Holiday

To be determined

Wednesday, August 19, 2015

Monday, August 24, 2015

Wednesday, August 26, 2015

Monday, September 7, 2015

Wednesday, November 11, 2015

Wednesday, November 25, 2015

Thursday, November 26, 2015 --

Friday, November 27, 2015

Friday, December 4, 2015

Monday, December 7, 2015 --

Friday, December 11, 2015

Friday, December 11, 2015

Monday, December 14, 2015 --

Friday, December 18, 2015

Friday, December 18, 2015

Thursday, December 24, 2015 --

Friday, December 25, 2015

Thursday, December 31, 2015 --

Friday, January 1, 2016
Spring Semester 2016

Cal Day

**SPRING SEMESTER BEGINS**

*Academic and Administrative Holiday*

Instruction Begins

*Academic and Administrative Holiday*

Spring Recess

*Academic and Administrative Holiday*

Formal Classes End

Reading/Review/Recitation Week

Last Day of Instruction

Final Examinations

**SPRING SEMESTER ENDS**

Commencement

*Academic and Administrative Holiday*
PROGRAM DESCRIPTION
UC Berkeley School of Public Health
Interdisciplinary MPH Program, 2015-16

The Interdisciplinary M.P.H. is an accelerated, 11-month program designed to meet the needs of mature scholars with diverse cultural and professional backgrounds who have specific public health career goals in mind. The program focuses on an interdisciplinary understanding of complex issues and the leadership challenges of successful interventions in public health. Graduates leave as well-rounded public health professionals with a heightened understanding of the importance of a multidisciplinary approach to public health practice.

The class size ranges between 12 and 20. Originally dominated by mid-career physicians, the program now accepts senior medical students, residents, and fellows. In addition, we also actively recruit applicants with a range of professional background who hold a master's degree or the equivalent, and who have significant health care experience or interest in public health. Applicants from the fields of journalism, business, social work, anthropology, economics, and law are encouraged if their future career paths include public health activities and/or significant interaction with public health systems.

The Interdisciplinary Program’s curricular flexibility allows successful applicants, in consultation with their faculty advisers, to develop an individualized course of study tailored to meet their needs. In addition to the required courses at the School of Public Health, elective courses may be chosen from any of the academic offerings across the Berkeley campus. A year-long, mentored M.P.H. project is required for completion of the program.

Program Curriculum and Requirements

Students in the Interdisciplinary M.P.H. program are required to complete 42 semester units of course credit between July and May. Students take a heavy course load (17-19 units per semester), in addition to one or two summer courses (4-8 units) to satisfy the 42 unit requirement. Consequently, students should not plan to work during the fall and spring semesters, and should make every effort to minimize work-related responsibilities while at school.

We advise students to enroll in the six-week Summer Session courses on Epidemiologic Methods (PH 250A) and/or the Introduction to Biostatistics (PH 141). This will reduce their course load to manageable levels in the Fall and Spring semesters. Students with previous biostatistics or epidemiology experience may take both summer courses provided that they can make a full-time commitment to coursework beginning in early July. Students who have taken rigorous or advanced epidemiology or biostatistics in the past are encouraged to take the exemption exams in epidemiology and biostatistics in late August. Passing out of a course, however, does not decrease the 42-unit requirement for graduation.
Students are required to attend a one-unit Interdisciplinary Summer Seminar during which they will begin to develop ideas for their year-long MPH project. The course number is PH 292 (1) and the course control number is 72738. Students should enroll in this course for one unit with the S/U grading option.

**The Interdisciplinary MPH core requirements** consist of six courses totaling 23 units:

- **Biostatistics**
  - PH141 (4-5 units):
    - *This requirement may also be met by passing the exemption exam during welcome week*

- **Epidemiology**
  - PH 250A or PH250B (3 units)
    - *This requirement may also be met by passing the exemption exam during welcome week*

- **Breadth courses:**
  - PH 200C1—Health Policy and Management (2 units): offered in the first half of Fall semester
  - PH200C2—Environmental Health Sciences (2 units): offered in the second half of Fall semester
  - PH 200C3—Health and Social Behavior (2 units): offered in Spring

- **Interdisciplinary Program Seminar Series**
  - PH 292(1) – Summer Interdisciplinary Seminar (1 unit)
  - PH292 (12) – Fall, 4 units and PH 292 (7)—Spring, 4 units: a full-year course designed to enhance knowledge and practice skills and to provide guidance and mentorship in the development and implementation of a culminating MPH Project. The oral presentation and written paper for the MPH project satisfy the Public Health Practice and Comprehensive Examination requirements for the degree.

  **We also strongly recommend that in Spring 2016 you take PH 291, the Preparation for Public Health Practice Workshop Series, a one unit course offered by the Center for Public Health Practice with a S/U grading option only.**

The remaining 19-20 units are available for electives that may be used to customize a curriculum that fits your career-building needs.

**School of Public Health Specialty Areas**

While taking electives towards the MPH, students may also simultaneously complete a Specialty Area, or minor, in a particular area. Specialty Areas draw faculty and students across many areas of study. They require that students complete nine units of specific courses and electives. The School offers the following specialty areas of study:

- Aging
- Global Health
- Maternal and Child Health
- Multicultural Health
- Public Health Nutrition

Please refer to the School of Public Health website for more information about the Specialty Areas: [http://sph.berkeley.edu/](http://sph.berkeley.edu/)
The curriculum for the Interdisciplinary MPH program is an intensive, full-time course. The 42-unit program requires completion of at least 17 units of coursework in each of the fall and spring semesters. In order to meet the 42-unit requirement, students are also expected to enroll in the summer session prior to the Fall semester in which they enter the program. Up to four units from previously completed graduate coursework may also be applied towards the 42 units, subject to ‘rules for transfer units’ and approval from Graduate Division. Curricular requirements are summarized below. The one-year program also requires completion of a community-based research project (this is an MPH Project, not a thesis). Projects may take a variety of forms including research studies, needs assessments, program evaluations, or policy analyses. Projects are presented at the end of the Spring semester in written and oral formats and fulfill the School of Public Health Comprehensive Exam requirement.

**Bolded type** denotes courses that are required by the School of Public Health and the Interdisciplinary MPH Program.

### Epidemiology:
There are several ways to satisfy the Epidemiology requirement:
1. Take PH 250A (Epidemiological Methods I) in the Summer or Fall;
2. Take and pass the epidemiology exemption exam at the beginning of the Fall semester; or
3. Take PH 250B (Epidemiological Methods II) in the Fall.

### Biostatistics:
There are also several ways to satisfy the Biostatistics requirement:
1. Take PH 141 (Intro to Biostatistics) in the Summer;
2. Take PH 142 (Intro to Biostatistics) in the Fall; or
3. Take PH 245 (Intro to Multivariate Statistics) in the Fall
4. Take PH 252 (Epidemiological Analysis) in the Spring
5. Take and pass the Biostatistics exemption exam before the Fall semester begins

### Recommended Interdisciplinary Course Selection (ALL MUST BE TAKEN FOR A LETTER GRADE EXCEPT WHERE NOTED):

#### SUMMER SEMESTER

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>PH 250A</td>
<td>Epidemiological Methods I</td>
<td>3</td>
</tr>
<tr>
<td>PH 141</td>
<td>Introduction to Biostatistics</td>
<td>5</td>
</tr>
<tr>
<td>PH 292(1)</td>
<td>Summer Interdisciplinary Seminar (S/U grading option)</td>
<td>1</td>
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#### FALL SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 142</td>
<td>Intro to Probability &amp; Statistics in Biology &amp; PH (if summer PH141 not taken)</td>
<td>4</td>
</tr>
<tr>
<td>PH 200C-1</td>
<td>Health Policy and Management Breadth Course (half semester)</td>
<td>2</td>
</tr>
<tr>
<td>PH 200C-2</td>
<td>Environmental Health Sciences Breadth Course (half semester)</td>
<td>2</td>
</tr>
<tr>
<td>PH 292(12)</td>
<td>Interdisciplinary Seminar</td>
<td>4</td>
</tr>
<tr>
<td>PH 250A</td>
<td>or Epidemiologic Methods I</td>
<td>3</td>
</tr>
<tr>
<td>PH 250B</td>
<td>Epidemiologic Methods II</td>
<td>4</td>
</tr>
</tbody>
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(Note: PH 250A and/or 250B not needed if PH 250A was taken in summer)

Electives (to be chosen by student)*** 5-8 units

#### SPRING SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 292(7)</td>
<td>Interdisciplinary Seminar</td>
<td>4</td>
</tr>
<tr>
<td>PH 200C-3</td>
<td>Health and Social Behavior Breadth Course</td>
<td>2</td>
</tr>
<tr>
<td>PH 291A</td>
<td>Preparation for Public Health Practice Workshop Series (S/U grading option only)</td>
<td>1</td>
</tr>
</tbody>
</table>

*(PH 291A is not required but is highly recommended)*

Electives (to be chosen by student)*** (For examples, see next page) 12-13 units

*** Electives are chosen in collaboration with Faculty Advisor, customized to provide the skills for each student’s desired career path. Students must have approval of their faculty advisor for elective courses taken outside the School of Public Health
TOTAL NUMBER OF UNITS REQUIRED FOR THE 11-MONTH MPH PROGRAM: 42 units

EXAMPLES OF SCHOOL OF PUBLIC HEALTH ELECTIVES:
(see http://catalog.berkeley.edu for complete selection)

Note: there are no restrictions on where you take your electives as long as they are on the Berkeley campus. You can take electives in other UC Berkeley schools and departments such as Business, Public Policy, Demography and Anthropology, or any other department subject, to approval from that department and from the student’s faculty advisor.

Fall Electives

PH 201E Public Health Interventions: Theory, Practice and Research (3 units)
PH 204A Mass Communication and Public Health (3 units)
PH 204D Community Organization and Community Building for Health (3 or 4 units)
PH 204E Multicultural Competence in Public Health (3 units)
PH 206A Nutrition Status, Physical Activity, and Chronic Conditions (3 units)
PH 206C Nutritional Epidemiology (3 units)
PH 210B Adolescent Health (3 units)
PH 210C Needs Assessment in Maternal and Child Health (3 units)
PH 212A International Maternal and Child Health (2 units)
PH 213A Family Planning, Population Change, and Health (3 units)
PH 216A Biological Embedding of Social Factors (3 units)
PH 217A Aging and Public Health (3 units)
PH 220F Healthy Workforce and Public Policy (2 units)
PH 223A Introduction to the Healthcare System (3 units)
PH 224A Health Organizations and Management (3 units)
PH 226A Health Economics (3 units)
PH 226D Global Health Economics (3 units)
PH 235 Impact Evaluation for Health Professionals (3 units)
PH 245 Introduction to Multivariate Statistics (3 units)
PH 252C Intervention Trial Design (3 units)
PH 252D Introduction to Causal Inference (3 units)
PH 253A Overview of AIDS Epidemic (3 units)
PH 255A Mental Health and Psychopathology (3 units)
PH 257 Outbreak Investigation (1, 3 units)
PH 260A Principles of Infectious Disease (3 units)
PH 263 Public Health Immunology (3 units)
PH 264 Current Issues in Infectious Disease (2 units)
PH 270B Toxicology (4 units)
PH 282 Topics in the History of Medicine and Public Health (3 units)
PH 285A Public Health Injury Prevention and Control (3 units)
PH 285B Public Health Injury and Control (2 units)
PH 290 (2) Health Issues Seminar: Social Justice and Worker Health (1-4 units)
PH 290 (4) Health Issues Seminar: Health Communications in the Digital Era (1-4 units)
PH 290 (5) Health Issues Seminar: Behavior Change in Adolescence (1-4 units)
PH 290 (6) Health Issues Seminar: Healthcare Quality (1-4 units)
PH 290 (7) Health Issues Seminar: Implementing Health Reform (1-4 units)
PH 291A Preparation for Public Health Practice
PublicPol 260 Public Leadership and Management (3 units –Note: special enrollment procedures)
Spring Electives

PH 144  Introduction to SAS Programming (2 units)
PH 200A  Current Issues in Public Health Ethics – Research and Practice (3 units)
PH 202E  Ethnic and Cultural Diversity in Health Status and Behavior (3 units)
PH 205  Planning, Development and Evaluation (3 units)
PH 212E  Private Sector Health Care in Developing Countries (2 units)
PH 212D  Global Health Core Course, Part 2 (2 units)
PH 217D  Biological and Public Health Aspects of Alzheimer’s Disease (3 units)
PH 218B  Evaluation of Health and Social Programs (4 units)
PH 219A  Advanced Methods: Qualitative Research (3 units)
PH 219C  Community Based Participatory Research in Health (3, 4 units)
PH 219E  Introduction to Qualitative Methods in Public Health Research (2 units)
PH 223C  Strategic Management and Organization of Health Services (2-3 units)
PH 223F  Effective PH Negotiations (2 units)
PH 224A  Healthcare Organizations and Management (3 units)
PH 223  Legal Basis for Healthcare Delivery (3 units)
PH 230  Advanced Health Politics (3 units)
PH 253B  Epidemiology and Control of Infectious Diseases (3 units)
PH 223A  Green Chemistry: An Interdisciplinary Approach to Sustainability (3 units)
PH 253C  Ethical Challenges in Public Health Interventions (2 units)
PH 253D  Behavior and Policy Science in HIV Prevention and Treatment (3 units)
PH 255  Social Epidemiology (3 units)
PH 257A  Disaster Epidemiology (2 units)
PH 270B  Toxicology (3 units)
PH 207C  Practical Toxicology (3 units)
PH 271C  Drinking Water and Health (3 units)
PH 271E  Science and Policy for Environment and Health (3 units)
PH 271G  Health Implications of Climate Change (3 units)
PH 272A  Geographical Information Science for Public Health and Environment (3 units)
PH 271  Public Health and Spirituality (2 units)
PH 271D  Global Burden of Disease and Comparative Risk Assessment (3 units)
PH 282  Topics in the History of Medicine and Public Health (2 or 3 units)
PH 290(2)  Health Issues Seminar: Designing Innovative Public Health Solutions (3 units)
PH 290(8)  Public Health Journalism (3 units)
PH 290(9)  Seminar: HIV Biology to Policy
PH 285  Public Health Injury and Control (2 units)
PH 291A  Preparation for Public Health Practice
MBA 209F  Fundamentals of Business for Non-Business Majors (3 units)
PublicPol 280  Wealth and Poverty (3 units. Note: special enrollment procedures)
Learning Objectives for the Interdisciplinary MPH Seminar, 2015-16

By the end of the year-long Interdisciplinary Program Seminar, students will be able to:

- Design and implement a project to address a current public health challenge
  - Complete a comprehensive literature review on a defined public health topic, including synthesis of themes and findings across multiple studies
  - Research best practice models to inform project design
  - Develop clear, measurable, time-specific project objectives
  - Learn about the fundamental principles of ethics in public health research
  - Successfully complete the application process for IRB Human Subjects approval and/or waiver
  - Formulate a research plan, including determination and application of appropriate research methods (quantitative, qualitative or mixed)
  - Develop and ensure the implementation of sustainability and/or replicability plans
  - Develop and implement project dissemination plans to ensure communication of results with all project stakeholders and with public health community

- Partner effectively and ethically with community-based organizations and/or agencies
  - Identify public health organizations and agencies whose mission intersects with project work
  - Assess potential for substantive community partnership
  - Describe and apply CDC Principles of Community Engagement
  - Develop work plans with community partners to ensure clear communication and mutual benefit

- Gain public health knowledge and skills to enhance professional practice
  - Understand and apply basic framework for cost-effectiveness analysis
  - Identify public health funders and write competitive grant proposals, letters of intent and comprehensive budgets
  - Understand and apply basic framework for conducting policy reviews
  - Develop skills to improve scientific writing for peer-reviewed publications

- Integrate learning across the MPH program
  - Actively synthesize and reflect on course and project work across the MPH program to inform future career
  - Access mentors, advisors and public health peers for support, troubleshooting and identification of useful resources

- Leadership and Inter-professional education
  - Learn effective leadership skills including facilitation, mediation, decision making, delegation, effective feedback, and systems thinking
  - Learn and apply skills needed to work in inter-professional teams effectively
  - Learn and apply skills needed for effective scientific presentations and media advocacy, including on-camera communication skills
Interdisciplinary Program Core Faculty

Phuoc Le, MD, MPH, DTM&H is the Program Director. Dr. Le graduated Phi Beta Kappa from Dartmouth College with a double major in Chinese and Biochemistry, an MD from Stanford, and an MPH from UC Berkeley’s Interdisciplinary Program (2003). He completed a combined residency in Internal Medicine, Pediatrics, and Global Health Equity at Harvard. During residency he worked with the Partners in Health (PIH) to provide equitable health care in Rwanda, Lesotho, Malawi, and most recently, Haiti. He has participated in community health and anthropological research in Tibet, Shanghai, and Qinghai, PRC, and Geneva, Switzerland. His interests are in health disparities and interventions in developing countries. Currently, Dr. Le is dually appointed as an assistant professor of Internal Medicine and Pediatrics at UCSF in addition to his appointment at UCB. He continues to work with PIH for several months a year. Email: ple@berkeley.edu

Anke Hemmerling, MD, PhD, MPH is a lecturer at UC Berkeley School of Public Health, and an Academic Coordinator at the UCSF Bixby Center for Global Reproductive Health, where she is conducting studies on prevention of reproductive health infections. In addition, she is the Co-Chair of the Education Committee at the UCGHI Center of Expertise in Women’s Health and Empowerment. At UCSF, she is mentoring and teaching students in the Infectious Disease Research and Training Program (IDRTP) and the UCSF Global Health Masters Program. In addition, she serves on the steering committee of the Coalition Advancing Multipurpose Innovations for Reproductive Health. During her clinical training, she repeatedly worked in health projects and hospitals in Latin America. Her PhD research evaluated medication abortion with mifepristone in Germany. From 2004 to 2007, she was a postgraduate Global Health Research Fellow for the Bixby Program at the UC Berkeley School of Public Health, and a Director of Special Health Projects for Venture Strategies for Health and Development, conducting research related to safe motherhood and safe delivery. Email: ahemmerling@berkeley.edu

Harvey Kayman, MD, MPH works at UCB as a lecturer with affiliate status in the Department of Epidemiology. Dr. Kayman worked on a CDC funded research project at UC Berkeley School of Public Health from 2010-2012 on decisions made by California county public health officials on school closure during the 2009 H1N1 pandemic. From October 2013 until September 2014, he worked with a team to develop techniques to teach public health officials about decision making in crises. He has been instructor of record for a course on ethics, emergency preparedness, and application of decision theory and public health in the Epidemiology Department. He has worked at the California Department of Public Health (CDPH) as a Public Health Medical Officer, as acting section chief of the Bio-terrorism Emergency Preparedness as Senior Science Advisor to the Communicable Diseases Emergency Response Branch until 2010. From 2000-2006, he worked in the South Carolina Department of Health and Environmental Control (SCDHEC), first as the health officer for a six county rural health district and then as the Director of the Maternal and Child Health Bureau for the State of South Carolina Health Department. He was a Clinical Professor of Pediatrics at the University Of South Carolina School Of Medicine, and an Adjunct Associate Professor of Epidemiology in the Arnold School of Public Health at the University of South Carolina. He was the public health representative to the South Carolina Medical Association Ethics Committee for six years. Dr. Kayman has had many years experience as a front line practicing pediatrician, first in the United States Army (Chief of Pediatrics at the US Army Hospital in Bangkok, Thailand-1971-1973) and then as a staff pediatrician at Northern California Kaiser Permanente for 25 years from 1973-1999, where he was also the Chief of Patient Education for 14 years. Dr Kayman and his wife have been married for 50 years, have three married adult “children,” and six grandchildren who form the center of his universe.
Nap Hosang, MD, MBA, MPH is a retired obstetrician and medical group administrator from Kaiser Permanente. He has held many leadership positions in the school, including the Joint Medical Program, Global Health, Maternal and Child Health and the Center for Entrepreneurship. His current interests are in reducing maternal mortality and the impact of indoor air pollution on women and small children. Dr. Hosang was the director of the Interdisciplinary Program until 2012. He is currently the director of UCB’s On-campus Online MPH (OOMPH) program. Email: hosang@berkeley.edu

Jaspal Sandhu, MS, PhD, is co-founder and partner at the Gobee Group, a firm that innovates for social impact globally. Current Gobee initiatives include: creating a digital platform to improve the cost-effectiveness of HIV drug purchasing by African governments, sparking community innovation in the Best Babies Zone in East Oakland, and building innovation capacity in the health care safety net across California. Jaspal is also a Lecturer at the School of Public Health at the University of California, Berkeley, where he teaches graduate-level, interdisciplinary courses on the innovation process. In 2014, he taught a new course focused on the intersections of food, innovation, and health: Eat. Think. Design. His writing on innovation has been featured in the Stanford Social Innovation Review, MIT Innovations, and Fast Company’s Co.Exist. He received his Ph.D. in Design from the University of California, Berkeley, and his Master’s and Bachelor’s degrees in engineering from MIT. Email: jaspal@berkeley.edu

Interdisciplinary Program Staff

Laura Spautz, MPH, Program Manager, has been working with the Interdisciplinary MPH Program since 1997. She has extensive experience as both a staff member and a student (BA 1992 and MPH, Health and Social Behavior, 2006). She is currently also working with Professor Stephen Shortell’s research group and on several freelance writing and editing projects. She is particularly interested in global women’s health, mental health, and alternative medicine. Email: imph@berkeley.edu
STUDENT REPRESENTATION

Class Ombudsman -- elected by nomination and vote of the class. The role of the ombudsman is to be a resource for students in the Interdisciplinary Program who have concerns that they may not want to voice directly to the program faculty. Concerns can be about the program itself, other courses in the school, or aspects of the learning environment that need to be addressed. The Ombudsman can elect to communicate concerns with any of the program faculty or staff. The program leadership will have regular check-in sessions with the Ombudsman to make sure that student needs and concerns are heard. The Ombudsman will also have a key role in the recruitment and admissions process for the Class of 2016-17.

Class Social Director -- elected or appointed by the class to suggest, initiate and/or organize after-hours social events for the group such as happy hours, hikes, BBQs, etc. The program has a small budget for class social events, and requests can be made directly to the program leadership.
GRADING CRITERIA FOR INTERDISCIPLINARY MPH SEMINAR

Summer, Spring and Fall

SUMMER 2015

Students will receive a credit of one unit (PASS/FAIL) for attendance of the seminar and delivery of the assignment by August 14, 2015 (outline of ideas for MPH project). More than one unexcused absence will result in a failing grade.

FALL 2015

10 %: Attendance and full participation in seminar and advisor meetings
20 %: Draft Project Plan
20 - 30 %: Final Project Plan
0 - 10 %: If applicable -- completed IRB process
30 %: Literature Review

Assignment grading will be based on quality of content, adherence to outlined expectations, and timeliness of submission. Deadline extensions will not be granted without prior approval from faculty.

SPRING 2015

10 %: Attendance and full participation in seminar and advisor meetings
40 %: Project presentation
50 %: Final Project Report

Assignment grading will be based on quality of content, adherence to outlined expectations, and timeliness of submission. Deadline extensions will not be granted without prior approval from faculty.
SUMMER 2015

Interdisciplinary MPH Seminar
Public Health 292 (1) - CCN 80045
S/U grading option only
714C University Hall
Fridays, 2-4 pm (July 10– August 7, 2015)
Faculty: Phuoc Le, Anke Hemmerling

Course description

This seminar is designed to enhance the knowledge and practice skills of students enrolled in the Interdisciplinary MPH Program and to provide guidance and mentorship in the development and implementation of a culminating MPH Project.

During the summer session, we will have weekly seminars and focus on team building, alumni experiences, guidance for course selection, and getting you started on your MPH project.

During the fall and spring semester, weekly meetings will challenge students to integrate their learning and experiences across the MPH curriculum, and to synthesize their knowledge and skills via a project that addresses a specific public health challenge.
Learning Objectives for the Interdisciplinary MPH Seminar

By the end of the year-long Interdisciplinary Program Seminar, students will be able to:

- Design and implement a project to address a current public health challenge
  - Complete a comprehensive literature review on a defined public health topic, including synthesis of themes and findings across multiple studies
  - Research best practice models to inform project design
  - Develop clear, measurable, time-specific project objectives
  - Learn about the fundamental principles of ethics in public health research
  - Successfully complete the application process for IRB Human Subjects approval and/or waiver
  - Formulate a research plan, including determination and application of appropriate research methods (quantitative, qualitative or mixed)
  - Develop and ensure the implementation of sustainability and/or replicability plans
  - Develop and implement project dissemination plans to ensure communication of results with all project stakeholders and with public health community

- Partner effectively and ethically with community-based organizations and/or agencies
  - Identify public health organizations and agencies whose mission intersects with project work
  - Assess potential for substantive community partnership
  - Describe and apply CDC Principles of Community Engagement
  - Develop work plans with community partners to ensure clear communication and mutual benefit

- Gain public health knowledge and skills to enhance professional practice
  - Understand and apply basic framework for cost-effectiveness analysis
  - Identify public health funders and write competitive grant proposals, letters of intent and comprehensive budgets
  - Understand and apply basic framework for conducting policy reviews
  - Develop skills to improve scientific writing for peer-reviewed publications

- Integrate learning across the MPH program
  - Actively synthesize and reflect on course and project work across the MPH program to inform future career
  - Access mentors, advisors and public health peers for support, troubleshooting and identification of useful resources

- Leadership and Inter-professional education
  - Learn effective leadership skills including facilitation, mediation, decision making, delegation, effective feedback, and systems thinking
  - Learn and apply skills needed to work in inter-professional teams effectively
  - Learn and apply skills needed for effective scientific presentations and media advocacy, including on-camera communication skills
SUMMER 2015 SEMINAR SCHEDULE

July 10  
**DOUBLE SESSION 2-6 PM**  
Welcome Session including dinner: Interdisciplinary Program Overview, Expectations, and Advising Structure  
Phuoc Le, Anke Hemmerling

July 17  
**MPH Project Overview, Requirements and Discussion of Initial Project ideas**  
Phuoc Le, Anke Hemmerling

July 24  
**Community Engagement**  
Ann Banchoff, Anke Hemmerling, Jonathan Malagon, MPH – Senior Program Associate, PolicyLink  
Alison Chopel, MPH, DrPH - Director, California Adolescent Health Collaborative

July 31  
**Alumni Panel**  
Mark Lin, MD, MPH ’15  
Kareem Raad, MD, MPH ’15  
Kristie Tappan, JD, MPH ’15  
Thea Anderson, MSW, MPH ’15  
and more participants TBA

August 7  
**Project Workshop**  
Phuoc Le, Anke Hemmerling

**GRADING**

Students will receive a credit of one unit (PASS/FAIL) for attendance of the seminar and delivery of the assignment by **August 14, 2015** – outline of ideas for MPH project. More than one unexcused absence will result in a failing grade.
SCHOOL OF PUBLIC HEALTH
UNIVERSITY OF CALIFORNIA, BERKELEY

Interdisciplinary MPH Seminar – PH 292 (12)
FALL SEMINAR SCHEDULE
Example Only

Course description
This seminar is designed to enhance the knowledge and practice skills of students enrolled in the Interdisciplinary MPH Program and to provide guidance and mentorship in the development and implementation of a culminating MPH Project. Weekly meetings throughout the academic year will challenge students to integrate their learning and experiences across the MPH curriculum, and to synthesize their knowledge and skills via a project that addresses a specific public health challenge.

Instructors: Phuoc Le, Anke Hemmerling

August __ Welcome Day Session
August __ Mixed Methods Research in Public Health
                     Ryan Greysen, UCSF
September __ Community Participatory Research
                     Meredith Minkler, UCB
September __ Project Workshop I
September __ IRB Workshop
                     Meet with your program advisor once in September
October __ Survey Design in Public Health
                     Linda Neuhauser and Susan Ivey, UCB
October __ Ethics in Public Health Research
                     Harvey Kayman, UCB
October __ Project Workshop 2
                     Due today: Draft Project Plan, including detailed plan for IRB submission and identified project mentor/mentor within community organization
October __ Designing Innovative Public Health Solutions
                     Jaspal Sandhu - UCB
                     Due today: Completion certificate for CITI training
November __ Cost Effectiveness Analysis in Public Health
                     Elliot Marseille, UCSF
November __ Project Workshop 2
November __ THANKSGIVING HOLIDAY – NO CLASS
November __ Career Development/MTBI Assessment
                     Ruthann Haffke, SPH Career Services Director
                     Due today: Final Project Plans and Community Partner Agreements
                     Meeting with your program advisor once in November
December __ How to conduct a Policy Review
                     TBA (UCSF)
Readings and assignments

- Course readings will be distributed in class and/or posted on bspace in the “Resources” section.
- Assignment guidelines will be posted on bspace

IMPORTANT DEADLINES

Please mark your calendars for all of these deadlines

September __ Meeting with your program advisor once in September
October __ Completion certificate for CITI training
October __ Draft Project Plan, including detailed plan for IRB submission and identified project mentor/mentor within community organization
October __ Completed IRB submission
November Meeting with your program advisor once in November
November __ Final Project Plans and Community Partner Agreements
December __ Literature review of your project
Course description

This seminar is designed to enhance the knowledge and practice skills of students enrolled in the Interdisciplinary MPH Program and to provide guidance and mentorship in the development and implementation of a culminating MPH Project. Weekly meetings throughout the academic year will challenge students to integrate their learning and experiences across the MPH curriculum, and to synthesize their knowledge and skills via a project that addresses a specific public health challenge.

Instructors: Phuoc Le, Anke Hemmerling

CLASS SESSIONS

January __ Project Briefs and Introduction to Spring Semester

January __ Camera Session
Nap Hosang, UCB

Instructions to prepare for camera session:
(1) Script and practice a **20-second personal introduction** that summarizes who you are and your credentials/interests. So practice, practice, practice. **AND**

(2) Prepare a **35-50 second talk on anything you are passionate about** in public health. Prepare and deliver an “ask” at the end. The format will be an interview on camera by a TV unit. Assume the interviewer just asked you: "So Mr./Ms XX, what are you most passionate about in PH?"

Learning objective: enhance your on-camera performance when you are consulted as a public health expert by the media.

February __ Leadership Skills
Jennifer Lachance, UCB  Center for Health Leadership

February __ The Art of Decision Making
Harvey Kayman, UCB

February __ Project Workshop 2 – Dissemination & Sustainability
*Due today: Detailed Project Report Outline*

February __ How to write a good scientific article and get it published
How to write a good Letter of Interest/Grant Proposal
*Due today: Meeting with your program advisor once in February*

March __ Grantseeking and Foundations
Sarah Jane Holcombe, UCB
March __  Media Advocacy Training
Julieta Kusnir, Berkeley Media Studies Group

March __  Student presentations 1 (3 students)

March __  SPRING BREAK – NO CLASS THIS WEEK

April __  Student presentations 2 (3 students)

April __  Student presentations 3 (3 students)

April __  Student presentations 4 (3 students)

April __  Student presentations 5 (4 students)

May __  Student presentations 6 (3 students), also Wrap-Up and Course Evaluations

READINGS and ASSIGNMENTS

- Course readings will be distributed in class and/or posted on bcourses in the “Resources” section.
- Assignment guidelines will be posted on bcourses.

IMPORTANT DATES and DEADLINES

***Please be sure to mark your calendars for all of these dates***

February  Schedule a meeting with your program advisor at least once in February

February __  Completed Advancement Candidacy Forms due in Laura’s office by 4pm. THESE FORMS ARE MANDATORY IF YOU PLAN TO GRADUATE!

February __  Detailed Project Report Outline due

March __– May __  Student presentations in class (presentation schedule confirmed by 1/31/15)

April or May  Interdisciplinary Annual Alumni and Student Picnic – 12-4 pm, Codornices Park in Berkeley

May __  Final Project Report due

May __  COMMENCEMENT CEREMONY - Zellerbach Auditorium, UC Campus
Appendices
Angela Raquel Aguilar

Preferred name for use in class: Angela
Correct pronunciation of your name: N/A
Email address: angaguilar@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
A.A. in Anthropology, Fullerton College (community college) 2006; Double B.A. Anthropology and Ethnic Studies, UC Berkeley 2009; M.A. Ethnic Studies, UC Berkeley, 2013; PhD Ethnic Studies, UC Berkeley, in progress / and the most important: / High School diploma, Buena Park High School, 1999

Phone number: 510-502-6165 cell
Local address (if known): 3424 Seminary Ave., Oakland, 94605
Languages you speak: Spanish, Spanglish, and English

Personal interests, hobbies, extracurricular activities: When I'm not working on my PhD duties, I spend lots of time enriching my knowledge about plants and herbs. I also practice traditional Indigenous healing from Mexico and the Southwest and am constantly learning and sharing with a group of elders and women who also practice. My family and I love to go on hikes in the Oakland Hills and we go camping any chance we get! In my home I love to cook, listen to music and take lots of naps.

Mara Katherine Alexeev

Preferred name for use in class: Mara
Correct pronunciation of your name: Determan rhymes with Letterman /
Email address: work.determan@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
BS in Biochemistry spring 2008 (with minors in Mathematics, German, and Russian Studies) from Iowa State University / MD spring 2012 from University of Iowa

Phone number: 5152904521
Local address (if known): 3401 Richmond Blvd Apt 7, Oakland, CA 94611
Languages you speak: German and Russian, both poorly.

Personal interests, hobbies, extracurricular activities: Cooking and bread making, learning Russian, traveling with my husband, letter writing, reading, walking, playing board and card games, and enjoying coffee!
Angela Nicole Baldwin

Preferred name for use in class: Angela
Correct pronunciation of your name: An-ge-la
Email address: Angela.baldwinmd@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
Stanford University - B.A. in Human Biology 2005 / Howard University College of Medicine -
M.D. 2009 / Naval Aerospace Medical Institute - flight surgeon certification 2011

Phone number: 202-320-8325

Local address (if known): 1655 Mission St, Unit 1045, San Francisco, CA 94103

Languages you speak: English / Very minimal Spanish /

Personal interests, hobbies, extracurricular activities: Travel, food, concerts/shows, weight
lifting, trying new things

Stephanie Lynn Chau

Preferred name for use in class: Stephanie
Correct pronunciation of your name: Stefany
Email address: chau.sl@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
BA in Biology at Boston University / MD from USC Keck school of medicine / Last year in
Kaiser Oakland Internal Medicine residency

Phone number: cell - 714 873-1013

Local address (if known): 3465 Richmond Blvd, Apt 304, Oakland, CA 94611

Languages you speak: English only, can understand some basic Spanish, even less Vietnamese
and Chinese (Teo Chew, Mandarin)

Personal interests, hobbies, extracurricular activities: Reading (mostly fantasy books),
watching ice hockey, running
Nicole Alyse Croom

Preferred name for use in class: Nicole (Nick works too, although mostly it's just my sisters who call me that)

Correct pronunciation of your name: nih-KOAL

Email address: nacroom@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
- B.S. Integrative Biology and Physiology from UCLA, graduated 2012 / - M.D. from UCSF in progress (expecting to graduate summer 2017)

Phone number: 209-609-4631

Local address (if known): 744 20th Avenue, Apt. A / San Francisco, CA 94121

Languages you speak: English / Some Spanish (I understand better than I speak)

Personal interests, hobbies, extracurricular activities: Personal interests: physiology, nutrition, reproductive rights, forensic science, zombies, board/card games, craft beer, cheese, dystopias (aka the inevitable future?), cooking, being more earth friendly, mental health, social behaviors, ethics/morality / Hobbies: reading, writing, I used to scrapbook but not so much anymore / Extracurricular: muay thai (on-and-off), would love to get into archery (been shooting twice), trying to get back into running, people watching, TV

Ellen Darius

Preferred name for use in class: Ellie

Correct pronunciation of your name: Da-rius ( not Dare-ius )

Email address: elliemaerdh@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):

Phone number: (510) 847-7193

Local address (if known): 6362 Arlington Blvd., Richmond, CA 94805

Languages you speak: Primarily English, some French and Spanish.

Personal interests, hobbies, extracurricular activities: I like to do many things outdoors, hiking, running, camping. I like to travel to new places and old favorites. I like to write and read. I enjoy cooking using fresh local ingredients.
Anisa Durand

Preferred name for use in class: n/a
Correct pronunciation of your name: Rhymes with "Lisa"
Email address: anisadurand@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
UCSD, 2001-2003 - no degree, transferred to UCSB / UCSB, 2004-2007 - BS in biopsychology, BA in biology, minor in American Indian and Indigenous Studies. / UC Davis School of Medicine, 2008-2012 - MD

Phone number: 530 848 6651
Local address (if known): 6008 Chelton Dr., Oakland, CA 94611
Languages you speak: Spanish

Personal interests, hobbies, extracurricular activities: Hanging out with my fiance Dave and my dog Spoops, surfing, running, hiking, brunching. After residency, I hope to get back into running and rock climbing.

Daniel Joseph Freitas

Preferred name for use in class: DJ
Correct pronunciation of your name: (Fray-Tis)
Email address: dfreitas0@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
BA in Molecular Cell Biology from UCB / MD Candidate class of 2017 UCSF

Phone number: 9166221239
Local address (if known): 1467 8th ave Apt #2
Languages you speak: English

Personal interests, hobbies, extracurricular activities: I enjoy playing and watching all sports, poorly playing the guitar, and going to the movies.
Jesse Hahn

Preferred name for use in class: Jesse
Correct pronunciation of your name: N/A
Email address: jessehahnmd@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
BA, political science - University of Richmond 2003 / MD - UVM 2008 / Orthopaedic Surgery Residency, UVM 2013 / Medizinische Hochschule Hannover - Trauma Fellowship March/April 2014 / UCSF/SFGH Orthopaedic Trauma Fellowship 2014 (expected)

Phone number: 802-578-7963 (home)
Local address (if known): 203a Bennington Street, San Francisco CA 94131 (planning to change and move to east bay in august)

Languages you speak: English, dabbling in French (poorly), spanish (even more poorly) and german (most poorly).

Personal interests, hobbies, extracurricular activities: Skiing, Hiking, Reading (cormac mccarthy being a favorite), drawing, writing.

Sara Mathew Holmes

Preferred name for use in class: Sara
Correct pronunciation of your name: N/A
Email address: Samathew917@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable): N/A

Phone number: confidential
Local address (if known): 1152 kearny st, San Francisco, ca
Languages you speak: Malayalam, English, some rudimentary hindi

Personal interests, hobbies, extracurricular activities: Painting, art, outdoors
Anna Jagger

Preferred name for use in class: Ann
Correct pronunciation of your name: N/A
Email address: jagger.ann@gmail.com
Previous majors, schools and graduation years (including degrees in progress, if applicable):
BSc Microbiology, Imperial College London (2005) / MSc Immunology, King's College London (2006) / PhD Immunology, King's College London (2010)
Phone number: 408-759-0346
Local address (if known):
Languages you speak: French, Greek and working on my Spanish
Personal interests, hobbies, extracurricular activities: Going to the opera, ballet, theater etc, hiking, baking, baseball, exploring planet earth (a.k.a. traveling), early childhood education, yoga, interior design

Rokhsareh Kohansal

Preferred name for use in class: Sarah
Correct pronunciation of your name: N/A
Email address: rkohan11@gmail.com
Previous majors, schools and graduation years (including degrees in progress, if applicable):
Bachelor of Arts and Humanities in History (Iran), Master of Education (Boston University), PhD in Education (University of California Berkeley).
Phone number: 617 429 6651
Local address (if known): 1177 Pleasant Hill Circle / Lafayette, CA 94549
Languages you speak: English/Farsi
Personal interests, hobbies, extracurricular activities: playing volleyball, gardening, interior design
Elaine Diana Lee

Preferred name for use in class: Elaine Lee
Correct pronunciation of your name: E-lane lee
Email address: Elainedianalee@gmail.com
Previous majors, schools and graduation years (including degrees in progress, if applicable): BS Bioengineering at Cal c/o 2011 / MD at UCSF c/o 2017
Phone number: 415-846-9036
Local address (if known): 483 Wickson Ave / Apt A / Oakland, CA 94610
Languages you speak: English, some Spanish, some Cantonese
Personal interests, hobbies, extracurricular activities: Foodie, Bay Area sports fan, running, recreational tennis, mentoring youth, pipeline projects, happy hour foods, crossword puzzles, hiking, wandering around the city, traveling, small batch coffee and whiskey, keeping all of my friends.

Heather Mack

Preferred name for use in class: Heather
Correct pronunciation of your name: N/A
Email address: mack621@gmail.com
Previous majors, schools and graduation years (including degrees in progress, if applicable): Bachelor of Arts, Journalism, San Francisco State University, 2008 / Master of Journalism, UC Berkeley, 2015
Phone number: 415.533.6406
Local address (if known): 430 34th Avenue #107, San Francisco, CA 94121
Languages you speak: English (native) / French (Basic) / Spanish (Basic)
Personal interests, hobbies, extracurricular activities: Travel, yoga, biking, reading, camping, hiking, running, anything outdoors

Nicole Christienne Rich

Preferred name for use in class: Nicole
Correct pronunciation of your name: N/A
Email address: nicole.rich@ucsf.edu
Previous majors, schools and graduation years (including degrees in progress, if applicable): B.S. in Molecular Environmental Biology from Berkeley, 2006 / M.D. from U.C. San Diego, 2012
Phone number: 415-812-8639
Local address (if known): 1225 20th Ave #2, S.F., CA 94122
Languages you speak:
Personal interests, hobbies, extracurricular activities: Global surgery
Teresa Corinne Robbins
Preferred name for use in class: TC
Correct pronunciation of your name:
Email address: tcrobbins3@gmail.com
Previous majors, schools and graduation years (including degrees in progress, if applicable):
B.S. in Biology, Stanford University, 2010 / M.A. in Latin American Studies, Stanford University, 2011 / M.D. (in progress), University of California, San Diego (expected 2017)
Phone number: 858-945-5981 (cell)
Local address (if known): 246 Bemis St. San Francisco, CA 94131
Languages you speak: Spanish, a tiny bit of Portuguese
Personal interests, hobbies, extracurricular activities: sand volleyball, cycling, hiking, exploring nature, vegetarian cooking, traveling to Spanish-speaking countries, crafting, jewelry-making.

Shimi Sharief
Preferred name for use in class: Shimi
Correct pronunciation of your name: Short i’s for both i’s - like shimmy
Email address: Shimisharief@gmail.com
Previous majors, schools and graduation years (including degrees in progress, if applicable):
BA - mcb - Berkeley - 2005 / MD - Albert Einstein college of medicine - 2010
Phone number: 408-338-8207
Local address (if known): 1221 Funston Ave #105 / San Francisco, CA 94122
Languages you speak: Malayalam, English, some Hindi, some french
Personal interests, hobbies, extracurricular activities: Drawing, painting, lots of Netflix lately

Theresa Wai Wong
Preferred name for use in class: Theresa
Correct pronunciation of your name: N/A
Email address: Twongx718@gmail.com
Previous majors, schools and graduation years (including degrees in progress, if applicable):
BS General Biology from UCSD 2011, MD from UCSD currently
Phone number: 3237171662
Local address (if known): 1988 Martin Luther King Jr Way #207, Berkeley, CA 94704
Languages you speak: English, Spanish, Mandarin
Personal interests, hobbies, extracurricular activities: Cooking, baking, hiking, backpacking, traveling, trying new restaurants and breweries
You Meme Wu

Preferred name for use in class: Meme

Correct pronunciation of your name: "Mimi"

Email address: tonhyuk48@gmail.com

Previous majors, schools and graduation years (including degrees in progress, if applicable):
Johns Hopkins: Graduated with BA in Biology and East Asian Studies in May 2008 / University of Pittsburgh: Graduated with Medical Degree in May 2012 / Expect to complete residency in Internal Medicine in May 2016.

Phone number: 8042489827

Local address (if known): 564 Oakland Ave Apt 14, Oakland, CA 94611 (end June 30) / 334757 Skylark Dr, Union City, CA 94587 (starting June 15)

Languages you speak: Fluent in Mandarin, some fluency in Japanese and French.

Personal interests, hobbies, extracurricular activities: Current hobbies: Photography, baking, backyard chickens, snowboarding, reading (for pleasure)
FAQs Answered for Incoming Interdisciplinary MPH Students 
Academic Year 2015-16

1. Is there a minimum grade required for required breadth courses and a required overall GPA?

Yes-- students must attain a B- or better in the breadth course requirements (Epidemiology PH 250A; Biostatistics PH 142; Health Policy & Management 200C1; Environmental Health PH 200C2; and Health and Social Behavior PH 200C3). Students who attain less than a B- will be required to retake the course. To receive the MPH degree, the student must also meet the Good Academic Standing Rule with an overall 3.0 GPA and a B average.

2. Can I work during the 11-month program?

The full course load required is 42 semester units for the year, or about 5 or 6 classes per semester. That is a lot of course work which will keep you quite busy. Most students will likely have little extra time available for a part-time job or a Graduate Student Instructor or Graduate Student Research position.

3. Summer session: How do I decide which summer course(s) to take?

Students are required to take the Summer Interdisciplinary MPH Seminar PH 292 (1), course control number 72738. In addition, we also recommend taking Biostatistics PH 141 and Epidemiology PH 250A. The 2015 summer session runs from July 7 to August 15. As this is a heavy a course load for beginners on these topics, we recommend that you do not work during the Summer Session. If you’re not able to take all three courses, please check in with the Interdisciplinary Program faculty to make alternate plans.

4. Do the summer session courses satisfy the MPH requirements for Biostatistics and Epidemiology?

- Yes, PH 141 satisfies the Biostatistics requirement.
- Yes, PH 250A satisfies the Epidemiology requirement

5. Can I take the Biostatistics and Epidemiology exemption exams to satisfy the requirements?

You can satisfy the Biostatistics and Epidemiology requirements by passing the exemption exams, which will be offered just before the Summer and Fall semesters. You will receive notice of these exams in advance. Please email Laura Spautz if you have any questions - lspautz@berkeley.edu. Please note that if you satisfy the Biostatistics and Epidemiology requirements by passing the exemption exams, you will NOT receive unit credit for them and will still need to complete 42 units of course work in order to graduate.

6. Can you recommend any online resources for biostatistics preparation or a refresher?

Yes, please see the free courses that are available at http://oli.cmu.edu/

7. Is health insurance for Summer Sessions available?

Yes. Please see http://www.uhs.berkeley.edu/students/insurance/summer.shtml for information on how to apply for summer health insurance. Note that the link says that it is for
freshman and transfer summer students, but it also applies to any student enrolling in summer sessions and any entering student, including international students.

8. When does the Fall 2015 semester begin and end?
   • Instruction begins on August 26 and ends on December 4.
   • Fall 2015 orientation activities (“Welcome Days”) begin the week of August 24. More information about these activities and other important information will be coming to you soon via email from the School of Public Health Student Services office.

9. How can I satisfy the 42 units for the Interdisciplinary Program in just eleven months?
   The two-year MPH programs require that you do 48 units in two years, whereas the 11-month MPH programs require 42 units in 11 months. The Interdisciplinary program is rigorous but doable, provided you are not working or have other time-intensive obligations. We will provide a list of possible curriculum scenarios at the beginning of the Summer Session.

10. What is the minimum number of units that I may to take each semester?
    The minimum allowable number of units per semester is 12. However, as an Interdisciplinary student, you will need to take many more units each semester.

11. Can I transfer of units from previous graduate coursework not counted towards another degree?
    You may be able to transfer up to four units of graduate level coursework towards your MPH degree. According to UC Berkeley’s Graduate Division Policy: “A master’s student may transfer up to four semester units or six quarter units of course work completed as a graduate student at another institution. The units must be equivalent to courses in the student’s graduate program at Berkeley, and the student must have received at least a B in the course(s) and have a grade point average of at least 3.3.” The courses to be transferred must be approved by the School of Public Health Curriculum Review Committee to insure that they meet the requirements for transfer. Students must submit a syllabus for each course. Eligible units might be stand-alone courses or courses taken that exceeded the requirements (extra units) for a previous degree. Detailed procedures for transferring units will be announced at the start of the Fall 2014 semester.

12. Do I take PH 297, the field practicum requirement that is listed on some UC Berkeley School of Public Health MPH curriculum materials?
    No-- this course is for two-year MPH students only. As an 11-month student, you satisfy your practicum requirement as part of the Fall 2014 and Spring 2015 Interdisciplinary MPH Seminars -PH 292(12) and PH 292(7) in the Spring.

13. The Interdisciplinary Seminars--PH 292 (12) in Fall and PH 292 (7)-- in the Spring are variable unit courses. How many units should I enroll in for each of these courses?
    4 units for each course, taken for a letter grade

14. Can I take undergraduate courses and can they count towards my 42 units? How many undergraduate units can I take?
    Yes, you may take undergraduate courses and they will count towards the MPH, but they must be upper division courses numbered 100 or above. You may take a maximum of 12 units in 100-level courses.

15. How many elective units can I take outside the UCB School of Public Health?
    There is no limit on the number of elective units that may be taken outside SPH across other UCB departments.
16. Can I complete one of the public health specialty areas along with the interdisciplinary MPH?

Yes. You may use elective units in the Interdisciplinary curriculum to complete specialty area requirements such as for the Global Health Specialty Area.

17. May I take courses Pass/Fail or Satisfactory/Unsatisfactory?

All required courses must be taken for a letter grade. You may take electives as P/F or S/U, but no more than a third of your total units taken can be taken P/F or S/U (excluding independent study courses numbered 299).

18. What are the guidelines for taking independent study (299) units?

- The maximum number of PH 299 course units you may take towards the degree is ten.
- PH 299’s can be taken either S/U or for a letter grade. The choice depends on what you arrange with the instructor.
- Although no more than one third of total units can be taken S/U, this one third does NOT include PH 299 units.

19. As a UCB student, do I get access to STATA for data analysis?

You have free access to STATA on the computers in the Epi/Biostat computer lab in Haviland Hall. You can also buy your own copy of STATA at a discount. Please see: http://www.stata.com/order/new/edu/gradplans/campus-gradplan/

20. As a UCSF resident, can I receive the two-thirds tuition and fee reduction available to UC staff?

Unfortunately you cannot. To receive this discount, you may take no more than nine units of coursework per semester. The Interdisciplinary Program requires that you take more than nine units per semester.

21. Can I teach and facilitate a De-Cal course to undergraduates and receive unit credit for it?

Yes. You can receive unit credit via undergraduate independent study 199 units. For information please see http://www.decal.org/

22. If I need to book a room to use for a student meeting, project interview, etc., how can I do so?

You may ask Laura Spautz – email her at ipmph@berkeley.edu, and please give her at least several days’ notice to find the room.

23. Are students required to wear traditional regalia to the Commencement ceremony?

Yes. Laura has several gowns available in her office that students can borrow.
UC Statement of Ethical Values and Standards of Ethical Conduct

The University’s Statement of Ethical Values and Standards of Ethical Conduct commits everyone in the UC community to the highest ethical standards in furtherance of the University’s mission of teaching, research, and public service. It identifies the University’s core ethical values as integrity, excellence, accountability, and respect.

Standards of Ethical Conduct

Adopted by The Regents of the University of California, May, 2005

PURPOSE

Pursuit of the University of California mission of teaching, research and public service requires a shared commitment to the core values of the University as well as a commitment to the ethical conduct of all University activities. In that spirit, the Standards of Ethical Conduct are a statement of our belief in ethical, legal and professional behavior in all of our dealings inside and outside the University.

APPLICABILITY

The Standards of Ethical Conduct apply to all members of the University community, including The Regents, Officers of The Regents, faculty and other academic personnel, staff, students, volunteers, contractors, agents and others associated with the University. Organizationally, the Standards apply to campuses, the National Laboratories, the Office of the President, the Division of Agriculture and Natural Resources, campus organizations, foundations, alumni associations and support groups.

1. FAIR DEALING

Members of the University community are expected to conduct themselves ethically, honestly and with integrity in all dealings. This means principles of fairness, good faith and respect consistent with laws, regulations and University policies govern our conduct with others both inside and outside the community. Each situation needs to be examined in accordance with the Standards of Ethical Conduct. No unlawful practice or a practice at odds with these standards can be justified on the basis of customary practice, expediency, or achieving a "higher" purpose.

2. INDIVIDUAL RESPONSIBILITY AND ACCOUNTABILITY

Members of the University community are expected to exercise responsibility appropriate to their position and delegated authorities. They are responsible to each other, the University and the University’s stakeholders both for their actions and their decisions not to act. Each individual is expected to conduct the business of the University in accordance with the Core Values and the Standards of Ethical Conduct, exercising sound judgment and serving the best interests of the institution and the community.

3. RESPECT FOR OTHERS

The University is committed to the principle of treating each community member with respect and dignity. The University prohibits discrimination and harassment and provides equal opportunities for all community members and applicants regardless of race, color, national origin, religion, sex, gender identity, pregnancy,
physical or mental disability, medical condition (cancer related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran. Further, romantic or sexual relationships between faculty responsible for academic supervision, evaluation or instruction and their students are prohibited.

The University is committed to creating a safe and drug free workplace. Following is a list of the principal policies and reference materials available in support of this standard:

- The Faculty Code of Conduct
- Academic Personnel Policy Manual
- The Faculty Handbook
- Personnel Policies for Staff Members
- Policies Applying to Campus Activities, Organizations and Students
- Policy on Sexual Harassment and Procedures for Responding to Reports of Sexual Harassment
- University policies on nondiscrimination and affirmative action
- Campus, laboratory and Office of the President Principles of Community

The University's health sciences enterprises are committed to the ethical and compassionate treatment of patients and have established policies and statements of patient rights in support of this principle.

4. COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS

Institutions of higher education are subject to many of the same laws and regulations as other enterprises, as well as those particular to public entities. There are also additional requirements unique to higher education. Members of the University community are expected to become familiar with the laws and regulations bearing on their areas of responsibility. Many but not all legal requirements are embodied in University policies. Failure to comply can have serious adverse consequences both for individuals and for the University, in terms of reputation, finances and the health and safety of the community. University business is to be conducted in conformance with legal requirements, including contractual commitments undertaken by individuals authorized to bind the University to such commitments.

The Office of the General Counsel has responsibility for interpretation of legal requirements.

5. COMPLIANCE WITH APPLICABLE UNIVERSITY POLICIES, PROCEDURES AND OTHER FORMS OF GUIDANCE

University policies and procedures are designed to inform our everyday responsibilities, to set minimum standards and to give University community members notice of expectations. Members of the University community are expected to transact all University business in conformance with policies and procedures and accordingly have an obligation to become familiar with those that bear on their areas of responsibility. Each member is expected to seek clarification on a policy or other University directive he or she finds to be unclear, outdated or at odds with University objectives. It is not acceptable to ignore or disobey policies if one is not in agreement with them, or to avoid compliance by deliberately seeking loopholes.

In some cases, University employees are also governed by ethical codes or standards of their professions or disciplines - some examples are attorneys, auditors, physicians and counseling staff. It is expected that those employees will comply with applicable professional standards in addition to laws and regulations.
6. CONFLICTS OF INTEREST OR COMMITMENT

Employee members of the University community are expected to devote primary professional allegiance to the University and to the mission of teaching, research and public service. Outside employment must not interfere with University duties. Outside professional activities, personal financial interests, or acceptance of benefits from third parties can create actual or perceived conflicts between the University’s mission and an individual’s private interests. University community members who have certain professional or financial interests are expected to disclose them in compliance with applicable conflict of interest/conflict of commitment policies. In all matters, community members are expected to take appropriate steps, including consultation if issues are unclear, to avoid both conflicts of interest and the appearance of such conflicts.

7. ETHICAL CONDUCT OF RESEARCH

All members of the University community engaged in research are expected to conduct their research with integrity and intellectual honesty at all times and with appropriate regard for human and animal subjects. To protect the rights of human subjects, all research involving human subjects is to be reviewed by institutional review boards. Similarly, to protect the welfare of animal subjects, all research involving animal subjects is to be reviewed by institutional animal care and use committees. The University prohibits research misconduct. Members of the University community engaged in research are not to: fabricate data or results; change or knowingly omit data or results to misrepresent results in the research record; or intentionally misappropriate the ideas, writings, research, or findings of others. All those engaged in research are expected to pursue the advancement of knowledge while meeting the highest standards of honesty, accuracy, and objectivity. They are also expected to demonstrate accountability for sponsors’ funds and to comply with specific terms and conditions of contracts and grants.

8. RECORDS: CONFIDENTIALITY/PRIVACY AND ACCESS

The University is the custodian of many types of information, including that which is confidential, proprietary and private. Individuals who have access to such information are expected to be familiar and to comply with applicable laws, University policies, directives and agreements pertaining to access, use, protection and disclosure of such information. Computer security and privacy are also subject to law and University policy.

Information on the University’s principles of privacy or on specific privacy laws may be obtained from the respective campus or laboratory information privacy office.

The public right to information access and the individual’s right to privacy are both governed by state and federal law, as well as by University policies and procedures. The legal provisions and the policies are based upon the principle that access to information concerning the conduct of the people’s business is a fundamental and necessary right of every person, as is the right of individuals to privacy.

9. INTERNAL CONTROLS

Internal controls are the processes employed to help ensure that the University’s business is carried out in accordance with these Standards, University policies and procedures, applicable laws and regulations and sound business practices. They help to promote efficient operations, accurate financial reporting, protection of assets and responsible fiscal management. All members of the University community are responsible for internal controls. Each business unit or department head is specifically responsible for ensuring that internal controls are established, properly documented and maintained for activities within their jurisdiction. Any individual entrusted with funds, including principal investigators, is responsible for ensuring that adequate internal
controls exist over the use and accountability of such funds. The University has adopted the principles of internal controls published by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission.

10. USE OF UNIVERSITY RESOURCES

University resources may only be used for activities on behalf of the University. They may not be used for private gain or personal purposes except in limited circumstances permitted by existing policy where incidental personal use does not conflict with and is reasonable in relation to University duties (e.g. telephones). Members of the University community are expected to treat University property with care and to adhere to laws, policies and procedures for the acquisition, use, maintenance, record keeping and disposal of University property. For purposes of applying this policy, University resources is defined to include but not be limited to the following, whether owned by or under the management of the University (for example, property of the federal government at the National Laboratories):

- Cash, and other assets whether tangible or intangible; real or personal property;
- Receivables and other rights or claims against third parties;
- Intellectual property rights;
- Effort of University personnel and of any non-University entity billing the University for effort;
- Facilities and the rights to use of University facilities;
- The University’s name;
- University records, including student and patient records; and
- The University information technology infrastructure.

11. FINANCIAL REPORTING

All University accounting and financial records, tax reports, expense reports, time sheets and effort reports, and other documents including those submitted to government agencies must be accurate, clear and complete. All published financial reports will make full, fair, accurate, timely and understandable disclosures as required under generally accepted accounting principles for government entities, bond covenant agreements and other requirements. Certain individuals with responsibility for the preparation of financial statements and disclosures, or elements thereof, may be required to make attestations in support of the Standards.

12. REPORTING VIOLATIONS AND PROTECTION FROM RETALIATION

Members of the University community are strongly encouraged to report all known or suspected improper governmental activities (IGAs) under the provisions of the Policy on Reporting and Investigating Allegations of Suspected Improper Governmental Activities (Whistleblower Policy). Managers and persons in supervisory roles are required to report allegations presented to them and to report suspected IGAs that come to their attention in the ordinary course of performing their supervisory duties. Reporting parties, including managers and supervisors, will be protected from retaliation for making such a report under the Policy for Protection of Whistleblowers from Retaliation and Guidelines for Reviewing Retaliation Complaints (Whistleblower Retaliation Policy).
MINI GRANTS FOR STUDENT PROJECTS FROM THE SCHOOL OF PUBLIC HEALTH
CENTER FOR HEALTH LEADERSHIP

The Center for Health Leadership Association’s mission is to enhance professional skills and provide leadership opportunities for students of public health through active participation and relationship building. One way the Center for Health Leadership Association (CHLA) does this is through the Leaders In Service Grants. The Leaders In Service Grants is a unique way to provide funding for student initiated community service activities.

The Center for Health Leadership Association is offering up to $1,000 to support YOUR project. The goal of the CHLA is to energize and reward exceptional students from the School of Public Health who want to make a difference in the community.

Grants are meant to be an opportunity to enhance and develop leadership skills. The formal grant request and reporting process not only helps students conduct their own service project, but it also provides them with the opportunity to participate in a real-life grant application process.

Please see: http://chl.berkeley.edu/programs/chl-association/committees/mini-grants-sb

DLAB – STATISTICS HELP

IF there are specific questions or topic area that students think are aligned with one of our consultants, they can schedule appointments at http://dlab.berkeley.edu/consulting. They are also welcome to direct general questions to the consultant list - we we may or may not be able to answer.

You can also contact the Statistics Department’s consulting service (http://statistics.berkeley.edu/consulting), the DataLab in Doe Library (http://www.lib.berkeley.edu/wikis/datalab/), or the Geospatial Innovation Facility (http://gif.berkeley.edu/)
HOW TO ENROLL IN COURSES IN
OTHER UCB SCHOOLS AND DEPARTMENTS

Please visit the websites of other schools and departments for information about how to take courses in those departments. Enrollment in courses in many departments and schools is restricted to students in those schools.

Boalt School of Law, the Goldman School of Public Policy, and the Haas School of Business have specific procedures allowing students from outside those schools to enroll in courses. Those procedures follow below and on the next several pages.

BOALT SCHOOL OF LAW

Note: Classes in the Law School start 2 weeks early.

- You cannot enroll via Telebears - you need to use a separate procedure to apply to enroll in a law school course.

- The first step is to email the Law School registrar and ask for a form for enrolling: registrar@law.berkeley.edu. There are a number of signatures you need to obtain. Once you submit the form to Boalt, they will put you on a waiting list for the course. If there are any seats left after all the law students enroll then they will give a seat to you. This means that you can't count on being in the class until a couple of weeks into the Fall semester. But you should attend the first several weeks of class.

- If you have any other questions, please call Boalt Law School Student Services - 510 643-2744.

GOLDMAN SCHOOL OF PUBLIC POLICY

- Elective courses are open to all students and you can enroll via Telebears. Core courses are restricted and not open to students outside Goldman unless allowed by the professor teaching the course.

- Look in http://catalog.berkeley.edu for electives open to all. Also, the UCB online schedule http://schedule.berkeley.edu will tell you if the course is restricted.

- If you wish to take a core course: contact individual professor. If s/he agrees, obtain an instructor consent form from front desk of the Public Policy School, or contact Jalilah LaBrie at (51) 643-1940 or jalilah@berkeley.edu and request the form

- After the professor signs off on the form, take the form to Carla. She will give you a course entry code you can use to enroll.
POLICY AND PROCEDURE FOR NON-HAAS STUDENTS TO TAKE COURSES IN THE FULL-TIME MBA PROGRAM

Fall 2015

If you are a registered graduate student in another UC Berkeley department you may take elective courses in the Full-time MBA Program, provided:

- The course is not cross-listed with your home department or school.
- There is space in the class at the end of the second week of the semester.
- You meet the prerequisites, if any, for the class.
- You submit your request(s) by the applicable deadline.
- Your home department or school does not offer an equivalent course.

Students from other colleges and universities are not eligible to take courses in the full-time MBA program. Nor may students enroll via UC Extension concurrent enrollment.

Electives in the Full-time MBA Program are numbered MBA 210 and higher. Courses numbered MBA 200 – MBA 209, and MBA 299, are core courses, and not open to graduate students from other campus departments. Neither are courses in the Executive MBA program (denoted by the prefix XMBA). Starting Fall 2015, a few electives in the Evening & Weekend MBA (EW) program will be open to graduate students from other campus departments.

A list of Fall 2015 electives open to non-Haas graduate students is attached. This is not a complete list of our offerings. It excludes core courses and electives that are heavily over-subscribed, so you don’t waste time on classes you cannot take.

The MBA Program does not use Tele-BEARS to manage its course enrollments, with the exception of MBA209F – Fundamentals of Business. Thus if we are able to accommodate you, we will add the course to your schedule. You will not use Tele-BEARS to add or drop Haas MBA classes.

This is not a first-come, first-served process. If more non-Haas students wish to take a course than we can accommodate, a random number generator will determine who gets in. If you submit your request by the deadline, you are fine.

To request enrollment in an MBA elective you must do the following:

- Check the Notes column of the attached list to see if the course is cross-listed with your home department. If so, you must sign up for your department’s version, not the Haas version.
- Go to http://mbarequest.haas.berkeley.edu, log in, and submit your request. Internet Explorer is the preferred browser for this site.
- Detailed instructions are available here: http://groups.haas.berkeley.edu/HCS/howdoi/Service_Applications/nonhaas-request.pdf
- The deadline to submit requests for Fall 2015 courses is 5:00PM on Friday, September 4, 2015.
- Note that this is the end of the 2nd week of classes. The add/drop period at Haas is two weeks, not three.
- Continue to attend the class for the first two weeks while your request is pending.
- Consider holding off on buying books and readers while your request is pending.
- You will receive an e-mail on Tuesday, September 8 informing you of the outcome of your request.

See http://groups.haas.berkeley.edu/HCS/howdoi/Studynet/Berkeley_General_Instructions.pdf for instructions on getting access to Study.net online course materials while awaiting the outcome of your request.

See http://groups.haas.berkeley.edu/hcs/howdoi/bspace/bcourses-temp-login-info.pdf for instructions on getting access to bCourses course websites while awaiting the outcome of your request.

If you have questions or concerns please email FTAcademics@haas.berkeley.edu.

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1 To be registered for the current semester, you must be enrolled in at least one course and have paid your fees. You will not be able to access our signup site if you do not meet both of these conditions.
2 MBA212A.1 – Cleantech To Market (Alexander/Steel, TTh 11:00AM-12:30PM, C125 Cheit Hall) is open to non-Haas graduate students but not through this signup process. Interested students may apply between now and May 4 at http://ei.haas.berkeley.edu/c2m/course.html for the first round of team selection (after that applications will be considered through the first week of class on an as needed basis). If you are selected, the MBA Program Office will enroll you directly. You do not need to submit a request via the process outlined here.
3 MBA209F – Fundamentals of Business is open ONLY to non-Haas graduate students. Sign up directly through Telebears. Course Control Number for Fall 2014 is 08725. See http://faculty.haas.berkeley.edu/robinson/MBA209F/ for details.
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<tr>
<th>Course_No</th>
<th>Course_Title</th>
<th>Instructor</th>
<th>Notes</th>
<th>Location</th>
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<th>Day</th>
<th>Time</th>
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<td>Chatman</td>
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<td>Villas-Boas</td>
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<td>Brand Manager’s Boot Camp</td>
<td>Pearce</td>
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<td>EW, CNR, meets 10/4 &amp; 10/18</td>
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BCOURSES at http://ets.berkeley.edu/bcourses/ is the course management system for all UC Berkeley courses, where course syllabi, readings, assignments and grades are posted. Each course has its own bcourses site. Please go to bcourses.berkeley.edu and click through the information and demonstration.
ELECTIVES RECOMMENDED BY PREVIOUS CLASSES

Electives Recommended by the Interdisciplinary Class of 2013

FALL

**PH 245 - Multivariate Statistics.** Good class. Lectures are recorded which is super helpful. Maureen is a good teacher and easily accessible for questions

**PH 250B – Epidemiology.** Good class. LOTS of reading and outside work. Fast pace.

**PH 204A – Mass Communication and Public Health.** This class should be required, and the first half of it was really fun... the group projects were hard, but I think everyone learned a great deal, and it was the most down to earth public health class I took.

**PH 290 (1) - Impact Evaluation:** Great class if you want to learn evaluation. Lots of work, but you will learn a lot. The instructors are awesome! Small class with lots of time for questions. Super interesting material, final project was time intense but a very good learning tool, readings and lectures were great, but readings were long and could be quite dense, probably my most high yield course during the semester

**285A Injury Prevent and Control:** Super interesting material, small discussion oriented class, few easy/low key assignments, final presentation, mid/low time requirement outside of class... depending on if you read the readings or if you skim them... found it very useful as a medical student interested in primary care...

SPRING

**PH 200A – Public Health Ethics:** My favorite class this semester. We think about the "why" behind what we do in public health - has spilled over and started informing how I approach my own discipline (landscape architecture) and how to teach my own theory class in the College of Environmental Design.

**PH 217C – Aging and Public Health:** Interesting seminar covering a very diverse set of topics relating to the elderly. Great for anyone who may have to work with the elderly in the future found it useful as a future MD; there were also a lot of Social Welfare students in the class. Weekly readings to prep for class discussion. Final paper at end of class/semester.

**PH 219E - Qualitative Methods:** Excellent class. Karuna is a great lecturer with a lot of qualitative & mixed methods research experience. Good balance of lecture & in-class activities. Assignments useful and fun to do.

**271G Climate Change and Health** - interesting class, some overlap with 200C2 (Environmental Health Breadth course). Weekly readings and discussion. Poster presentation is final assignment. Covered lots environmental health topics that I was previously unfamiliar with. Some topics were pretty dense, especially since I basically didn’t know anything about environmental health.

**PH/EH 272A- Geographic Information Science for Public and Environmental Health** Very time-consuming, but I am learning a valuable new skill to use in public health. Clearer lectures than those taught elsewhere on campus. Class size is good and Alberto and Diane (the GSIs) are very supportive, patient and awesome.
PH 281 -- Public Health and Spirituality - Really interesting readings, only 1/2 the semester, 2 units, short weekly assignments, option of a take home final or short final paper.

PH 290 - mHealth Experiential Learning: Excellent class and instructors!

PH 290 (2) - Designing Innovative Public Health Solutions: Excellent class! Applies methods from design, business, and engineering to creating solutions for PH problems. Excellent instructors and a fun class. Very challenging, always surprising, this class helps me re-learn how to approach projects and collaborate in a playful way. Very time-intensive, but I am also learning so much about pushing past my comfort zone.

PH 290 (11) -- US Food and Drug Administration, Drug Development, Science and Health Policy - Interesting topics, readings and lectures can be quite dense/technical, readings can be quite long. Relevant for people interested in medicine, pharm, infectious disease, law, drug development, & drug regulation. Focus is on HIV/AIDS and Hepatitis C.

291A Preparation for Public Health Practice: One-unit workshop, covers topics that would be useful for any future professional, not just people going into Public Health. You are only required to attend 11 of the 2 hour sessions. Lots of really dynamic speakers, usually involves class participation in some sort of group or partnered activity. Very little prep required.

Electives Recommended by the Interdisciplinary Class of 2014

FALL

PH 201C-- Needs Assessment in Maternal and Child Health : Best for students who want to learn about program planning. Not much weekly course work but there is a semester-long project. Small seminar group, community involvement. You have to do a project – time consuming but rewarding. Course could use a little more structured discussion.

PH 204A - Mass Communication in Public Health. A heavy workload – weekly assignments and readings, and a very large final project. It totally changed my thinking towards public health—very useful course, teaches framing issues around environmental policy changes. Don’t let the teacher scare you out of the class! She likes a smaller class size.

PH 206 - Nutrition Core Course. Overview of critical issues in PH nutrition. A couple of hours of leisure reading per week. Great topics, lecturers, passionate student who teach other. Professor Laraia is laid back. Interesting topics, interactive, wonderful teacher. Great class without too much work!

PH 290 (4)– Health Communications in the Digital Era. Global health mobile and web technology. Caricia Catalani is a great professor! But unfortunately class schedule interfered with seminar so had to leave early. Had to write up 5 blogs based on readings and present on one mHealth technology, and propose a new mHealth technology and present to the class in a powerpoint format. Totally doable. Professor was amazing and has great experience in the field. I learned a lot about new mHealth applications, wrote my first blogs, and created an mHealth innovation that ties into my public health interests. It was a very creative and hands on class—refreshing.
PH 290(6) – Healthcare Quality. My favorite class because the professor (Iman Nazeeri-Simmons) is very engaging and topics very useful, especially for those interested in healthcare administration. Tons of work – semester-long project with a hospital/clinic is very useful but very time intensive. Class is so popular – don’t let professor scare you away. She is amazing! She tries to weed out class to get smaller seminar. Two hours of reading per week; semester-long project; two other short papers and final paper. Very informative and dynamic professor, well run and organized. Seminar with 20-30 students. It’s the first time she taught the course. Group project with community partner had logistical challenges but professor was made aware and will make changes for next year. Course is very competitive to get in to – must go the first day to get admitted.

PH 290(8) – Family, Housing and Health. Light work load, no midterm or final. This course was taught in the problem-based learning pedagogy, and was my first class ever taught this way. It was a small multidisciplinary group (MDs, social workers, PH students, an architect) which enriched the discussions. There were three professors overseeing this course and it was awesome being able to hear from all of them. Class discussions were facilitated and run by students and we went over five different case studies over the semester. Excellent class for social workers or those who will need to know more about policies, resources and interventions related to housing and health, and how to go about finding them.

Business (Haas) 256 – Global Leadership. Professor is awesome, class is engaging. Hard to get in to.

SPRING

PH 200D -- Global Nutrition and Food Policy. Instructor is awesome!

PH 201E – Public Health Interventions – Very supportive and knowledgeable faculty. Safe, creative space to grow as a public health practitioner.

PH 205 – Program Planning, Development and Evaluation. Grant writing skills and logic model. You walk away being able to plan a program! A lot of work – should be 4 credits.


PH 216A – Biological Embedding of Social Factors. Course is about epigenetics, social determinants of health, racism etc. Open forum to discuss cutting edge topics. Sometimes gets into nitty-gritty of science but course meant for non-science background people.

PH 219E Qualitative Methods – Light to moderate work load. Very good professor, interesting and interactive assignments although readings were often too theoretical.

PH 281 Public Health and Spirituality – Great readings, laid back professor and class discussions. Class is half a semester only (first half).


PH 257 – Outbreak Investigation – Professor Reingold is incredible.

PH C271G – Health Implications of Climate Change-- Global health, air quality, city planning. Some climate modelling readings were very complex.
PH 290(2) – Designing Innovative Public Health Solutions: Eat. Think. Design -- Lots of work by the assignments are really fun. Design, prototyping, ethnographical interviewing. Fantastic course and great instructors, interdisciplinary group of students. Creative design thinking. Collaborative learning projects. Fun and useful! Group project working with a community organization. Lots of work but worth it.

PH 290(8) Public Health Journalism – How to write articles, blogs, etc. Useful skills! Impacted course, but instructor will do small group independent study if you can get a few people together.

PH 291 --Preparation for Public Health Practice – Mini skills sessions. Useful for communications skills – amazing! Especially speech skills session. Team building, how to give good powerpoint presentations, program management and evaluation.


Public Policy 290(2) – Negotiations Seminar. Basic negotiation theory based on Harvard’s negotiation program. Excellent instructor (Amy Slater).

Electives Recommended by the Interdisciplinary Class of 2015

The following electives received a rating of 4 or 5 (out of 5) from Interdisciplinary students who took the course. Here are students’ comments.

FALL 2014

PH 181- Population and Poverty.

• Not a big workload. Good overview of all the issues facing our world today! Amazing, world-renowned and passionate professor (Dr. Potts).

PH 203C – Theories of Health and Social Behavior

• How to think about health, policy, funding, the body and PH methodology more critically. Excellent professor (Seth Holmes, MD, PhD) with amazing class discussions. You get introduced to a new way of thinking so that we don’t keep repeating the same mistakes or making vast assumptions. Lots of reading ~60 pages per week.

PH 204 – Mass Communication and Public Health

• Significant workload – 405 hours per week of reading, large semester-long project, and other assignments. Helps us understand how to use media to advance PH. Learning a real skill set – practical and you actually practice skills you’re learning. More work than my other classes – probably should be 4 units rather than 3. I learned more in this class than any other class. I heard from alumni and this was very valuable and useful.
• Lori Dorfman is an amazing instructor who inspires her students to take action. Writing an op-ed and letter to the editor as an assignment was a highlight. The group project was tough but it still wouldn’t deter me from the experience.
• Time intensive but learned the most SKILLS so far! Good guest lecturers. Lots of reading and assignments.
PH 206 Core Nutrition Topics
- Good background for any student. Barbara Laraia is super nice and laid back. Topics are interesting, self-directed topics are great. Paper and presentation.

206C - Nutrition Epidemiology
- Epi study design, critical thinking, STATA. Kris Madsen is an amazing teacher. Nutrition students are nice!

PH 213 Family Planning
- Great class with good discussion of global issues but very high workload.

PH 220D – Health Policy Advocacy
- Manageable short readings each week and one final paper -- ~2 hours/week. How to take a PH issue and come up with an advocacy plan to address it. Great guest speakers and group discussion with manageable workload. If you don’t like group discussion and speaking up in class, this course probably isn’t for you unless you’re trying to develop these skills. A great class for thinking about leadership and how to be a force for positive change in your community.
- Pretty leisurely. Learn about policy advocacy, coalition building, capacity building. Discussions were thoughtful, guest lectures were incredible, and students brought snacks! Not a lot of direction about final project until the end.

PH 224 – Healthcare Management
- Take any class with Professor Hector Rodriguez!

PH 226D Global Health Economics
- Great speakers. Learn how healthcare systems work.

PH 224D – Health Organizations and Management
- Course is largely reading based with couple of short papers and a group presentation. Learn about organizational management and how it applies to health care. Instructor is very friendly and enthusiastic and engages the class very well. Is heavily theory based but with concrete examples.

PH 235 – Impact Evaluation
- Weekly STATA assignments and major course project. Learn methods for evaluating impact of program or intervention. Instructors are great and do great job of explaining material with real examples. This was the first year with STATA, which was not so good. But will likely improve.
- A fair amount of reading and almost weekly problem sets (3-4 hours each) and major final paper. Overall, an above-average workload. Best features: thinking through all the logistical challenges of designing an impact evaluation was really useful. Also, some speakers talked about the future of impact evaluation, which was interesting. It’s a lot of time if you’re designing a hypothetical evaluation.
• You learn to write a grant, design randomized control trials and do an impact evaluation. Taught by Paul Gertler and Jack Colford--two big shots. Homework is intense. Impact evaluation is a specific program evaluation tool--google it if you want to learn this and come to the class--it’s excellent.

• Learn about impact evaluation--different methods and designing a study. Good class textbook and project. STATA homework not so great.

• Great knowledge based on real world examples and study design. A lot of STATA--some took MANY hours.

• Pretty time intensive. Great lectures about components of impact evaluation, pretty theoretical. STATA homework took more time than the 1 unit that is allotted.

PH 240 – Community Needs Assessment in Maternal and Child Health

• Heavy workload. You will be paired with a community group or member and actually do a CNA or related project. If you don’t have an MPH project, you could use this class to partner with an organization and work on your year-long project. The teacher was a bit distracted and not well prepared with good class activities. Grading criteria very unclear.

PH 245 – Multivariate Statistics

• Four homework assignments plus a final project—overall, a light work load. Best for students who want more advanced stats knowledge and computing skills. Class is very useful and practical—you can apply skills to your project. First time this professor taught the course and it was a bit more confusing than it could have been.

• Great for learning different multivariate tools. Few mandatory homework assignments (4 total) plus one final project. Does not go too into depth. New lecturer--feels like he’s still working on his teaching style, but is open to feedback. Could use more real world examples.

PH 250B – Epidemiological Methods II

• Tough, quick-paced, weekly optional homework, many readings. You get more in-depth coverage of study design and general epi. Great lecturer, well organized, you learn a lot. It may be too in-depth for students not that interested in epi.

PH 253 – Global Public Health Core Course

• Readings interesting but did not have to do them. Good workload—2 policy papers and a group project. Built around several issues in Global Health. I enjoyed all the different perspectives and presenters and group discussions. It took a while to get our first assignment back and comments came just before the next assignment, but it was still OK.

• Lots of good speakers and info.

PH 256 – City Planning and Healthy Cities

• A lot of reading—~100 pages per week and required online responses. Also, big paper at end. Good for students interested in social justice. The readings were really interesting, diverse and important. The students are a smart bunch. But the professor isn’t good at stimulating a lively debate.
PH 260A – Introduction to Infectious Diseases.
Medium load and required intermediate knowledge of virology and immunology. Best for students who need comprehensive knowledge of infectious diseases. Very organized and comprehensive about infection – it includes etiology, epidemiology, clinical features, treatment, and prevention of almost all infectious diseases. Not so great for MDs – would probably be repeated in medical school.

PH 290(4) – Health Communication in the Digital Era
- Leisurly pace; weekly blog posts for the class website. Learn how to effectively use social media, start a blog, use multimedia in the public health sphere. I learned a lot and experimented with Twitter, making videos, and class blog posts. The pace was slow and it could have been a little deeper. Teachers for the course listen to feedback and made changes based on class concerns.
- You get to be creative! Great teachers (Diego and Lisa). Some projects, e.g., video production, take a lot of time.

PH 290(6) – Healthcare Quality
- Workload is 5-8 hours per week, depending on internship commitment. Taught by COO of SF General – gives solid intro to how to improve healthcare processes and deepens policy background greatly. You do internship at SF General or other organization to practice real work skills. Internship is time consuming. Really special class for clinicians or those interested in process improvement, future COOs, people who want to work at SF General.
- A lot of reading, two papers, class group project. Learn how to do a QI project using LEAN. You learn a great skill set for doing QI. Group project takes a lot of time.
- Based on a group project that requires 2-3 hours per week. Best for students interested in quality improvement, chronic care, lean management. Instructor is great and passionate about the subject matter. Project can be hit or miss but I think everybody in the class got something out of it.

PH 298 (40) – Advocacy in Action
- Two hours but my classmates probably did more because they volunteered with campaigns. Hands-on advocacy work with an organization. Getting to work with a community partner and learning about their work. I also liked learning from classmates about their placements. This semester the class was small and not particularly well organized. It should be more organized in the future. If it isn’t, you just need to manage your own work. Unlike many other classes, you can put your work for this class on your resume since it’s like an internship or consulting project.

Social Work 250M – Death and Dying
- Great course for anyone working in a medical setting and people working with older adults, long term planning and end-of-life care, or intensive care units. Really wonderful instructor, great discussion about end of life and personal experiences.

Social Work 265M – Motivational Interviewing
A new technique for motivating and working with patients to make change. Interactive, great instructor who has taught the course many times. You get a lot of practice with MI!
UNIVERSITY OF CALIFORNIA BERKELEY SCHOOL OF PUBLIC HEALTH  
INTERDISCIPLINARY MPH PROGRAM  
PROJECT PARTNERSHIP AGREEMENT 2015-16

This work plan should be developed collaboratively by the community partner and student(s). All items must be agreed upon by both parties. Due Friday, November 27, 2015 at 5pm--please post to bCourses and email to your project advisor

Project Title

Brief Project Description

Project Objectives (each objective must be SMART: Specific, Measurable, Attainable, Relevant and Time-bound)

Expected Project Deliverables/Products

Sustainability Plans

Dissemination Plans

Communication between Student and Community Partner

Frequency of Progress Updates (check one)  □ Bi-weekly  □ Once per month  □ Once per quarter  □ Other (specify ____________)

Frequency of In-Person Meetings  □ Bi-weekly  □ Once per month  □ Once per quarter  □ Other (specify ____________)

Community Partner Liaison

Name __________________________ Title __________________________

Phone ______ Email __________________________

Signatures

The undersigned agree that the project plan outlined above meets a self-defined need of the Community Partner and engages the student in meaningful, specific efforts to meet that need. Both parties will retain a copy of this agreement, commit to regular communication and problem solving as needed, and will contact UCB Program Faculty promptly should any concerns arise.

Community Partner Liaison _________________________________  _________________________

Student(s) _________________________________________________________________________________________

UCB Interdisciplinary MPH Program Faculty
  • Anke Hemmerling
  • Phuoc Le
Literature Review Guidelines for MPH Project

Purpose:

The literature review will inform you of the body of research relating to the topic of your project. The best literature reviews are those that contextualize the project and its importance to public health, and discuss the shortcomings and successes of existing research to address similar questions/needs. For your reference, you can browse through several sample MPH project reports of recent years in your handbook.

Length and format:

Approximately 8-10 pages, double-spaced

Outline:

Literature reviews should use the following outline:

I. Introduction
   Describe the importance of the topic, both broadly and with respect to the specific population(s) served by your project, in a style appropriate for academic settings.

II. Main themes in the literature
   This must reflect synthesis across sources as opposed to straightforward linear summaries of identified relevant articles.

III. Conclusions/lessons from the literature
   i. Summarize the lessons from the literature
   ii. Identify what is still lacking in the literature

IV. Reflection on application of literature to, and implications for, planned project

V. Bibliography
   Be sure to include proper referencing of all cited sources. (e.g. AMA style http://medlib.bu.edu/facts/faq2.cfm/content/citationsama.cfm; AJPH; or other styles from peer reviewed journals in the field)
**Protocol Information**

**Protocol Title:** Temporal Sclerosis in Epilepsy Project  
**Protocol Type:** Soc-Behav-Ed Exempt  
**Date Submitted:** 10/24/2013

**Important Note:** This Print View may not reflect all comments and contingencies for approval. Please check the comments section of the online protocol. Questions that appear to not have been answered may not have been required for this submission. Please see the system application for more details.

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**Personnel Information**

Enter all study personnel (if not previously entered) and relevant training information. Please read Personnel Titles and Responsibilities: Roles in eProtocol before completing this section.

Note: The Principal Investigator or Faculty Sponsor, Co-Principal Investigator, Student or Postdoctoral Investigator, Administrative Contact, and Other Contact can EDIT and SUBMIT. Other Personnel can only VIEW the protocol.

**Principal Investigator or Faculty Sponsor**

- **Name of Principal Investigator:** Susan L. IVEY  
- **Degree (e.g., MS/PhD):** MD/MHSA  
- **Title:** Associate Professor, Adjunct  
- **Email:** sivey@berkeley.edu  
- **Phone:** +1 510 643-1883  
- **Fax:** +1 510 643-7679  
- **Department Name:** Health Research for Action  
- **Mailing Address:** 94720-7360

**UCB status (select all that apply):**

- [X] Faculty  
- [ ] Postdoc  
- [ ] Grad  
- [ ] Undergrad  
- [ ] Other

ALL PIs and KEY PERSONNEL on an NIH award are required to complete NIH Training or an accepted equivalent. ALL STUDENTS engaged in human subjects research are required to complete CITI training. See Training and Education for more information.

If applicable, please insert date (mm/dd/yy) of completion in appropriate box(es) below:

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**Student or Postdoctoral Investigator**

NOTE: All Student/Postdoc Investigators must have a Faculty Sponsor who will serve as the "responsible researcher." If NOT a student or postdoc project, enter student(s) and postdoc(s) under Other Personnel below.

- **Name of Student/Postdoc Investigator:** Marvin A. Miranda  
- **Degree:** Masters in Public Health  
- **Title:** Graduate Student  
- **Email:**  
- **Phone:**  
- **Fax:**
Protocol Title: Temporal Sclerosis in Epilepsy Project
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Marvin2g@berkeley.edu 415-990-1056
Department Name Mailing Address
School of Public Health 2140 Shattuck Ave, 10th floor
Health Research for Action

UCB status (select all that apply):

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Other Contact

Name of Other Contact: Gabriel Fregoso
Degree: Molecular Environmental Biology
Title: Undergraduate Researcher
Email: gabrielfregoso@berkeley.edu
Phone: 805-861-4663
Fax: 510-643-7679

Department Name: Health Research for Action
Mailing Address: 2140 Shattuck Ave, 10th floor
Health Research for Action
Berkeley, CA 94704

UCB status (select all that apply):

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Other Personnel
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<td>Vanessa Unglaub</td>
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<td><a href="mailto:colombia123@berkeley.edu">colombia123@berkeley.edu</a></td>
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| Health Research for Action | 2140 Shattuck Ave, 10th floor  
|                          | Health Research for Action  
|                          | Berkeley, CA 94704 |

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**Vulnerable Subject Checklist**

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**Study Sites**

Select All That Apply:
- International
- International Site(s) (specify country, region, and township or village)
- Local
- UC Berkeley
- UC Davis
- UC Irvine
- UC Los Angeles
- UC Merced
- UC Riverside
- UC San Diego
- UC San Francisco
- UC Santa Barbara
- UC Santa Cruz
- Lawrence Berkeley National Laboratory
- Alameda Unified School District (specify schools below)
- Berkeley Unified School District (specify schools below)
- Oakland Unified School District (specify schools below)
- Other (Specify other Study Sites)
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** ** General Checklist ** **

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<td>Is another campus relying on UC Berkeley for IRB review by means of the UC System Memorandum of Understanding (MOU)?</td>
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<tr>
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<td>Is another institution relying on UC Berkeley for IRB review by means of an Inter-institutional IRB Authorization Agreement?</td>
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<td>Y</td>
<td>Will subjects be paid for participation?</td>
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** Funding **

Funding Checklist

NOTE: Only the Principal Investigator (PI) of the grant or subcontract can add his or her own SPO Funding information in this section. The PI of the grant must also be listed in the Personnel Information section of the protocol in one of the following roles: Principal Investigator or Faculty Sponsor, Student or Postdoctoral Investigator, Co-Principal Investigator, Administrative Contact, or Other Contact. Training Grants can be added by anyone in one of the aforementioned roles. For step-by-step instructions, see Add SPO Funding Quick Guide.

Not Funded

SPO - Funding

Funding - Other

Funding Type: Campus Funding

Sponsor/Provider: UC Berkeley/URAP

# Title: Undergraduate Research Apprenticeship Fund

Amount

Begin

End

Narrative Description

Lead PI (If different from Protocol PI)
** Exempt Paragraph(s) **

Exempt Paragraphs
There are six categories of research activities involving human subjects that may be exempt from the requirements of the Federal Policy for the Protection of Human Subjects (45 CFR 46). If the research is found to be exempt, it need not receive full or subcommittee (expedited) review. However, this determination must be made by OPHS Staff and the research may not begin until you have received notification that the research qualified for exemption.

For more information and examples of exempt research, see CPHS Guidelines on Exempt Research.

Select one or more of the following paragraphs:

1. EDUCATIONAL PRACTICES: Research conducted in established or commonly accepted educational settings, involving normal educational practices such as:
   
   i) research on regular and special education instructional strategies; OR
   
   ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

2. EDUCATIONAL TESTS (COGNITIVE, DIAGNOSTIC, APTITUDE, ACHIEVEMENT), SURVEY PROCEDURES, INTERVIEW PROCEDURES, OR OBSERVATION OF PUBLIC BEHAVIOR: Research involving these procedures is exempt, IF:
   
   i) the information obtained is recorded in such a manner that subjects CANNOT be identified, directly or through identifiers linked to the subjects; OR
   
   ii) any disclosure of the subject's responses outside of the research could NOT reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation

   *This exemption does not apply to children except for research involving observation of public behavior when the investigator does not interact with the children. Workplace meetings and activities, as well as classroom activities, are not considered "public behavior".

3. EDUCATIONAL TESTS, SURVEY PROCEDURES, INTERVIEW PROCEDURES, OR OBSERVATION OF PUBLIC BEHAVIOR (Research NOT exempt under Category 2): Research
OBSERVATION OF PUBLIC BEHAVIOR (Research NOT exempt under Category 2): Research involving these procedures is exempt, IF:

i) the subjects are elected or appointed public officials or candidates for public office; OR

ii) federal statute requires confidentiality of identifiable information to be maintained permanently

*In most cases, managers and staff in public agencies are not "public officials".

4. EXISTING DATA: Research involving collection or study of existing data, documents, records, pathological specimens or diagnostic specimens, IF:

i) these sources are publicly available; OR

ii) the information is recorded by the researcher in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects

5. RESEARCH AND DEMONSTRATION PROJECTS CONDUCTED BY OR SUBJECT TO THE APPROVAL OF DEPARTMENT OR AGENCY HEADS: This research is exempt IF it is designed to study, evaluate, or otherwise examine:

i) public benefit or service programs;

ii) procedures for obtaining benefits or services under those programs; OR

iii) possible changes in or alternatives to those programs, OR

iv) changes in methods of payment for benefits under those programs.

6. TASTE AND FOOD QUALITY EVALUATION AND CONSUMER ACCEPTANCE STUDIES: This research is exempt, IF:

i) wholesome foods without additives are consumed; OR
ii) a food is consumed that contains a food ingredient at or below the level and for a use found to be safe by the Food and Drug Administration (FDA) or approved by the Environmental Protection Agency (EPA) or the Food Safety and Inspection Service (FSIS) of the US Department of Agriculture (USDA); OR

iii) a food is consumed that contains an agricultural chemical or environmental contaminant at or below the level found to be safe by the FDA or approved by the EPA or the FSIS of the USDA
**Purpose, Study Procedures and Background**

**Title**

Temporal Sclerosis in Epilepsy Project

Complete Sections 1 - 9. Specify N/A as appropriate. Do not leave any required sections blank.

1. Purpose of the study

a) Provide a brief explanation of the proposed research, including specific study hypothesis, objectives, and rationale.

Research aims to understand how African American and English- and Spanish-speaking Latino patients, diagnosed with Mesial Temporal Sclerosis or Temporal Lobe Epilepsy refractory to medical treatment, make decisions about surgical treatment for their condition. Understanding the rationale behind patient decision-making may help improve rates of patients choosing to undergo surgery to treat Mesial Temporal Sclerosis; surgical treatment has been proven highly effective, with many patients living seizure free after surgery. We are focusing on African American and Latino patients because previous studies (including our own) have shown that these ethnic groups utilize surgical treatment at a significantly lower rate than Caucasians.

2. Background

a) Give relevant background (e.g., summarize previous/current related studies) on condition, procedure, product, etc., under investigation, including citations (with attached bibliography) if applicable.

A recent study we conducted showed that there are ethnic disparities in the surgical treatment of epilepsy for people who have temporal lobe epilepsy refractory to medical treatments. African Americans, Non-English speakers and Asian/Pacific Islander populations were significantly less likely to receive surgical treatment for temporal lobe epilepsy than their white counterparts [1]. Patients with medically refractory epilepsy account for 80% of the total costs associated with epilepsy, despite being a minority of all people with epilepsy [2]. Temporal lobe epilepsy is one of the most common causes of medically refractory epilepsy and surgical treatment can offer seizure-free rates ranging from 48 to 84% following anterior temporal lobectomy for mesial temporal sclerosis [3-5]. Seizure freedom one year post-surgery does not differ significantly for Hispanics and African Americans compared with non-Hispanic whites [6]. Despite surgery being efficacious for these groups, there is a disparity between getting the treatment among African Americans and Latinos compared to whites, and we are left pondering as to why that is [1]. All patients with epilepsy, regardless of language spoken or ethnicity, should have access to surgery and be properly informed regarding their surgical options and outcomes.

References
3. Collaborative Research

a) If any non-UCB institutions or individuals are engaged in the research, explain here.

We have been working with UCSF on an earlier stage of the research and have a Reliance NOITR in place with them. For this new stage of qualitative work, UCB will lead and we hope to recruit additional organizations and individuals for this research. We do not anticipate having anyone else recruit except UCB personnel. If we are able to add any additional organizations or sites, we will amend the application at that time if UCB personnel will go to a site (currently all interviews are planned as telephone interviews).

b) If any non-UCB institutions or individuals are collaborating in the research, complete the table below and attach any relevant IRB approvals in the Attachments section.

Non-UCB institutions

4. Study Procedures

a) Describe in chronological order of events how the research will be conducted, providing information about all study procedures (e.g., interventions/interactions with subjects, data collection, photographing, audio- and/or videotaping), including follow-up procedures. Indicate frequency and duration of visits/sessions, as well as total time commitment for the study.

1. We will use a purposive sampling strategy to recruit Spanish and English speaking people with epilepsy from community and clinic sites in SF Bay area. We will use a flier to advertise the selection criteria and have potential interviewees call into an established call line for the project with a voice-mail in English and Spanish. We already have met with Epilepsy Foundation of Northern California and they are willing to help
Spanish. We already have met with Epilepsy Foundation of Northern California and they are willing to help on recruitment by emailing out a recruitment flyer to their support groups for patients (see Chung, Ivey et al, 2010). We will not have access to the list, they will not actively recruit.

We are also trying to develop partnerships with clinical sites who will also pass out our flyer. We will be contacting other sites such as UCSF Epilepsy Program, SFGH Epilepsy program, clinics that serve Spanish-speakers (e.g., Tiberio Vasquez, La Clinica de la Raza), and possibly other medical centers that have epilepsy programs (CPMC, Stanford). However, we do not have current partnerships with these sites so no sites are listed at this time. All people would call into a screening phone line if they are interested in participating. The number will be listed on the flyer. If there is any change to this, the protocol would be amended at that time.

2. A screener questionnaire will assess if subjects are: over 18 years of age, have a diagnosis of epilepsy, have been tried on multiple epilepsy medications without successful control of their seizures, and whether they have been told they have a diagnosis of temporal lobe epilepsy or have been told they are a candidate for epilepsy surgery. Participants will not have to provide any type of medical documentation of their diagnosis, rather the screener is all self-reported data. During the screening, we may also ask about demographics, including race/ethnicity/language use, to ensure participants are diverse and reflect project goals to recruit different racial groups and to identify both English- and Spanish-speakers.

Screeners: Marvin Miranda, Gabriel Fregoso, Vanessa Unglaub

3. Once a participant is determined as eligible, the interviewer will schedule the participant for approximately a 20-minute interview and will also take down address to mail participants the $10 incentive. This file will be password protected and stored on HRA's secure server. The addresses will be kept separate from and not be linked to the responses.

Interviewers: Marvin Miranda, Gabriel Fregoso, Vanessa Unglaub

4. At the beginning of the phone interview, participants will be verbally consented via proper informed consent procedures.

5. The phone interview will last about 20 minutes asking questions aimed at understanding decision-making surrounding surgical treatment of epilepsy and other factors that could have played a role in the decision-making or health beliefs and barriers that might help us understand their decisions about surgery.

6. Phone interviews will not be audio or video recorded. Some items will be closed-ended and the interviewer will check off those responses while interviewing. For open-ended items, verbatim responses will be written down. All results will reside in password-protected files on HRA's secure server. Responses will not contain identifying data. Once the person has been interviewed and data are transcribed, we will delete/destroy any record of phone numbers or addresses. No key will be retained.

7. After the interviews have been conducted, incentives will be mailed out to the patient. The phone interview information used for scheduling will be permanently deleted to ensure no names/contacts of respondents are maintained.

8. We will transcribe and translate verbatim responses. For Spanish-speaking respondents, we will have
b) State if audio or video taping will occur. Describe what will become of the tapes after use, e.g., shown at scientific meetings, erased. Describe the final disposition of the tapes.

Not Applicable, we will not record interviews.

c) If the proposed research involves use of existing data/specimens, check all that apply:

   i) coded private information or specimens, and the investigator will not have access to the key.

   ii) from publicly available sources.

   iii) recorded by the investigator in such a manner that subjects cannot be identified OR any link to identifying information has been destroyed.

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bilingual interviewers who record the Spanish and translate into English.
9. We will quantify and analyze demographics and responses from the phone interview instrument.
10. We will plan to write a manuscript from the results.
5. Subject Population

Describe proposed subject population, including criteria for study inclusion and exclusion (e.g., age, health status, language, gender, race, ethnicity).

Eligible participants will not be asked the exact nature of their medical condition. They will only be asked if they currently have or have had a form of medically refractory epilepsy, or epilepsy that has not successfully been controlled by 2 or 3 anti-epileptic pharmaceuticals. Participants will be eligible regardless of whether or not they have had epilepsy surgery or were ever recommended for surgical treatment of epilepsy. Participants must be Males or Females, 18 years of age or older, have a history of epilepsy, and must be able to be interviewed verbally in Spanish or English.
** Risks **

6. Risks and Discomforts

a) Describe all known risks and discomforts associated with study procedures, whether physical, psychological, or social (e.g., pain, stress, invasion of privacy, breach of confidentiality), noting probability and magnitude of potential harm.

There are minimal risks and discomforts likely to occur during the research procedures. Subjects may feel uncomfortable discussing their feelings and experiences while being phone interviewed. However, phone interviewers will ease the discussion to help prevent stress and pressure. Furthermore, subjects are encouraged to speak only when they feel comfortable and will be given the options of not answering any item that makes them uncomfortable and of leaving the study if they do not wish to continue. Interviewers will let participants know they can skip any questions during interview. There is negligible risk of invasion of privacy and breach of confidentiality in phone interviews where data will be stored securely in a deidentified format.

b) If conducting educational tests, survey procedures, interview procedures, or observation of public behavior, AND linking to subjects' identifying information, explain why inadvertent release of the data would not have detrimental consequences (i.e. place subjects at risk of civil or criminal liability, or cause damage to their financial standing, employability or reputation).

Not Applicable. Data will not be linked to subjects.

c) In case of international research, describe the expertise you have, or have access to, which prepares you to conduct research in this location and/or with this subject population, including specific qualifications (e.g., relevant coursework, background, experience, and training). Also, explain your knowledge of local community attitudes and cultural norms, and cultural sensitivities necessary to carry out the research. See CPHS Guidelines on Research in an International Setting.

Not Applicable.
** * * Procedures to Maintain Confidentiality * * *

7. Confidentiality

NOTE: See CPHS Data Security Policy and CPHS Data Security Matrix before completing this section.

a) Will data be collected anonymously (i.e., no identifying information from subjects will be collected/recorded that can be linked to the study data)? Data is not anonymous if there is a code linking it to personally identifiable information. Also, audio and video recordings are generally not considered anonymous unless distinguishing features can be successfully masked.

Personal identifying information will not be linked to study data in any way. Participants will be instructed to identify themselves only by their first name or by a identifier of their choice in order to provide an additional level of protection and anonymity. First names (or self-designated identifier), phone numbers and addresses of participants will be stored in a secure password protected folder on the HRA server for the purposes of scheduling phone interview appointments and the mailing of incentives to participants. Phone interview data collected during phone interviews will be stored on separate file without any form of identifiable information that could be linked to the names of the respondents. Responses to phone interviews cannot be linked to the name of the participant only contain a participant ID in order to differentiate the responses of the different respondents. No audio, video or photography storage will be conducted in this project. Only verbatim note taking by the phone interviewer will be conducted.

b) If using existing data/biological specimens, will the researchers have access to a code linking the data to personally identifiable information?

Not Applicable.

c) Explain how data, audiotapes, videotapes and photographs, etc. will be stored and who will have access to them. Indicate at what point they will be transcribed and/or destroyed (if ever)

The researchers will maintain all study materials and all participant information in password protected computer files. Only key research staff will know the password(s) for the HRA computers. After the interviews have been conducted, incentives will be mailed out and the phone interview scheduling document (the only document containing respondent identifiers) will be permanently deleted to ensure no identifying information is anywhere in the participant data.
**Attachments**

8. Attachments

Add appropriate attachments (e.g. survey instrument(s), interview guide(s), reference list, other IRB approvals, etc.) in this section. Attachments must be in PDF format.

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Document Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citi Certificate(s)</td>
<td>Fregoso, Gabriel_CITI</td>
</tr>
<tr>
<td>Citi Certificate(s)</td>
<td>Miranda, Marvin_CITI</td>
</tr>
<tr>
<td>Citi Certificate(s)</td>
<td>Ungalub, Vanessa_CITI</td>
</tr>
<tr>
<td>Survey Instruments</td>
<td>TSEP_CPHS.Phone_Interview_Script_FINAL</td>
</tr>
<tr>
<td>Survey Instruments</td>
<td>TSEP_CPHS.Phone_Interview_Script_SPANISHFINAL</td>
</tr>
</tbody>
</table>
** ** Assureance ** **

Assurance

As Faculty Sponsor, I understand that I am responsible for overseeing the protection of the rights and welfare of the human subjects, and adherence to CPHS requirements, federal regulations, and state statutes for human subjects research.

I hereby assure the following:

1. I have read the protocol.

2. I have discussed with the Student/Postdoc Investigator how to comply with his or her assurances.

3. I will be available throughout the course of the study to provide guidance and consultation.

X I have read and agree to the above assurances.

As Student/Postdoctoral Investigator, I am responsible for the performance of this study, the protection of the rights and welfare of the human subjects, and strict adherence by all co-investigators and research personnel to CPHS requirements, federal regulations, and state statutes for human subjects research.

I hereby assure the following:

1. The information provided in this application is accurate to the best of my knowledge.

2. All experiments and procedures involving human subjects will be performed under my supervision or that of another qualified professional listed on this protocol.

3. This protocol covers the human subjects research activities described in the grant proposal(s) supporting this research and any such activities that are not covered have been/will be covered by a CPHS approved protocol.
4. No change in the design, conduct, or personnel of this research will be implemented without prior CPHS/OPHS review and approval.

5. Participants' complaints or requests for information about the study will be addressed appropriately.

6. I will submit a study closure form at the conclusion of this project.

X I have read and agree to the above assurances.
CPHS (IRB)

Tips for Efficient Approval

Plan ahead – Many researchers are on set schedules for their research and theses. Plan in advance to allow enough time for the review cycle which can take some time depending on the circumstances. Review cycles, depending on the quality and completeness of the submission, can take up to 8 weeks or longer.

Seek feedback from colleagues – Student researchers should work with their faculty advisors closely for mentoring, drafting, and other assistance with the research protocol. Obtain a copy of an approved protocol from a colleague to see commonly used language.

Complete/comprehensive informed consent process – Researchers should ensure that the consent documents are clear and concise and should be in a language that is understandable to the subject. See the Informed Consent Guidelines, Consent Builder, and templates on our website (http://cphs.berkeley.edu/content/informedconsent.html).

Clearly describe study procedures – Remember that the reviewer needs to be able to put him/herself in the shoes of the subject and they can’t do that if there is not enough detail. The protocol should include how long each procedure will take, frequency, and estimated total time commitment for the subject to participate in the study.

Confidentiality - Privacy refers to the individuals’ right to control access to themselves. On the other hand, confidentiality refers to how private information provided by individuals will be protected by the researcher from release. Describing how the confidentiality of research information will be maintained is an important element of the protocol & consent process.

Anonymous data collection – Anonymous data collection means that no identifiable information (e.g., name, address, student ID number, email, phone number, etc.) is connected to the data either directly or through a coding system, at any point in the study. Therefore, even if the identifiers are separated from the data immediately after collection, the study would not be considered anonymous. In addition to videotapes and photographs, audio recordings are considered to be identifiable; therefore any data collection that involves audio recordings, video recordings, or photographs of subjects would not be considered anonymous. It is also possible that multiple pieces of information, none of which are identifiable on their own, may uniquely identify a person when brought together; in this case, the data would be identifiable and would not be considered anonymous.

Risks/discomforts from study participation– Remember to include both the possible risks and discomforts from participation in the study. With all studies that involve the collection of private identifiable information, there is a chance that confidentiality could be compromised. However, researchers should also keep in mind that some procedures, including surveys and lab experiments with deception might cause some type of discomfort (whether physical or emotional). When making a risk assessment, the Committee takes into account both probability and magnitude of harm, so researchers should address both of these factors in the protocol.

Guidance on specific topics – There are guidance documents on specific topics that may be germane to your research - what requires CPHS/OPHS review, deception in research, subject recruitment, data security, international research, etc. (http://cphs.berkeley.edu/guideline.html)

eProtocol Quick Guides: http://cphs.berkeley.edu/eprotocol_guides.html

How to create a protocol: http://cphs.berkeley.edu/eprotocolguide/investigator/create.pdf

How to check for completeness: http://cphs.berkeley.edu/eprotocolguide/investigator/check.pdf

How to submit a protocol: http://cphs.berkeley.edu/eprotocolguide/investigator/submit.pdf

How to respond to comments: http://cphs.berkeley.edu/eprotocolguide/investigator/comments.pdf
Questions?

Call our office: 510-642-7461. We answer the phone during business hours: 8 am – 5 pm, M-F.

Drop-in at 2150 Shattuck Ave., Suite 300.

Website: http://cphs.berkeley.edu/ (use the search box)

Email: ophs@berkeley.edu

*If you have submitted an application, contact your assigned panel manager.

**Commonly Requested Revisions:**

- Include maximum total sample size. If unsure, over-estimate.
- Include recruitment details specific to the proposed study.
- Include copies of all data collection materials.
- Include interview questions. At minimum, include topics to be explored during the interview.
- If obtaining consent online, choose the “Unsigned Consent” type. Be sure to complete all text boxes.
- Include a PDF copy of the Student Investigator’s CITI completion report. Complete Group 1 (bio-medical) or Group 2 (social-behavioral) for Research Investigators and Key Personnel.
- Provide thorough but concise answers. Only include information relevant to the question posed.
- When responding to comments, be sure make the applicable revisions to the protocol information. Be sure to click on the “submit to IRB” button to submit your responses and revisions.
- Include anticipated benefit to subject and society in the protocol and the consent form. If no benefit to subject, state so.
- Make sure information is consistent between study procedures and the consent form.
- Template Text for Adverse Events and Reporting Section in section 13F (biomedical)/11C (social behavioral) of eProtocol: “An initial report will be made to the OPHS Director within no more than one week (7 calendar days) of the Principal Investigator learning of the incident. The report can be made by fax, mail/delivery, phone, or email. The initial report will be followed by a formal written report, submitted via eProtocol, within no more than two weeks (14 calendar days) of the Principal Investigator learning of the incident.”
Some Current Positions Held By Interdisciplinary Alumni

(Source: 2012 Survey of Interdisciplinary Alumni)

- Academic Coordinator, USCF and Lecturer, UC Berkeley
- Assistant Clinical Professor, UC Irvine, Division of Obstetric Oncology
- Assistant Professor of Pediatrics. Seattle Children's Hospital, University of Washington School of Medicine
- Assistant Professor, UCSF -- Hospitalist Physician
- Assistant Professor, Stanford University; Advisor - Ethics Subcommittee of Advisory Board to the Centers for Disease Control and Prevention; Alta Bates Summit Medical Center - Palliative Care Chaplain; and St. Mary’s College - Project Advisor
- Assistant Team Leader, Pathways to Housing DC, Assertive Community Treatment
- Associate Professor, Kumamoto University, Japan
- Associate Professor, University of Toronto, Factor-Inwentash Chair in Child Welfare
- Behavioral Psychologist, Golden Gate Regional Center Clinical Psychologist, Department of Social Services/Social Security Administration
- Executive Advisor for Strategic Partnerships, CamFed USA Foundation
- Cardiac Anesthesia Fellow, Stanford University
- Clinical Assistant Professor, Stanford University
- County Governor of South-Trondelag (Fylkesmannen i Sør-Trøndelag, Norway) - Chief County Medical Officer
- Director, Associates in Hospital Medicine / Methodist Division, Thomas Jefferson University Hospitals
- Director, CA Emergency Medical Services Authority / State appointed position
- Director, TEACH Program and Associate Clinical Professor, UCSF
- Fellow in Preventive Medicine and Public Health, University of Rochester Medical Center
- Fellow, Jiangsu Province Population and Development Research Center
- General Pediatrician, Kaiser Permanente
- Internist, Permanente Medical Group
- Laboratory Advisor, University Research Co., LLC
- Managing Director, Absolute Return for Kids US
- Medical Director, Housing and Urban Health, San Francisco Dept. of Public Health / Special Advisor to the Executive Director, US Interagency Council on Homelessness
- Medical Social Worker. Pathways Home Health and Hospice
- Nurse Practitioner, Stanford Hospital and Clinics
• Orthopaedic Trauma Fellow, Wellspan Orthopaedic Surgery
• Physician (Nunavut) Professor (University of Calgary) Partner (Habitat Health Impact Consulting)
• Pediatric Medical Director, San Mateo Medical Center; Keller Center for Family Violence Intervention
• Policy Analyst, Instructor and Researcher, University of California School of Public Health Center for Infectious Diseases Emergency Readiness
• Project Director, Global Access to Technology for Development (GATD) /
• Professor (University of Calgary) / Partner (Habitat Health Impact Consulting)
• Professor at PSIA-Sciences Po Paris and College de France, Chair: Knowledge Against Poverty
• Program Director, Division of Cancer Control and Population Sciences, National Cancer Institute, NIH
• Program Director, Division of Cancer Control and Population Sciences, National Cancer Institute, National Institutes of Health
• Psychiatrist (solo practice)
• Public Health Medical Officer, California Department of Public Health
• Public Health Physician, State of North Rhine-Westphalia, Health Department, Germany
• Self-employed / Graphic Facilitator & Group Process Consultant
• Resident, Department of Radiology, Stanford University Medical Center
• Self-employed in house calls and geriatric consultation practice; self-employed as geriatric consultant to www.caring.com. Also now blogging to raise awareness of needs of geriatric health providers at www.geritech.org.
• Senior Medical Officer, Danish Health and Medicines Authority
• Student at UC Davis School of Veterinary Medicine
• United States Air Force Commander, 374th Medical Group United States Forces Japan/Surgeon General, 5th Air Force/Surgeon General (responsible for 11,000 people)
2012 Alumni Survey Results
N= 61   - 22% response rate

Some Geographic Locations of Alumni
Jobs & Internships

Search for full-time or part-time jobs, fellowships, GSI/GSR, project & volunteer opportunities and internships utilizing the SPH jobsite: sphjobsite.berkeley.edu/students/

Career Counseling

Make an appointment to discuss career decision-making and job search strategies, have your resume and cover letter critiqued, conduct a mock interview or learn about career resources available to SPH students. Career counseling is also available to discuss applying to medical school, negotiating salaries and job offers.

Send a list of your available times to haffke@berkeley.edu. Include your full name, program, expected graduate date, and reason for the appointment.

Career Assessment

Find out about the options available for you to evaluate your personality, interests, skills and values as they relate to your career choices. Make a career counseling appointment for more information.

Workshops and Programs

Topics include career planning, interview preparation, resume writing and job search strategies. Workshops are listed on the SPH jobsite calendar and in Career Services emails sent out on the student listserv.

Special Events

Interact with employers and public health professionals at a variety of special events hosted by CPHP, including Career Café, 291 Professional Development series, annual Career Fair, employer information sessions, guest lectures and conferences.

Ruthann M. Haffke, Career Services Manager
141 University Hall
haffke@berkeley.edu
510-642-0431

Have a suggestion for SPH career services? Submit your ideas to haffke@berkeley.edu
Disclaimer: This fairly complete selection of MPH projects of recent years aims to provide additional details about methodological approaches that can help incoming students to quickly gain an understanding of projects conducted in the past. The provided remarks do not aim to be comprehensive summaries. If a particular report is of interest to you, request the full report in the SPH library.

### Year 2015

<table>
<thead>
<tr>
<th>Title</th>
<th>Methodology</th>
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</table>
| Impact of variations on EMS policies and procedures in Out-of-hospital cardiac arrest outcomes (2015) | • mixed methods research  
  o Quantitative Analysis of Kaisers dataset  
  o Interviews with key stakeholders  
  o Using GPS data |
| Informing a Resident Physician Nutrition Counseling Smartphone Application-Based Education Module: A Qualitative Analysis of Expert Nutritionist Opinion (2015) | • Qualitative analysis with nutritionists  
  • Development and testing of online application |
| Assessment of the factors that contribute to the skewed distribution of doctor’s specialties and geography in Japan and globally (2015) | • Policy review |
| Health Services Use among Medicaid Managed Care Enrollees Pre and Post ACA Implementation (2015) | • Extensive quantitative analysis of Kaisers dataset |
  • Interviews with key informants |
| The Role of Socioeconomic Origin on Student Service Patterns (2015) | • Nationwide quantitative online survey of medical students |
| Community Health Needs Assessment of a Tri-county Urban Health Organization in the San Francisco Bay Area (2015) | • Mixed methods study  
  • Questionnaire at Native American Health Centers in the Bay Area, ongoing |
| Factors Associated with Hepatitis B Knowledge Among Vietnamese Americans | • Quantitative analysis of a large dataset of surveys from several thousand participants in Bay Area and DC. |
| Needs Assessment of the California Juvenile Justice System: Perspectives From Key Informant Interviews | • Interviews with key informants |
| Meeting Patient Needs in an Integrated Care Model: A Study of High-Utilizers of Primary Care Services at Community Health Center Ole, Napa | • Analysis of EHR data for clinic |
| Evaluation of the East Oakland Innovators: Resident-Led Design Thinking Project in the Best Babies Zone – Oakland | • Mixed methods approach  
  o Analyzed survey data  
  o Interviews with key informants |
<table>
<thead>
<tr>
<th>Title</th>
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<tbody>
<tr>
<td>Assessment of Economic Status in Trauma Registries: A New Algorithm</td>
<td>• Quantitative analysis of a trauma dataset and developing models</td>
</tr>
<tr>
<td>for Generating Population-Specific Clustering-Based Models of</td>
<td></td>
</tr>
<tr>
<td>Economic Status for Time-Constrained Low-Resource Settings</td>
<td></td>
</tr>
</tbody>
</table>
| Utilizing Health Information Technology for Quality Improvement at the | • Key informant interviews  
• Process mapping of EHR                                                                                                                  |
| Alta Bates Summit Diabetes Center                                     |                                                                                                                                                                                                           |

**Year 2014**

<table>
<thead>
<tr>
<th>Title</th>
<th>Methodology</th>
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</table>
| Needs Assessment: Food security and food distribution planning in    | • in collaboration with Asian Health Services in Oakland  
• mixed methods survey among Karen and Cambodian populations in Oakland  
• Descriptive statistics                                                                                                           |
| Cambodian and Karen refugees (2014)                                 |                                                                                                                                                                                                           |
| The convening authority: Using the multiple streams model to explore  | • Policy review                                                                                                                                                                                             |
| the opening of policy windows to effect change in military sexual     |                                                                                                                                                                                                           |
| assault (2014)                                                       |                                                                                                                                                                                                           |
| The Impact Of Permanent Supportive Housing On Homeless Adults With    | • mixed methods survey in collaboration with the San Francisco Department of Public Health and its Direct Access to Housing (DAH) Program  
• Descriptive statistics, Chi-Square  
• The provision of DAH housing resulted in fewer ED visits and hospital days among formerly homeless adults with diabetes. Using patterns of healthcare utilization before and after housing, this study shows that individuals with diabetes benefit from housing, which represents cost savings for hospitals and insurers. |
| Diabetes: Healthcare Utilization, Health Literacy And Diabetes       |                                                                                                                                                                                                           |
| Management (2014)                                                    |                                                                                                                                                                                                           |
| Understanding the Association Between Working Equine Health and      | • cross-sectional quantitative survey of convenience-sampled animal owners at mobile clinic, collecting demographics, standard of living markers, access to health services, perceptions of working equine value and human personal health-related quality of life measures, anthropometric growth data on children, grading scale for measuring working equine.  
• Results: socioeconomic status, wealth index and education as measures are insufficient measures to predict working equine health. |
| Human Health in Rural Nicaragua (2014)                              |                                                                                                                                                                                                           |
| A Qualitative Study of Barriers Preventing Pregnant Women From        | • Qualitative Study  
• In collaboration with WEEMA  
• Study assesses the barriers that exist for pregnant women seeking care in rural Ethiopia, and reveal intervention points that must be explored and considered for implementation. |
| Obtaining Care at Health Care Facilities in Kembata Timbaro Zone,    |                                                                                                                                                                                                           |
| Timbaro District, Ethiopia (2014)                                    |                                                                                                                                                                                                           |
| Needs Assessment for Novel Eye Care Intervention: The Ravenswood     | • Mixed methods study in collaboration with East Palo Alto Community Health Center  
• needs assessment survey collecting baseline knowledge and barriers to seeking eye care for diabetic adults, in order to plan the new eye clinic |
<p>| Family Health Center (2014)                                          |                                                                                                                                                                                                           |</p>
<table>
<thead>
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<th>Title</th>
<th>Description</th>
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</table>
| Nutrition Education And Dietary Counseling Practices In Internal Medicine Residency Training, (2014) | • quantitative, nation-wide online cross-sectional survey, completed by Internal Medicine program directors (n=40) and residents (n=133).  
• Multimodal nutrition education in IM residency and better resident dietary habits are associated with higher frequency of dietary counseling for patients. Barriers such as such as lack of expertise and lack of personnel, faculty and interest in patient counseling need to be addressed. |
| Transitioning the San Francisco Health Care Security Ordinance Under the Affordable Care Act (2014) | • Policy analysis  
• examines how San Francisco will adjust its Health Care Security Ordinance, a policy designed to provide health care access to the city’s uninsured and undocumented residents, in light of the national transition to the Affordable Care Act. The city aimed to maintain affordable coverage and close to universal health care access for all San Franciscans. A focus on the context, process, actors, and content that make up the policy triangle model provides a way to analyze the complexities of perspectives, debates, and legislation in the policy process. |
| Concussion Knowledge Survey for Athletic Coaches and Instructors: A Pilot Study (2014) | • pilot survey to determine concussion knowledge before and after an educational module.  
• target population: athletic coaches and physical education instructors, attending the ACT taught by CaCC  
• sample size completing all three surveys, pre-test, post-test, and follow up surveys, was smaller than anticipated. (n=10), descriptive statistics |
| Intervening at the Intersection: A Program Evaluation of Bay Area Girls Rock Camp (2014) | • assisting BAGRC in Oakland with program evaluation and quality improvement  
• mixed methods program evaluation comprised of survey administration and focus groups from Girls Rock Afterschool Program (GRASP) and the Girls Rock Summer Camp, using Rosenberg self-esteem scale (RSES) and Brief sense of community scale (BSCS), n=25 |
| Assessing hospital re-admission for traumatic injuries after intervention by the SF Trauma Recovery center (2014) | • quantitative data analysis of existing data set at Trauma Recovery Center (TRC) at San Francisco General  
• This study compares younger (under 30) and older (over 30) patients regarding race, gender, initial injury mechanism, and need for hospital admission, as well as incidence of reinjury and all-cause mortality over 1-, 5- and 10-year periods. Intervention group (TRC versus usual care) was also evaluated as a predictor of reinjury and mortality. |
| Disparities in utilization of surgical treatment for medically refractory epilepsy among African Americans, Asian/Pacific Islanders and persons with limited English proficiency: A first-hand account from those affected. (2014) | • In collaboration with Bay Area clinics, in-person and phone interviews  
• phone interview instrument consisting of both close- and open-ended questions asking patients about demographics, personal epilepsy history, health insurance status, general health, and quality of care.(n=18)  
• descriptive statistics |
| A Data Quality Assessment of Primary Care Records in Haiti’s Multi-Site Electronic Medical Record System (2014) | • assessing baseline data quality for primary care records in iSanté across the system and across sites, with focus on TB indicators.  
• Overall, data quality appeared to be strong for accuracy but moderate to low for completeness. Reasons for underreporting, however, are likely complex, reflecting the reality of health care delivery in low-resource settings. |
Building Community and Empowerment Among San Francisco Seniors: Connection for Health Aging Workshops (2014)

- Qualitative program evaluation using semi-structured interviews.
- Conclusion: Community Living Campaign is a well-respected organization with a strong mission to create grassroots community change. Thematic analysis shows that the CHA workshops are successfully helping increase awareness of critical issues affecting seniors, encourages participants to feel more empowered to make health care decisions, promotes opportunities for social connection, and is a foundation for creating stronger communities.


- Multi-prong qualitative study
- Key informant interviews with experts in Geriatrics, Nutrition, and Public Health about geriatric nutrition.
- Community focus group at North Berkeley Senior Center
- Experiential observations of users of public nutrition programs (San Carlos Mobile Produce Market, Millbrae Senior Brown Bag distribution sites)

Evaluation of the “Design Sprint” – a Design Thinking Pilot in the Castlemont Best Babies Zone in Oakland (2014)

- Human-centered design (HCD) or “design thinking” as a promising approach to develop programs that would begin to address social determinants of health.
- 12-week design sprint including the design thinking phases of Understand and Ideate

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### Year 2013

<table>
<thead>
<tr>
<th>Title</th>
<th>Methodology</th>
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<tr>
<td>Barriers to Mental Healthcare Utilization in Latino Immigrant Day Laborers (2013)</td>
<td>- in collaboration with the Multicultural Institute in Berkeley, a nonprofit organization which links Day Laborers with employers</td>
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<td></td>
<td>- quantitative survey with 50 participants</td>
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<td>- Descriptive statistics and Chi Square</td>
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<td></td>
<td>- Data was extracted and analyzed using the program R. Population estimates, population weights, and age-adjusted rates for prostate cancer death, DALYs, YLLs and YLDs, and life expectancy were determined for each region, age group and year.</td>
</tr>
<tr>
<td>Flammability Standards without Flame Retardants. A Policy Analysis (2013)</td>
<td>- examines the original California flammability standard, known as Technical Bulletin 117 (TB 117) and the problems with this standard from a health and fire safety prospective.</td>
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<td>- reviews the arguments in favor of the standard and flame retardants in general, along with potential biases and questionable practices on the part of flame retardant manufacturers.</td>
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<td>- explores different alternative standards.</td>
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<tr>
<td>Impact Evaluation: Rwanda Health Enterprise Architecture (RHEA) eHealth Implementation (2013)</td>
<td>- designing an impact evaluation to evaluate the impact of technology on maternal and child health in Rwanda.</td>
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<td></td>
<td>- target audience for the impact evaluation is the Rwandan MOH</td>
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<tr>
<td>Prescription Drug Overdose</td>
<td>- media analysis to evaluate whether the public gets an accurate</td>
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<tr>
<td>Title</td>
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<tr>
<td>in Black &amp; White: paradoxes of public health and the news (2013)</td>
<td>representation of the problem of fatal prescription drug overdose by reading the news. Includes analysis of how news stories inform the public with useful facts, and examines variables in news stories that influence the public health message delivered</td>
</tr>
</tbody>
</table>
| Aging and Discrimination: The Mental, Social, and Physical Health of Bay Area South Asian Elderly Immigrants. (2013) | - multi-method study to explore whether South Asian 5-generation immigrants experience discrimination post-September 11th, 2001 and how they perceive this affects their health.  
- In collaboration with two East Bay Sikh Temples, a South Asian Community Center in Silicon Valley  
- Qualitative interviews of community organizers and immigrants  
- proposes public health interventions, and lists future direction for research. |
| Addressing complementary and alternative medicine use and medication adherence among Street Level Health Project allopathic clinic patients: A survey-based needs assessment. (2013) | - mixed method study in collaboration with “Street Level Health Project ([SLHP]) using their designed questionnaire  
- needs assessment survey,  
- data analysis of survey results, recommendations and identifying potential interventions based on the survey results, survey design guidelines for future survey  
- mixed method study in collaboration with “Street Level Health Project ([SLHP]) using their designed questionnaire  
- needs assessment survey,  
- data analysis of survey results, recommendations and identifying potential interventions based on the survey results, survey design guidelines for future survey |
| Resident Physician Knowledge of Health Reform and Career Impact (2013) | - online survey for medical residents, using the Qualtrics survey software, for 18 residency programs in the greater San Francisco Area and Sacramento.  
- collecting demographic information, knowledge assessment questions, inquiry about intended practice, comfort with health reform, prior health policy education, and preferred educational method of health care policy and reform.  
- IRB exempt status, survey completely anonymous with no identifying data collection.  
- Primarily descriptive statistics |
| Disparities in the Use of Surgery Among Minority Patients with Temporal Lobe Epilepsy (2013) | - Retrospective Chart Review, single unmatched retrospective cohort study  
- examine whether race/ethnicity and limited English proficiency (LEP) are associated with the following health disparities:  
  1) underutilization of anterior temporal lobectomy (ATL) as a treatment for medically refractory epilepsy in the setting of MTS (Logistic regression and generalized linear models);  
  2) longer delays from the time of diagnostic work-up to the date of ATL (Survival models).  
- Multivariate Logistic Regression and Generalized Linear Models |
| Do homes make children sick? The case of acute respiratory illness in Myanmar. | - quantitative analysis of existing data set from Population Services International (PSI)  
- questions: incidence of ARI for children under age 5, statistically significant difference in incidence rates between north and south townships? |
<table>
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</table>
| The Role of Wildlife in Human Nutrition in Central Africa (2012)     | - Cross-sectional household survey in Cameroon, cluster sampling by village (20 villages with 527 household interviews), use of survey instrument student had piloted in 2006  
- Surveys conducted by 8 Cameroonian grad students in 2007 
- Descriptive statistics |
| A Further Comparison of Medical and Healthy Families: The Role of Insurance Type in California’s Pediatric Oral Health Disparities (2012) | - Sacramento Employment Training Agency Head Start data from 2010-2011, assessing unmet need by insurance type (n=1399)  
  - Comparing children with no insurance, Medical/healthy Families/ or private insurance 
  - Multivariate analysis adjusting for demographics |
| Volunteering By Older Americans: Findings from the Healthy Aging Network Walking Study (2012) | - Data from Healthy aging network (HAN) walking study (PI: UCB Professor Satriano)  
  - Interviews with 884 participants 
  - Most important variables assessed influence by volunteer work: walking, caregiving, depression, education, gender&race, social ties |
| Understanding the Interface Between Surgery and Global Public Health: A Case Study of Inguinal Hernia in Ghana (2012) | - Extensive literature review on current dialogues in Global Surgery, definitions, priorities 
  - Targeting a Priority 1 condition: Inguinal hernia in Ghana  
    - Scope of problem, modeling extent and surgical capacity in Ghana using US NHANES data, resulting in projected backlog of 2.2 million surgeries over 10 years 
    - Developing innovative solutions for low tech surgery (mosquito net mesh – Indian example; COSECSA from South Africa example; Humanitarian Hernia Surgery like British ‘Operation Hernia’) 
  - Very little data is presented on capacity of Ghana health system |
| Fast Food at UCSF (2012)                                           | - Landscape analysis on eating options at UCSF Parnassus Medical Campus, mixed methods  
  - Cross sectional study with convenience sample, 26 questions administered on ipad 
  - 6 Semi-structured interviews with key informants 
  - Ongoing data collections since 03/2012 |
| Health Outcomes Related to Tobacco Use in Patients with Tuberculosis in Santa Clara County (2012) | - Collaboration with Santa Clara County PHD 
  - Chart review of suspected TB patients in 2009 and 2010, identification of patients with confirmed TB (n=250) 
  - Retrospective population based cross-sectional study, outcome variables: demographics, length and extent of tobacco use, other exposures (foreign travel), homeless ness, alcohol and other risk factors 
  - Univariate and multivariate logistic regression |
| Easy as 1, 2, 3: Population Specific Strategies to Lower the Barriers to Valley Care Enrollment in the Santa Clara Valley Health and Hospital System (2012) | - Data collected from Valley Care database, analyzing financial assets of applicants to determine eligibility  
  - Tool: Design thinking Framework (Empathize, define, ideate, prototype, test) 
  - During 15 visits of 4 hours each by student, office procedures were observed; later semi-structured interviews (n~50) with enrollees and counselors and potential enrollees 
  - Development of materials for enrollee intake (nice folder for potential enrollees to assemble necessary documentation; also a pocket guide), streamlining process, budget calculations for implementation |
<table>
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</table>
| Quality Matters: The implementation and evaluation of a disease registry in a free homeless clinic. (2012) | • Creating Diabetes patient registry for free clinic for homeless in Santa Clara County, serving over 600 patients  
  o Chart review  
  o Identifying primary health providers for diabetic patients  
  o Preparing diabetic patient list (n=47 patients) for the primary health providers to facilitate tracking patients after missed apt etc.  
  o Evaluating the disease registry process, including interviews with providers and strategies for financial sustainability of the registry  
  o Preparing results and recommendations in video format for involved providers |
| The Role of Local Policy in Creating Healthy Good Zones Around Schools: An Analysis of Issues and Opportunities (2012) | • Developing a causality framework,  
  o assessing the role of (local) policy,  
  o extrinsic issues and alternative policies  
  o serving size, availability of unhealthy food  
  o conclusions: current policy environment, the role of advocacy |

Year 2011

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<th>Title</th>
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</table>
| Accountable Care Organizations in the American Health Reform 2010: Its Challenge and Implications for Japan (2011) | • Policy analysis, gathering information on American Health Care Reform and examen implications for ACPs/ Medical Shared Savings Program in Japan  
  • Key informant interviews in California, Washington DC, and Japan |
| Can Mindfulness Meditation Help Prevent Post-Traumatic Stress Disorder? (2011) | • Secondary data analysis using data from The Heart and Soul Study from the SF Veterans Administration  
  • Data collected in 2000-2010, n=1024 followed for psychological factors and association with cardiovascular events after completing mindfulness meditation intervention  
  • Using validated Hospital Anxiety and Depression Scale |
| Program Evaluation of the Health Care for Homeless Veterans Program for the San Francisco VA Medical Center Downtown Clinic (2011) | • Initially planned study to evaluate program effect at improving housing proved impossible to implement  
  • Instead review of literature on homeless housing, develop best practices, additionally compilation of summary data on the program, costs and detailed recommendations for modifications |
| Use of Incentives for Behavior Change in Environmental Health Interventions: Lessons for Improved Cookstove Dissemination (2011) | • Literature review and key informant interviews |
| Restoring Justice in Public Health: A proposal for preventing youth violence (2011) | • Literature review  
  • Action plan to bring Family Group Conferencing to juvenile justice in Alabama  
  • Planning concept for program, including budget for 138 FGC  
  • Also including evaluation component |
| Continuing Care for Patients for Alcohol and Other Drug Disorders (2011) | • Collaboration with Kaiser’ Division of Research  
  • 18 key informant interviews for regional data and online provider survey (n=73) on knowledge of available resources, attitudes of working with AOD patients, barriers and cost savings |
<p>| Evaluation of a Substance Abuse,                                    | • Mixed method outcome evaluation of Native Voices (prevention |</p>
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<th>Title</th>
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</table>
| HIV and Hepatitis Prevention Initiative for Urban Native Americans: The Native Vision Program (2011) | - N=100 youth on 4-day retreat, outcome measures: knowledge, risk perception, ethnic identity, sexual risk behavior - using scales and items from National Minority Substance Abuse Initiatives Instrumentations (SAMHSA) and qualitative interviews  
- Also: evaluating the Gathering of Nations Curriculum |
| Shifting the Paradigm of Emergency Care in Developing Countries: The Need for Community-Health Worker Administered Emergency Services in Fort Liberte, Haiti (2011) | - Medical record review to assess burden of emergency disease, and community survey to assess barriers to care seeking  
- Location: Fort Liberte Hospital Haiti, 2000 medical records reviewed from 2009-2010, community survey in 50 households  
- DALY framework for analysis |
| The Ashland Youth Center Health and Wellness Center. A Youth-led collaborative project (2011) | - Center developed and run by Clinica de la Raza and Alameda County  
- Project aimed to community and youth needs assessment, strategic planning of vision, mission and outcomes/ indicators for center, conduct inventory of existing services, recruitment and training of youth advisors for center  
- Interview process of selected youth, developing model for replicable youth leadership panel,  
- Good example for how project focus shifted and for initially difficult and then improving relations with the collaborating agency |
| Safer e-mining: Situational Analyses and recommendations for tackling the electronic waste recycling issues, globally and locally (2011) | - Developing educational toolkit to train workers how to safeguard their health  
- Collaboration with Silicon Valley Toxics coalition in San Jose  
- Situational analysis methodology globally (lit review, interviews with experts) and locally (visiting e-waste facility in CA, e-waste drop-off centers, interview local experts and NGOs as well as local stakeholders), exposure assessment  
- Deliverables: an educational video, poster, manual for workers, |
| Facebook, Seniors, activity and health. Can social networking empower frail elders? (2011) | - Part 1: detailed Literature review,  
- Part 2: Setting up a pilot with North Berkeley Senior Center and develop a provider webpage for them  
  - Recruit 20-30 seniors  
  - Baseline survey, teach use of Facebook, follow-up survey after 6 weeks  
  - Evaluate use of provider’s page and participants use of their FB page to connect with provider and each other  
- Part 3: Proposal for a next step for a Norwegian setting  
- Good example of IRB and MoU process with collaborating organization |
| The Nutrition Transition in Rural Bolivia: Addressing Diabetes and Obesity in the Context of Food Insecurity (2011) | - Partnering with local community organization, assess nutritional status in rural community, barriers to healthy eating, train health workers to promote improved nutrition  
- Health screenings (obesity, glucose levels, stunting, blood pressure, eating habits) and focus groups |
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<tbody>
<tr>
<td>An Ethnographic Study of Latino Children’s Dental Health in</td>
<td>• Ethnography studying 21 Latino families recruited at Clinica De la Raza</td>
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<td>Oakland/Hayward CA (2010)</td>
<td>• Surveying parents and children on breast feeding, eating and</td>
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<td>sleeping habits, oral hygiene, living conditions, dental care</td>
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<td>Housing as a Health Intervention for Homeless People Living With</td>
<td>• Identified 69 homeless PLWA by linking registries from SFDPH</td>
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<td>AIDS: A Health Care Utilization and Cost Analysis in San</td>
<td>• Determining healthcare visits, hospital stays etc for 24 months</td>
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<td>Francisco (2010)</td>
<td>before and after entrance into housing program</td>
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<tr>
<td>The Utility of Incorporating Religious Leaders into Disaster</td>
<td>• Very detailed literature review</td>
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<td>Mental Health Preparedness, Response, and Recovery (2010)</td>
<td>• Qualitative interviews with 5 religious leaders in New Orleans,</td>
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<td></td>
<td>despite massive recruitment efforts through church listservism</td>
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<td>snowballing etc. – conducted over telephone, recordings,</td>
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<td></td>
<td>transcriptions</td>
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<td>Epidemiology, Helmets and Public Health (2010)</td>
<td>utilization patterns and demographic characteristics, also</td>
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<td>hospitalization rates and cost analysis</td>
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<td>• Retrospective cohort study using data from Santa Rosa Memorial</td>
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<td>Hospital 2004-2009, n=279</td>
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<td>Geriatrics for Family Caregivers: an Online Education Pilot (2010)</td>
<td>• Collaboration with caring.com website</td>
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<td></td>
<td>• Development of online case studies as blogs in narrative format</td>
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<td></td>
<td>(case, challenge, solution),</td>
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<td>after 6 months online preliminary analysis of user experience -</td>
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<td>interviews of 4 site users (care givers for dementia)</td>
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<td>Sexual Violence and Accountability (2010)</td>
<td>• Developing the Sexual Violence and Accountability project with the</td>
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<td>Human Rights Center</td>
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<td>• Review of barriers to accountability in 5 countries: Kenya, DR Congo,</td>
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<td>Colombia, Kashmir, Sudan</td>
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<td>• Conducted 20 interviews with victims/first responders to sexual</td>
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<td>violence in the Bay Area, followed by pilot in Kenya, interviewing</td>
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<td>about 50 informants there for gap analysis</td>
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<td>• Results: 7 sectors involved in caring for Victims/ maintaining</td>
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<td>evidence, and barriers/ recommendations for each</td>
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<tr>
<td>Improving Quality of Primary Care for Low Income Minority Patients:</td>
<td>• Policy review</td>
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<tr>
<td>Barriers to Healthcare Utilization in Latino Immigrant Day Laborers</td>
<td>• Convenience sample of 50 day laborers in 2 Bay Area cities (with</td>
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<td></td>
<td>• 30 item questionnaire, previously validated on health care</td>
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<td>utilization, barriers, immigration status, demographics</td>
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<td>• Attached are questionnaire and CHR forms (useful sample)</td>
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<td>The Health Impact of the Deficit Reduction Act (2010)</td>
<td>• Monte Carlo simulation and Markov structure projecting costs for</td>
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<td></td>
<td>future pregnancies</td>
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<td>• 2 page self-assessment states:</td>
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<td>o Plans to compare utilization of FP clinics 18 months before</td>
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<td>and after requirement of documentation??</td>
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<td>Risk Perceptions Around Walking and Biking to School: Applying the</td>
<td>• In collaboration with National Policy and Legal Analysis Network,</td>
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<tr>
<td>Dual Process Model (2010)</td>
<td>developed a framework to understand risk perceptions in a</td>
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<td>comparative analysis (risk assessment model)</td>
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## Year 2009

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</table>
| Injury Patterns and Assessment of Effectiveness in Pre-Hospital Interventions in Uganda (2009) | • UCSF-Uganda collaboration, IRB approved  
  • PART 1:  
    o Prospective cross-sectional study  
    o database for Kampala, dataset from 2007  
    o very short result section, mainly frequencies (male/female, type of injury)  
  • PART 2:  
    o Prospective cohort study  
    o Developing first-aid curriculum, first responder training  
    o Knowledge baseline of trainees before training, compared to after training in short, self-developed survey  
    o short analysis, frequencies |  |
| Transportation self-efficacy for older adults, related health outcomes, and the role of social networks (2009) | • focus group and survey (n=41) in convenience sample from North Berkeley Senior Center  
  • Statistical analysis: frequencies, t-test, regression to measure factors influencing transportation self-efficacy and health outcomes  
  • Detailed self-designed questionnaire |  |
| Extending Access to Rural Hospice Care: Are Volunteer Hospices the Solution? (2009) | • Detailed intro on history of hospice care in the US  
  • Methods:  
    o qualitative interviews; transcribed and coded. Post-interview journaling by interviewer.  
    o County in Northern California with 4 volunteer and 1 Medicare-certified hospice  
    o interviews at all 5 hospices with directors and key informants  
    o first round of analysis to extract and sort information, second round re-analyzed per grounded theory |  |
| Microbiological Evaluation of a Three Week Hygiene Education and Hand Washing Intervention Among School Children in an Urban Slum Setting in Mumbai, India (2009) | • Had to come up with new project in Mumbai after fire destroyed infrastructure for first study (product survey of water treatment products)  
  • With PSI Mumbai, pilot hygiene training for school children, giving out soap, to increase hand washing, n=29  
  • Result reported on tested hand rinse cultures |  |
| Clinically Significant Trauma Symptoms in San Jose-Based Cambodian Khmer Refugees Interested in Meditation (2009) | • planned as prospective cohort study, but later altered since consistent follow-up proved impossible, no control group established  
  • weekly course for 12 weeks  
  • cohort recruited from UNITED Khmer Krom Temple in San Jose, N=13  
  • baseline questionnaire (PTSD checklist and others, all validated)  
  • detailed analysis of demographics, PTSD subscales, correlations, reliability, but small sample size |  |
| Disparities in Referral for Liver Transplantation Among African Americans: An Update and Public Health Approach to Fixing the “Referral” Speed Bump (2009) | • detailed literature review on process and disparity in referral system for organ transplant in US  
  • based on this, developing a public health approach to improving referral for liver transplants for African Americans (planning an ecological framework for interventions following recommendations in the reviewed literature) |  |
| Community Out-of-School Promotion of Healthy Norms in Children (2009) | • analyzes data after school programs in Alameda County to exam program as opportunity for learning healthy norms (4th and 5th graders)  
  • 47-item questionnaire from Kansas State Community Health institute |  |
<table>
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<tr>
<th>Study Title</th>
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| Planning a Malaria Abatement Project in Rural Kenya: The Matitbabu Foundation Malaria Initiative (2009) | - Outlines plan for 3 year project to improve malaria therapy provision and use of insecticide treated bednets, staff and community education, referral of pregnant women to treatment  
- Baseline assessment of existing malaria prevention and its reach was performed earlier  
- Proposal includes objectives (85% U5 children with treatment and bednets, behavior change communication) and strategies.  
- Visited 11 of 15 district facilities in Kenya in early 2009 and conducted needs assessment, 270 questionnaires to clients |
| Mexico City Barriers to Accessing Abortion Services in the Public Sector and Policy Recommendations (2009) | - Conduct and analyze qualitative interviews for policy recommendations  
- Extensive literature review  
- 11 key informant interviews in Mexico City and Morelos  
- Results broken into sections based on findings (barriers, cost, patient autonomy, providers, discrimination by medical staff etc), recommendations |
| ASHA Assist: A Mobile Phone Based Teaching Tool for Community Health Workers in Rural India (2009) | - Randomized cluster controlled pilot study to gather preliminary data to assess if intervention has impact (acceptability, feasibility, improved knowledge) to warrant larger trial in rural villages  
- Randomized into 5 groups (1 control, 4 interventions)  
- Measure before and after intervention: knowledge of anemia and corresponding iron intake, birth preparedness, client satisfaction  
- Self developed survey instruments, first version modified after interviews with pregnant women  
- Study will be conducted 09/2009 (in the future, after MPH completion) |
| Quantitative Assessment of Delay in Cataract Surgery Uptake in Eastern Nepal and Bordering India (2009) | - Gender or degree of impairment influencing delay?  
- Cross sectional study  
- Questionnaire with 14 items plus demographics, revised after piloting on 40 people, final sample n=447  
- Statistics: multivariate regression |
| Considerations for Effective Hospice Outreach: Addressing Disparities in Hospice Care (2009) | - 2 Focus groups with hospice staff (n=4) and community members (n=7)  
- Transcripts, coding, Atlas.ti  
- Results: identifying 20 different concepts |
INTERDISCIPLINARY MPH PROJECT TITLES, AUTHORS AND YEARS

2003-2008

2008

Vulnerabilities to HIV Seroconversion Among Biologically Female and Male-to-Female Transgender Prostitutes in San Francisco: A Qualitative Analysis (2008)
Needs Assessment for Pediatric Services in Native American Populations of Northern California Relative to the Scope of Services of Shriners Hospitals for Children Northern California (2008)
Sociodemographic Predictors of Prostate Cancer Risk Category at Diagnosis—Unique Patterns in Those With Significant and Insignificant Disease (2008)
From Features to Functions: A discourse analysis of physicians’ communication practices in colorectal cancer screening discussion (2008)
A Public Health Approach to Addressing Adolescent Mental Health in California (2008)
Cervical HPV Incidence and Persistence in a Community-Based Cohort of HIV-Negative Women in Zimbabwe (2008)
Integrative Epidemiology May Reveal Key Roles for Brain Plasticity and Borderline Intellectual Functioning in Health Inequities (2008)
Assessment of Malaria Diagnostic Test in the Remote Settings and Implication for Its Application in the Malaria Eradication Program with Special Reference to Vanuatu (2008)
Asthma and School Achievement in California: A Data Analysis (2008)
Campaign to Remove Trans Fats from Kaiser (2008)
HIV/AIDS in Migrant Communities Along the US-Mexico Border (2008)
2007

The Role of Social Support, Self-Efficacy and Health Status on Depression in HIV-Positive Women: A Theoretical Research Approach (2007)

Naloxone Distribution For Out of Hospital Overdose Prevention (2007)

Study of Patients’ Satisfaction on Complete Denture Rehabilitation (2007)

Developing a Criteria for Discharge from an Adult Day Care Center for Dementia Patients (2007)


Homeless Veterans and VA Health Care (2007)

A Legislative Advocacy Plan: New Legislation to Improve California’s Health Through Mandating Regulation and Reduction of Tropospheric Ozone and Diesel Emissions (2007)

Self-Rated Health and Physical Functioning Among Chinese American Seniors (2007)

A School-Based Mandate for the HPV Vaccine—The Right Cure for Cervical Cancer Inequities in California? (2007)

Permanent Exits from Foster Care: Informing Measures Over Time (2007)

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Reproductive Health Qualitative Surveys with Female Sex Workers in Karnataka, India (2007)

The Preparedness of Biochemical Terrorism in Japan (2007)

Faster, Smaller, Cheaper: The Promise of Point-of-Care Diagnostics (2007)

Displacement Within Displacement: Developing a Deeper Understanding and Responsible Policy for Addressing the “Night Commuter” Phenomenon in Kitgum Town, Northern Uganda (2007)

Developing a Trauma Research Center to Reduce Accidents and Injuries in Jamaica, West Indies (2007)

2006

An Assessment of Information Resources for Families of Children with Special Health Care Needs at Glankler Medical Therapy Unit, Alameda County California Children’s Services (2006)

HPV Vaccine – Key Informant Interviews (2006)

Effectiveness of the Influenza Vaccine in Preventing Laboratory-Confirmed Flu in Infants: A Matched Case Control Study (2006)

Dentists’ Attitude, Knowledge and Practices Towards Diabetes in Dental Setting: Understanding and enhancing the dentists’ extent of current contribution to this public health issue (2006)
A Review of Mind-Body Medicine with a Focus on the Staying Well Study: A Clinical Trial of Mindfulness Based Stress Reduction (MBSR) or Education Groups for HIV Infection (2006)

The Incidence and the Estimated Direct Cost of Sexually Transmitted Infections Among Young People in California, 2005 (2006)

UGTA1A1 Genetic Testing to Avoid Adverse Reactions to Irinotecan: A Pharmacogenomics Study (2006)

Built Environment and Health Specialty Area – A Proposal (2006)


Knowledge, Attitudes and Acceptability of Vaginal Microbicides Among Health Care Providers (2006)

Medical Students: A Snapshot of Disorders, Coping Methods and Utilization of Mental Health Services (2006)


Assessment of Barriers to Care to in Prevention of Parent-to-Child HIV Transmission Programs in Karnataka, India (2006)

Access to Pain Medication in Neighborhood Pharmacies of Fresno, CA (2006)

Hospital Based Peer Intervention Program for Violently Injured Youth Reduces Involvement in the Criminal Justice System (2006)

Rising C-Section Rates: Trends and Implications (2006)


2005

California’s Uninsured Children: Health Implications (2005)


Infectious Correlates of HIV-1 Shedding in the Female Upper and Lower Genital Tracts (2006)


Comparing Diagnostic Strategies for Chlamydia, Gonorrhea and Trichomoniasis: Data from an Urban Primary Health Care Center Sao Paolo, Brazil (2005)

Evaluation of Clinical STD Training for Health Care Providers (2005)

Prior Antimalarial Use Among Patients Presenting for Enrollment in Clinical Trials: Data Analysis from Eight Sites in Uganda (2005)

California Medical Student Attitudes Toward Health Insurance and Health Education Policy (2005)

Feasibility Analysis of Universal Birth Dose Immunization for Hepatitis B in California (2005)

Smoking in College Students: A Focus on Asian and Pacific Islander Students (2005)

Needs Assessment of Clients Seeking Homeless Services in Palo Alto, CA (2005)
A Cost-Effectiveness Analysis of Hysteroscopic versus Laparoscopic Female Tube Sterilization (2005)

Contraceptive Patterns at School-Based Health Centers in Alameda County (2005)

2004


An Inquiry into the Effectiveness of Asthma Teaching in a Community-Based Organization (2004)


Water in Malawi: The Sustainability of Shallow Wells (2004)

Historical Trauma Among Native Americans: A Public Health Perspective (2004)


Canadian Survey on Abortion Training in Obstetrics and Gynecology Residency Programs (2004)


Storytellers and Storycollecting: Their Roles in Health Advocacy (2004)

DNIF Rates in Air Mobility Command Aircrews During the Initial Implementation of the US Military Smallpox Vaccination Program (2004)

Association Between Birth Weight and Childhood Acute Lymphocytic Leukemia in the Northern California Childhood Leukemia Study (2004)

2003

Prehospital Care of Road Traffic Injuries in Chang Mai, Thailand (2003)


Regional Variations in the Use and Awareness of the California Poison Control Center (2003)
Religion and Health in Alameda County Korean Americans (2003)
Benefit Perceptions and Household Demand for Improved Woodburning Stoves in Highland Guatemala (2003)
How Do Young Adolescents Make Decisions Regarding Sexual Activity and Safer Sex? (2003)
Predictors of Change in Cardiovascular Risk Factor Reduction Intervention (HEART Health Education and Risk Reduction Training Program) (2003)
Evaluation of the “Design Sprint” –
a Design Thinking Pilot
in the Castlemont Best Babies Zone in Oakland, CA

Submitted in partial satisfaction of the requirements for the degree of

Master of Public Health

in the Graduate Division

of the

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1. INTRODUCTION

1.1 Background

The Best Babies Zone (BBZ) is a three-year initiative aimed at reducing the infant mortality gap. According to Dr. Cheri Pies, the principal investigator for this initiative, the BBZ’s vision is to create conditions in which all babies are born into communities that enable them to thrive and reach their full potential. The initiative has launched in three major US cities to demonstrate a variety of approaches in diverse circumstances. Following the collective impact model, each site has a strong backbone organization leading a coalition of partner organizations. The Alameda County Public Health Department (ACPHD) is leading in Oakland, CA; Healthy Start New Orleans is leading in New Orleans, LA; and Cincinnati Children's Hospital and Medical Center is leading in Cincinnati, OH. These sites are meant to provide blueprints for implementation in other cities nationwide.

1.2 Public health significance

The Castlemont Best Babies Zone is a seven by twelve block area in Oakland, CA (see Figure 1). Statistics of poverty and crime rates clearly indicate a high level of need. For example, one in four Castlemont residents are living in poverty, and one in five Oakland homicides occur in or near Castlemont. Castlemont is one of the census tracts receiving the most services in Alameda County. Despite investing significant resources, there is a thirteen-year difference in life-expectancy for a child born in Castlemont and child born in Piedmont - a wealthy community in Oakland, CA (see Figure 2). Although services, such as food stamps, are critical, services do not address the root causes of health inequities.

![Figure 1. The boundaries of the Castlemont Best Babies Zone (BBZ) are determined by the boundaries of Census Tract 4097.](image-url)
1.3 Design sprint evaluation overview

ACPHD identified human-centered design (HCD) or “design thinking” as a promising approach to develop programs that would begin to address social determinants of health in Castlemont. The social determinants of health are the social and economic conditions (e.g., lack of income, social exclusion, unsafe neighborhoods) that result in differential risk, prevention, and treatment of illness and avoidable inequalities in health. Design thinking is an innovation process for creating products, services, strategies, and programs that prioritize the needs of the intended beneficiaries. The design thinking process provides a structure and methods for developing an in-depth understanding of people who are directly impacted by an issue, generating creative ideas, and rapidly learning from small-scale pilots. Although design thinking is established in the private sector, it is a new approach for public health.

ACPHD partnered with the Gobee Group, a design thinking consultancy to develop the “design sprint,” a 12-week pilot. The term “sprint” was chosen to convey the fast-paced intensive nature of the pilot. The goals of the design sprint were to enhance the capacity of the ACPHD to use design thinking, and to develop concepts for stimulating a vibrant local economy in the Castlemont Best Babies Zone (BBZ). From March to June 2013, fourteen individuals from nine organizations met for half a day every week for twelve consecutive weeks. The end result of the design sprint was the Castlemont Community Market, which is intended to address community needs by offering informal businesses with a sales venue, providing opportunities to increase social cohesion, and expanding access to food and goods.

This MPH project was a formative evaluation of the design sprint. The primary goal of this formative evaluation was quality improvement for design thinking programs in the Best Babies Zone. To achieve this goal, the objectives of this formative evaluation were: 1) to
identify strengths (aspects of the design sprint that worked well), and 2) to identify challenges, and 3) to make suggestions for improvements. The intended impact of this evaluation for the field of public health is an improved understanding of design thinking as a process to address social determinants of health.

2. LITERATURE REVIEW

What follows is a literature review of theories and expert perspectives across the fields of design thinking and public health. The sections are organized by topics consisting of a synthesis of major themes in the literature and their implications for this evaluation of the Castlemont Best Babies Zone design sprint.

2.1 Theoretical basis of the BBZ initiative

The BBZ is a community-based initiative that aims to decrease infant mortality rates. Since structural factors affecting the health of entire populations have an impact on the mortality rate of infants, the infant mortality rate is an important indicator of health for whole populations.5 Taking a holistic approach to improve structural factors, such as the social and built environment, is likely to decrease infant mortality rates and also enhance overall population health and wellness. In addition, rather than focusing interventions during the nine months of pregnancy or solely on individual behavior change, the BBZ seeks to reduce disparities in birth outcomes through an integrative approach that simultaneously addresses multiple (biological, psychological, behavioral, and social) determinants of health throughout the life course. The life course perspective suggests that disparities in birth outcomes are the consequences of differential developmental trajectories set forth by early life experiences, as well as, the differential risk and protective factors accrued over the life course.6 The BBZ is also considered a “place-based” initiative, which recognizes the importance of geographic, cultural, and institutional context and leverages community social capital, values, and embedded local knowledge to support community transformation.7 Recognizing that “supportive community environments—access to healthy food, safe and appealing parks, high quality housing and education, job opportunities, clean air and water, resources to save and build financial assets, and other community factors—are key to good health,”8 the BBZ initiative is coordinating projects across the four domains of economic development, community systems, health, and education.1 These public health frameworks provide the context for understanding why the design sprint had the systemic goal of stimulating a vibrant local economy, rather than an focus on interventions only affecting the health of babies.

2.2 Design thinking overview

Several professions (e.g., graphic design, product design, engineering, architecture, etc.) have claimed design as being an intrinsic part of their disciplines. Transitioning away from this notion of design as segmented professions, Buchanan revived the term “design thinking” to describe a unified way of thinking that integrates “symbolic and visual communications;” “material objects;” “organized activities and services;” and “complex systems for living, working, playing, and learning” to address the needs and values of people.9 In spite of Buchanan’s attempts to frame “design thinking” as universal in scope with applicability to any
area of human experience, design is still popularly associated with creative experts improving the aesthetics or functionality of tangible products. Some thought leaders in the design industry (e.g., Tim Brown, the Executive Director of IDEO) have been making the case for how everyone can practice “design thinking” as a powerful strategy for addressing abstract, multifaceted challenges in the social sector.10,11

Although various disciplines have represented the design process in several forms (e.g., linear, cyclical, spiral, etc.) with a different names and distinctions between each stage,12,13 IDEO has been making the design process more accessible to those outside of typical design disciplines by presenting design thinking simply as Understand, Ideate, and Implement (see Figure 3). One can think of understanding as “the problem or opportunity that motivates the search for solutions; ideation as the process of generating, developing, and testing ideas; and implementation as the path that leads from the project stage into people’s lives.”11(p33) Practitioners, such as Dr. Jaspal Sandhu (the design thinking adviser for the design sprint), emphasize that what is more important than the specific stages or methods is the philosophy of prioritizing the needs of people who will be directly impacted.14

Figure 3. The design thinking process can be structured into the three phases of Understand, Ideate, and Implement (adapted from IDEO15)

Based on a review of design thinking resources and workshops, ACPHD’s design thinking pilot in the Castlemont BBZ appears to be the only design thinking training in which representatives from multiple sectors are working together on the same design team addressing open-ended public health issues in a community. Several toolkits have been developed to provide an overview of the design thinking process and its associated methods.16–20 Recognizing that design thinking skills are best acquired through learning by doing, several experiential learning workshops ranging from one hour to five weeks have been developed. These workshops enable participants to practice applying the design thinking process and a few methods, but teams typically practice these skills on theoretical projects completed at an accelerated pace.

In addition, several innovation networks and long-term training programs have been established to enable practitioners to apply design thinking to real projects.21,22 For example, the
Center for Care Innovations (CCI) created a Safety Net Innovation program that consists of an Innovation Network, in which clinic representatives meet in person and online to share ideas; an Innovation Challenge, in which clinic teams received seed grants to address three priority focus areas; and Innovation Hubs to test, spread, and support innovations in the safety net.23–25 Although this CCI program provided grantees with many resources, the focus was predefined and based on specific issues related to improved healthcare delivery in the safety net.

2.3 Applicability of design thinking for public health

Design thinking can be a complementary approach to other public health approaches. Design thinking shares some similarities with Community-Based Participatory Research (CBPR)26 and Lean Healthcare.27 CBPR is a partnership approach for public health research, which aims to involve community members, organizational representatives, and researchers in all aspects of the research process.26 Although design thinking is based on a similar mindset of respecting and prioritizing the needs of the people most affected, the goal of design thinking is to create a meaningful product, service, or program rather than expanding the realm of academic knowledge. Lean Healthcare is intended to improve efficiency by reducing waste (steps that do not add value for the patient, e.g., interruptions, delays, mistakes) in existing processes. Design thinking can be used to improve existing processes, but unlike lean management, design thinking is particularly well-suited for new processes, services or programs.

Design thinking may be a promising approach for planning and implementing more effective public health programs or interventions. There are several examples of large-scale programs that have failed although they were based on the best practices in public health. Sandhu notes how insecticide treated bed-nets have failed to be adopted widely due to the expectations for one-size-fits-all solutions, evidence-based thinking breeding complacency for interventions that show even moderate effects, and a reluctance to consider alternative solutions.28 Sandhu suggests that failures like these can be avoided using design thinking approaches that focus on “understanding people in context and from their own perspectives, testing various solutions on a small scale, and continuously iterating through this process.”14

Brown and Katz highlight the power of design thinking to address complex societal challenges and create revolutionary change.10 Design thinking is particularly powerful as tool for addressing what Rittel describes as “wicked problems”9 (See Table 1 for a description of how public health issues can be considered wicked problems). According to Buchanan, “design problems are ‘indeterminate’ and ‘wicked’ because design has no special subject matter of its own apart from what a designer conceives it to be.”9 In other words, design thinking can be applicable to any subject, however, designers are typically not experts in the fields in which they may be applying the design thinking process. It is notable that Sandhu (the design thinking adviser for the design sprint) has expertise in design and public health. Similarly, it is uncommon for public health organizations, like ACPHD, to invest in internal capacity for design thinking.

In summary, this literature review has provided a theoretical framework for understanding design thinking in the context of public health. The literature suggests that design thinking is highly aligned with the life course perspective and place-based approach of the Best
Babies Zone initiative. Design thinking’s prioritization of the needs and values of the people who are most affected is aligned with BBZ’s community-led, place-based approach.

Table 1. The properties of wicked problems and their applicability to public health challenges

<table>
<thead>
<tr>
<th>Properties of Wicked Problems</th>
<th>Applicability to Public Health Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is not possible to frame a problem statement containing all the information necessary to solve it.</td>
<td>Part of the process of finding a solution to address infant mortality is the search for greater understanding of the problem.</td>
</tr>
<tr>
<td>There are no intrinsic rules for stopping so projects typically end because of external constraints such as time or money.</td>
<td>Quality of life and conditions of health and wellness can always be improved with no indisputable limit.</td>
</tr>
<tr>
<td>Solutions are not simply right or wrong; instead, they are judged differently by multiple entities who are influenced by interests, values, and preferences.</td>
<td>Different stakeholders, including policy makers, funders, health providers, and patients, will have differing opinions of the suitability of a solution.</td>
</tr>
<tr>
<td>There is no immediate and no ultimate test of a solution that can take into account all unintended consequences.</td>
<td>Constructs like health and wellness, empowerment, or social cohesion cannot be easily measured with one test.</td>
</tr>
<tr>
<td>Every implemented solution leaves some traces that cannot be undone.</td>
<td>Each pilot test involves interactions with people that shape relationships and trust.</td>
</tr>
<tr>
<td>There is no prescribed list of actions; the plan of action for reaching a solution relies on realistic judgment.</td>
<td>Determining which steps are necessary and ethical requires judgment considering the context.</td>
</tr>
<tr>
<td>Each problem is essentially unique and cannot be grouped into classes for which certain steps or solutions apply.</td>
<td>Some mathematical problems can be classified and solved with the same series of steps. Public health issues cannot be addressed formulaically.</td>
</tr>
<tr>
<td>Each problem is a symptom of another &quot;higher level&quot; problem.</td>
<td>Infant mortality is the result of more upstream factors, such as nutrition or limited access to healthy food or structural inequities.</td>
</tr>
<tr>
<td>There are multiple ways to frame a problem, and every problem framing suggests a realm of possible solutions.</td>
<td>Infant mortality can be addressed through immunization programs, prenatal care, or a community market depending on how the problem is framed.</td>
</tr>
<tr>
<td>Since the aim is to improve some characteristics of the world in which people live, “failing” has extreme consequences.</td>
<td>In public health, failure may mean decreased quality of life or lives lost.</td>
</tr>
</tbody>
</table>

3. METHODS

Formative evaluations are conducted during the development of a new program, or when an existing program is being used in a new setting, with a new population, or to target a new problem. Formative evaluation is the process of testing program plans, materials, strategies, or modifications for weaknesses and strengths. Since there are no other programs that teach design thinking to public health professionals as an approach for developing an intervention, I
conducted a formative evaluation to identify which aspects of the design sprint are likely to succeed, and which areas could be improved.

Since formative evaluations are seeking to uncover strengths and weaknesses, qualitative research methods that are conducive for broad exploration are more suitable than quantitative research methods. I conducted open-ended semi-structured interviews with the fourteen individuals who were involved in the design sprint. To recruit interviewees, I wrote a brief description of the evaluation, which the lead facilitator and design thinking advisor for the design sprint emailed with personalized messages. The interview guide was influenced by the literature review and a preliminary document analysis of design sprint materials, such as meeting minutes and presentations. The lead facilitator and design thinking advisor also reviewed the interview guide to identify the most important questions. Each interview was 30-60 minutes, depending on the availability of the interviewee. All but one interviewee agreed to be audio-recorded. I took hand-written notes during the interview that was not audio-recorded, and typed detailed notes based on the handwritten notes immediately after the interview. The audio-recordings were transcribed verbatim with the help of three research assistants. Then, I coded the transcriptions and interview notes using the Dedoose Qualitative Data Analysis software program. Using grounded theory methods, I inductively coded the transcriptions to identify themes. I analyzed these themes with frameworks and principles informed by the literature review.

The reliability of the findings was increased through systematic coding and periodic reviews by individuals involved in the design sprint. After conducting six interviews, I produced a Preliminary Report including the initial findings, and updated the interview guide to explore newly emerging themes. The lead facilitator and design thinking advisor reviewed the Preliminary Report and updated interview guide before the remaining interviews were conducted. All interviewees also reviewed the findings for accuracy. Since only fourteen individuals were involved in the design sprint, statistical analysis was not the appropriate method for assessing the reliability of the findings.

4. RESULTS

From March to June 2013, the 12-week design sprint included the design thinking phases of Understand and Ideate (see Figure 3 above). Due to staffing shifts and the need to seek additional funds, the Implement phase began in late summer 2013. Since then, ACPHD has been supporting neighborhood residents in the implementation of the Castlemont Community Market. This section will highlight the key activities (see Figure 4) and the aspects of the design sprint that worked well, along with the challenges, and suggestions for improvement.
4.1 Key activities and strengths

4.1.1 Team diversity enhances mutual learning

The design sprint team was a diverse group representing organizations from multiple sectors (see Table 2). Working collaboratively, rather than being constrained in silos or in independent roles, leveraged the diversity of the team to enhance mutual learning. This sentiment was expressed by several interviewees, and is exemplified in the following quote from a design sprint participant: “What was really effective was learning with such a unique group of people that all wanted to learn and had really different talents and skills.” Consistent with this finding, the literature on design thinking emphasizes the importance of teams, especially those that are able to share their processes and cross-pollinate ideas across disciplines. Although most members of the design sprint team had no formal training in a design discipline (e.g., graphic design, architecture, etc.), the team members each had relevant expertise in public health, economic development, or community development. For example, Mandela MarketPlace is a non-profit organization that provides education, financing, and technical assistance to support community members in the development and operation of the Mandela Foods Cooperative, a worker-owned grocery store in West Oakland.
Table 2. List of organizations and sectors involved in the design sprint

<table>
<thead>
<tr>
<th>Organization Name</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda County Public Health Department¹</td>
<td>Government Agency</td>
</tr>
<tr>
<td>Gobee Group²</td>
<td>Design Consulting</td>
</tr>
<tr>
<td>Social Services Agency of Alameda County</td>
<td>Government Agency</td>
</tr>
<tr>
<td>Youth UpRising</td>
<td>Community-Based Organization</td>
</tr>
<tr>
<td>Federal Reserve Bank of San Francisco</td>
<td>Economic Development</td>
</tr>
<tr>
<td>East Bay Sustainable Business Alliance</td>
<td>Economic Development</td>
</tr>
<tr>
<td>Mandela MarketPlace</td>
<td>Economic Development</td>
</tr>
<tr>
<td>East Bay Asian Local Development Corporation</td>
<td>Infrastructure Development</td>
</tr>
<tr>
<td>Y&amp;H Soda Foundation</td>
<td>Philanthropy</td>
</tr>
</tbody>
</table>

4.1.2 Immersion grounds the challenge in reality

Most of the organizations involved in the design sprint did not have prior experience in the Castlemont BBZ. The design sprint was a way to deepen understanding of the neighborhood context and to build relationships with the community. Immersion in the community grounded the design sprint challenge in the complexities of reality. Consistent with this finding, the design thinking literature emphasizes the value of being immersed in the context to gain a deeper understanding of the challenge.³⁴ Almost all of the design sprint meetings were held at Youth UpRising, a community transformation center in the Castlemont neighborhood. One meeting was also held at McDonald’s. In spite of the public health controversies with the fast food industry, the team gained an appreciation for McDonald’s as a diverse community hub.

During the understand phase, the design sprint team engaged in two neighborhood walks. On these walks, the team observed the physical environment and talked with people about topics, such as small business or childcare. Design thinking methods (e.g., neighborhood walks) share similarities with ethnographic methods (e.g., observations, unstructured interviews, and convenience sampling). Both can fulfill the purpose of gathering data and deepening understanding. However, academic research methods tend towards anonymity and aggregate data, while design thinking methods tend to make data more personal and relatable. During observations, design thinking teams not only note what people do and say, they are trying to infer motivation and emotion.³⁴ A design sprint participant describes this attempt to infer deeper meaning from observations: “Observing the physical aspects of the neighborhood (like how many fences there were and how many ‘beware of dog’ signs there were), it just felt like everyone is scared and closed off.”

¹ ACPHD dedicated four staff members to be facilitators for the design sprint. These facilitators planned all design sprint activities and managed logistics.
² The Gobee Group provided one design thinking consultant to advise the design sprint facilitators on the design thinking approach and methods.
4.1.3 Fresh eyes offer new perspectives

A participant described the design sprint as community outreach “without a completely set agenda.” Reflecting upon how the design sprint differed from typical approaches in her field, a participant commented on how the design sprint team went into the community with an open mindset: “I really just want to hear what you have to say. I really want to look and see what I see. I really just want to take things in before I start narrowing things down and making assumptions.” In the literature on design thinking, this concept is referred to as having fresh eyes that offer new perspectives.10

Although academic researchers may strive for a representative sample of the population may increase the generalizability of their results, design thinking teams sometimes seek subjects from extremes, since they challenge assumptions and norms.35 A design sprint facilitator described how the neighborhood walks allowed the team to integrate diverse perspectives from those who do not typically attend community meetings. “A store owner who's at that store for 12+ hours a day - he's not going to come to anything else, and he has a lot of stories to tell.” Moreover, informal conversations during the neighborhood walks enabled the team to develop a more balanced view of the community that extended beyond statistics about poverty and crime rates. A key insights was that there are people in the community driving positive change, like organizing movie nights to give kids a safe space to hang out, or giving free haircuts to encourage good grades.

4.1.4 Not rushing to solutions yields richer end products

During the Ideate Phase, the team brainstormed over 100 concepts (see examples in Figure 5a). The team organized the concepts in a two by two matrix to select the top four concepts, based on what is achievable in the short-term and has potential for high impact (see Figure 5b). A facilitator commented on the importance of dedicating significant time towards the Understand and Ideate Phases: “Forcing ourselves to spend more time coming up with ideas, or finding alternative data pieces in the neighborhood, allowed us to have a richer end product.”

The team made poster boards of the top four concepts: a community market (see Figure 6), murals created by youth on empty storefronts, local newsletters, and child-friendly spaces in businesses. The team organized interactive sessions at Center of Hope Church, Castlemont High School, and a local business to gather feedback on what community members liked, what they would change, questions, and new ideas. Small and simple tests (e.g., poster sessions) enable design thinking teams to learn quickly and affordably to refine solutions.10 The positive response from community members was also validation that the design sprint was effective. Based on feedback from community members, ACPHD decided to implement the Community Market concept. Since December 2013, the Castlemont Community Market has been held on the 1st Saturday of each month.
4.1.5 Reframing the challenge integrates insights in solutions

In contrast to other design thinking training programs, in which teams are given prescribed design challenges or problem statements and constraints, the open-ended nature of the design sprint forced facilitators and participants to grapple with the uncertainties and complexities of framing a problem. According to Rittel and Webber, this struggle with how to frame a problem is a significant portion of the challenge, and highly influences the realm of solutions. They also note that since incremental change may actually be harmful and can ingrain ineffective strategies, one should tackle issues at as “high” or upstream a level as
In the middle of the 12-week design sprint, the team synthesized insights about the community to reframe the challenge (see Table 3). The team retained the high-level goal of systemic change (“vibrant local economy”), and reoriented towards actionable solutions (“a visible small win”). Differences between the initial and reframed challenges demonstrate a shift in thinking. By stating the intention to “work with community members,” the design sprint team explicitly recognized their position as outsiders and the importance of partnering with community members. The reframed challenge also explicitly stated the intention to “leverage existing assets and resources.” One reason why Castlemont was selected as a BBZ site was because of the strong local institutions and synergistic investment from other initiatives (e.g., East Oakland Building Healthy Communities and Project Launch). ACPHD is following through on these intentions by regularly integrating input from vendors and partnering with institutions within Castlemont (e.g., Youth UpRising and Castlemont High School) to implement the Castlemont Community Market.

Table 3. The design sprint team reframed the challenge to integrate insights about the community.

<table>
<thead>
<tr>
<th>Initial challenge:</th>
<th>How might we build a vibrant economy in the Castlemont neighborhood?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reframed challenge:</td>
<td>How might we work with community members and leverage existing assets and resources to support a visible small win to build a vibrant local economy in the Castlemont neighborhood?</td>
</tr>
</tbody>
</table>

4.2 Challenges

4.2.1 How and when should community members be involved?

It was challenging to decide not to include Castlemont residents as members of the design sprint team. A facilitator explains, “We were really seeking ways to meaningfully engage residents and not tokenize their participation.” Although the team highly valued community leadership, the team had reservations about involving community members in a process that they were still learning. They also realized that they needed stronger relationships with the community to thoughtfully select residents for the team. The time constraints of the grant funding the design sprint did not allow for enough time for ACPHD to develop relationships with the community before the design sprint. Although the situation was not ideal, the design sprint was the first step in developing relationships with the community and preparing for increasing participation.

To analyze the level of community participation in the design sprint and subsequent programs, we can consider the Ladder of Community Participation (See Figure 7). The ladder analogy implies that the ideal would be the community leading (shown at the top of the ladder), but that is not always possible. A facilitator notes that “What is most important is to recognize the level of participation and proceed with according humility and care.” As relationships with the community strengthened, the team was able to achieve more meaningful participation. The design sprint started at the “limited input” level since there were no Castlemont residents on the design sprint team, and residents only provided input occasionally. The implementation of the
market could be considered “comprehensive consultation” because there is regular input from vendors after each market. The design sprint and market set the foundation for the Game Changers pilot to involve residents at the power sharing or community leading levels. The Game Changers pilot is a 1-year program in which Castlemont residents will learn design thinking and develop solutions to issues that they prioritize.

Figure 7. The Ladder of Community Participation illustrates an increasing level of community participation in the design sprint, market, and Game Changers program.

4.2.2 How can public health professionals address the issue of public safety?

Several shootings occurred in the Castlemont BBZ during the design sprint. A group of design sprint participants witnessed a shooting during one of the neighborhood walks. A design sprint participant commented that critical dialogue about public safety and other challenging issues allowed the team to form strong bonds: “We developed a sense of true partnership, trust, and friendship. [...] I don't think that happens magically in organizations and in community initiatives.” A facilitator described how the experience also shifted her mindset as a public health professional: “Now we get why that’s so terrible and it’s scary. [...] A few of us came back and talked to our leaders. [...] Why don't we have this state of emergency around violence here in Alameda County? And why isn't there an immediate response to people experiencing this kind of trauma?” Public safety is one of the topics that the Game Changers program may address.

4.3 Suggested improvements

The Game Changers program presents an opportunity to improve upon the design sprint. Forming design teams consisting only of community members is a step towards increased community participation or community leadership in the Game Changers program. However, it is also important to be aware that the community members selected for the Game Changers program may not represent all the communities or groups within the Castlemont BBZ. To increase the likelihood that the Game Changers work is meeting larger community needs, it may
help to plan opportunities for other Castlemont residents to provide input, and for the Game Changers participants to report back to other communities in Castlement.

In addition, diversity will probably continue to be important for mutual learning in the Game Changers program. Although the design sprint team was diverse in terms of academic discipline, diversity along other dimensions is also important. The Game Changers program could consider recruiting for diversity in gender, age, socio-economic level, race, and ethnicity (e.g., Spanish-speaking). Stipends and childcare could reduce possible barriers for participation.

It is also important to coordinate with other organizations working in Castlemont, and to leverage any opportunities for partnership. Although the ACPHD facilitators may not have expertise in all of the topics that Game Changers identify as priorities (e.g., public safety), it may be possible to bring in partner organizations with relevant experience to support the community in addressing their priorities. Providing ways for design sprint participants to continue to be involved could also inspire them to integrate design thinking or others aspects of the Game Changers program into their work.

Before the Game Changers program concludes, it is important to plan the next steps. Funding and resources will be required to plan and implement programs or interventions conceived during the Game Changers program. Also, if the program is intended to continue with a new cohort of residents, more funding and resources will be needed. Planning for these possibilities before the Game Changers program concludes can help to maintain momentum.

5. DISCUSSION

Although it was beyond the scope of my MPH project to conduct an impact evaluation, the interview data from this evaluation suggests that the design sprint achieved its stated goals. The goals of the design sprint were to enhance the capacity of the ACPHD to use design thinking, and to develop concepts for stimulating a vibrant local economy in the Castlemont Best Babies Zone (BBZ). During the interviews for this evaluation, the ACPHD staff who facilitated the design sprint demonstrated an ability to critically analyze and understand the complexities of design thinking. The design thinking consultant for the design sprint also expressed confidence in the ability of the ACPHD staff to teach design thinking to Castlemont community members in the Game Changers program. In addition, although insufficient time has passed to be able to assess the influence of the Castlemont Community Market on the local economy, preliminary data collected by ACPHD suggests that the market is growing and generating some profits for vendors. Between December 2013 and April 2014, the market has hosted ten vendors, generated $654 in profit for vendors, and attracted 119 attendees.

5.1 Limitations and recommendations for future evaluations

There were several limitations for this formative evaluation of the design sprint. The design sprint evaluation was a retrospective analysis beginning about four months after the completion of the design sprint. There were limitations in how much the interviewees could remember. To address this limitation, I provided interviewees with pictures and a summary of the design sprint before each interview. In addition, I was only able to interview design sprint facilitators and participants. Capturing the perspective of community members would have
increased our understanding of the impact of the design sprint. However, at the time of the evaluation, the design sprint team was still developing their relationship with the community and it was premature to involve the community in this evaluation.

For future evaluations, such as evaluations for the Game Changers program, I would recommend conducting pre- and post- assessments immediately preceding and immediately after the program. These pre- and post-assessments could make it possible to analyze changes in knowledge, attitudes, or behavior. In particular, there has been speculation that involving people in processes that influence their lives, can be transformative and empowering.38 The Game Changers program may have an empowering effect since it creates opportunities for community members to design programs and interventions affecting their community. Accordingly, I suggest using an assessment tool, such as the “Scale” for Measuring Perceptions of Control at the Individual, Organizational, Neighborhood, and Beyond-the-Neighborhood Levels.”39 However, since there is no control or comparison group, it may be hard to attribute changes or effects solely to the Game Changers program.

To complement pre- and post-assessments, asking facilitators and participants to reflect upon any challenges or lessons learned throughout the Game Changer program may make it possible to track changes in knowledge, attitudes, or behavior in response to particular program activities or events. These reflections could also reinforced learning and knowledge retention. Collecting feedback throughout the program could also allow for continuous quality improvement. Furthermore, conducting observations throughout the Game Changers program could uncover insights that participants may not be conscious of or able to report. In addition to evaluations of the Game Changers program, I would also suggest evaluations of the resulting interventions and impact on those being served.

5.2 Implications of design thinking for public health

Although design thinking is established in the private sector, it is a new approach for public health. Design thinking is a process that is commonly used for creating commercial products and corporate strategies. The design sprint is one of the first applications of this innovation process to complex societal issues. Furthermore, design thinking consultants tend to work in a black box and produce concepts for client organizations to implement rather than building capacity for client organizations to practice design thinking themselves. The design sprint represents a shift away from the consulting model towards capacity building because the ACPHD facilitators enhanced their design thinking knowledge and skills. Moreover, in the subsequent 1-year Game Changers pilot, Castlemont community members will be learning the design thinking process and creating solutions to issues that they prioritize. This represents a paradigm shift from the notion that only experts can design to the notion that anyone can design.

Moreover, the lessons learned from the design sprint pilot may enable other public health departments or organizations to practice design thinking as an alternative strategy for community engagement in the development and implementation of public health programs. In particular, the results suggest that the human-centered design process can strengthen inter-sector partnerships amongst organizations, and quickly move from challenge identification through program design to implementation within one year. For public health professionals interested in integrating
design thinking into their work, three conditions can increase the likelihood of success. First, there must be support from organizational leaders and a culture of innovation. The social environment must allow people to take risks and give permission to fail. Second, the team does not need formal design training, but should have relevant domain expertise and respect community members as experts. Third, it is important to allocate dedicated project time and provide the flexibility needed for spontaneous interactions. Creative ideas are sporadic and may be lost in the time between regular meetings.

6. FUTURE RESEARCH

Design thinking has been emerging as an approach for innovating solutions to address issues of poverty in the US and developing countries. My doctoral dissertation will analyze how certain factors (e.g., the organizational context of the practitioners and the theoretical frameworks informing their discipline) influence the practice of design thinking in the social sector. I plan to characterize and explore the similarities and differences among three case studies. The Castlemont Best Babies Zone design sprint will be a case study of design thinking practiced by public health professionals for program planning in the US. The International Development Design Summit (IDDS) will be a case study of design thinking practiced by students and community members creating appropriate technology in developing countries. IDDS is an annual 1-month educational conference bringing together students and people from low-income communities to create appropriate technologies that generate income, improve health, or reduce labor. The third case study will be based on a set of IDEO.org projects. IDEO.org is a nonprofit design consultancy, in which professionals from various disciplines (e.g., architecture, business, engineering) create refined products or business strategies to serve low-income communities in the US and developing countries. By comparing the similarities and differences between these case studies, I will characterize design thinking for social impact in different fields (e.g., public health, engineering, and business strategy) and organizational contexts (e.g., a public health department, an educational conference, and a design consultancy). The intended impact of this research is to enhance understanding and improve the practice of design thinking for social impact.

REFERENCES


APPENDIX A: SAMPLE INTERVIEW GUIDE

This interview guide is not a comprehensive list of questions. The interviews covered the key questions outlined, and allowed for flexibility to explore additional topics that seemed relevant to both the interviewee and the interviewer.

Key questions for design sprint participants:

1. What factors influenced your decision to participate in this design sprint?
2. What was your most memorable experience during the design sprint?
3. What was the most valuable aspect of the design sprint?
4. What was the most challenging aspect of the design sprint.
   a. Can you offer any critique of the design sprint?
   b. Can you suggest any improvements?
5. How is design thinking different than other approaches that you typically use in your work?
6. Did the design sprint influence your perspective of the Castlemont neighborhood?
7. Did the design sprint influence your interaction or relationship with other organizations?
8. Can you help me understand what you think of as design thinking?
9. Do you have any other comments or questions?

Additional questions for design sprint facilitators:

1. How was the design sprint concept conceived?
   a. What factors influenced the decision to focus on economic development?
   b. How were participants selected?
2. What tradeoffs did you have to make as a facilitator?
   a. What tensions resulted from these tradeoffs?
3. What would you do differently if you had to do this again?
4. What advice would you give others who may want to try applying this design thinking approach?
NUTRITION EDUCATION AND DIETARY COUNSELING PRACTICES IN INTERNAL MEDICINE RESIDENCY TRAINING

INTRODUCTION

Fifty percent of outpatient visits in the United States now involve a chronic condition such as hypertension, hyperlipidemia, diabetes and obesity, all of which are diet-related diseases. The United Services Preventive Services Task Force recommends “intensive behavioral dietary counseling for adult patients with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic disease. Intensive counseling can be delivered by primary care clinicians or by referral to other specialists, such as nutritionists or dietitians.” According to the American Dietetic Association National Survey in 2011, between 16 to 21% of Americans get their nutrition information from physicians and only 1-2% Americans get their nutrition information from nutritionists. Furthermore, per labor statistics, for every 24 primary care physicians there is only one in registered dietitian in the outpatient setting. Hence, physicians still carry significant responsibility for providing nutrition counseling to patients in the outpatient setting.

Studies have shown that behavior change counseling by physicians leads to better clinical outcomes such as increased physical activity and weight loss. Yet, studies have shown low rates of dietary counseling by physicians ranging from 25-40%. In addition to logistical factors such as lack of time and inadequate compensation, physicians have consistently reported that they were inadequately trained in nutrition, and lacked the knowledge and confidence in counseling patients on diet. In a recent survey of 500 physicians, 93% felt that physician training in nutrition counseling would improve obesity care.

Nutrition Education in Medical Training

According to a national survey in 2008-2009, the number of medical schools requiring a dedicated nutrition course declined from 30% in 2004 to 26% in 2008, and only 27% of those offering the course met the minimum requirement of 25 hours. With the regard to GME, the two specialties that train physicians in adult chronic disease management are Internal Medicine (IM) and Family Medicine (FM). The Accreditation Council for Medical Education (ACGME) mentions the topic of nutrition education briefly under its program requirements for FM and the American Academy of Family Physicians (AAFP) has put forth core educational guidelines in nutrition for FM.

Internal Medicine however, is the largest specialty in GME and accounts for 24% of residency positions. Residency training in IM largely focuses on inpatient training, despite the fact that IM graduates see 90% of patients in the outpatient setting. The heavy emphasis on inpatient and sub-speciality training raises the concern for inadequate training in primary care. Furthermore, nutrition education is not explicitly mentioned under the ACGME program requirements. There haven’t been any studies that examined nutrition education in IM residency specifically. Only two studies from the 1990s, that examined nutrition education across seven medical specialties, included Internal Medicine. In these studies, educators such as PDs, reported that presence of physician nutritionist role model, teaching by multidisciplinary nutrition support teams, nutrition elective (although taken by only a minority of residents), research en-
environment, practical learning materials and conferences were key elements for nutrition education\textsuperscript{20}. Nonetheless, only 20-40\% of programs had a qualified nutrition faculty member, a clinical nutrition rotation/elective, an outpatient nutrition clinic with physician-provided services and regular nutrition conferences/didactics\textsuperscript{21}. These studies did not specify results for IM since each residency specialty has different curricula, priorities and ACGME requirements, results from one specialty may be not applicable to another.

In 1997, The Nutrition Academic Award program provided learning objectives in a nutrition curriculum specific to IM residency\textsuperscript{22} and in 2007, learning objectives in nutrition specific to each ACGME competency were proposed\textsuperscript{23}, but it remains unknown if these have been implemented or how they have been implemented by educators in IM residency programs. Nonetheless, recent studies have examined nutrition education from IM residents’ perspective. For example, Vetter et al. found that 94\% of first year residents in IM felt that nutrition education and counseling was their obligation, but only 14\% felt that physicians were adequately trained in this area\textsuperscript{24}. Surprisingly, the study noted an inverse correlation between previous nutrition education in medical school and self-efficacy, questioning the quality of the education in medical school and implying the necessity of ongoing nutrition education during residency.

**Residents’ Dietary Counseling Practices**

Internal medicine residents have been found to have low rates of dietary counseling for their patients. Tsui et al. found a 20\% rate of dietary counseling for CVD risk reduction as compared with much higher rates of counseling for medication compliance (52\%) and smoking (88\%) cessation\textsuperscript{25}. Tang et al. found a higher rate of dietary counseling at 63\%\textsuperscript{26}, but this may have been overestimated since other studies have shown much lower rates of dietary counseling when patient charts were verified\textsuperscript{27}. Note that all of these studies were conducted at single academic institutions and had small sample sizes, which compromise the validity of their findings.

Several predictors of resident counseling practices have been identified. For example, higher comfort levels and self-efficacy\textsuperscript{26}, being an international medical graduate, having preference for primary care, and being at a clinic with supervising physicians who were more committed to prevention were significant predictors of counseling services\textsuperscript{27}. However, none of the studies examined the relationship between amount or means of nutrition education in residency and residents’ counseling practices.

Trainee health has also been shown to be predictor of counseling behavior. Greater self-perceived health was associated with higher screening services but studies have shown that residents’ eating habits deteriorate in residency\textsuperscript{28}. While studies in medical students have shown that personal fruit and vegetable consumption was associated with counseling practices\textsuperscript{33}, this association has not been examined among medical residents. Similarly, program support for healthy eating in residency and its effect on resident counseling practices has not been studied.

**Barriers**

Educators such as PDs in FM programs have reported that competing curriculum demands, lack of insurance reimbursement, inadequate financial resources for program development, lack of administrative support, availability of experienced faculty and unclear evidence based for nutrition interventions were barriers to implementing training in nutrition\textsuperscript{29, 30}. Again, barriers to nutrition education faced by educators in IM program are unknown and may expected to be different from those faced by FM educators given the different structure and curricula of two specialties.
Internal Medicine residents from a previous study reported that lack of training, value of acute care more than preventative care, lack of time, lack of patient interest, missing information on patient charts, and communication barriers and cultural differences between physicians and patients were barriers to counseling their patients. But again this study was conducted a decade ago and at a single center so the findings may not reflect the barriers faced by residents from other IM programs today.

Aims and Hypotheses

Given the gap in the literature on outpatient nutrition education in IM residency training, we want perform a needs assessment of this area nationally by assessing the amount of nutrition education and the instruction methods used to teach nutrition to the residents. We also want to identify factors that predict residency counseling practices. Our main hypothesis is that resident nutrition education predicts residents’ frequency of dietary counseling for patients. We also hypothesize that the relationship between nutrition education and counseling frequency is positively moderated by personal intake of fruits and vegetables and residency program support for healthy eating habits. Lastly we hypothesize that self-efficacy mediates the pathway between resident nutrition education and counseling practices. Finally, we will also explore barriers that educators face in providing nutrition education and the barriers that the residents face in counseling their patients.

INSTRUCTION METHODS

Study Design

We conducted a cross-sectional study using two structured online surveys, one for the PDs and another for the residents at Internal Medicine residents across the nation. We excluded combined programs such as IM-Pediatrics or IM-psychiatry and fellowships related to IM to avoid heterogeneity of residency programs. The contact information for the 393 IM programs in the US was obtained from the American Medical Association’s FRIEDA online database of ACGME accredited residency programs, updated in 2013. Since the residents’ contact information was not publicly available, we relied on the PDs to forward the survey to them. To meet IRB requirements, the survey was kept anonymous and confidential, so we were unable able to match the resident responses to the PD responses and vice versa. Our study was reviewed and approved by the University of California, Berkeley IRB protocol #2013-10-5737.

We conducted a pilot of the surveys in December 2013 with programs in California, and then administered the surveys nationally from January to February 2014. To maximize response rate, our team called the programs to verify email addresses and remind the staff of the survey. In addition we sent two reminder emails at two and four weeks after the initial email. At the end of taking the surveys, the respondents were provided the option to participate in an Amazon gift card raffle ($50 for the PDs and $75 for the residents).

Survey Instrument

The surveys for the program directors and for the residents were developed based on previously used surveys with this population. We used semi-structured informal interviews with program directors at the author’s residency program and interviews with residents from other programs to verify the conceptual model and applicability of items in the questionnaires. Online software, Qualtrics, was used to administer the survey. Both the surveys were designed to be taken in less than 10 minutes.

Predictor Variables

The three predictor variables were 1) use of a formal curriculum to teach nutrition, 2) the number of instruction methods, and 3) the amount of nutrition education provided. The question on formal curriculum, as
adapted from Wolfe et al. was “Have you received any formal education regarding nutrition in the outpatient setting? By formal education we mean a comprehensive or systematic program that has formal education goals and either a written curriculum or identified instruction methods for resident education in dietary counseling” 30. The response options were “yes” or “no”. For those who answered “yes” to this question, we asked “Who facilitated the formal curriculum” the response options being “physician faculty”, “dieticians”, “non-RD with nutrition expertise”, and “other” based on Deen et al. 29

The instruction methods were assessed using the following question “How have you learned about outpatient nutrition and dietary counseling for cardiovascular risk factors (obesity, hypertension, dyslipidemia, diabetes) during residency?” The 11 response items that were chosen from a previously used survey 30 and from key informant interviews included “using resource list of texts”, “teaching by preceptors in the primary care clinic”, “teaching on inpatient wards”, “using online material” and so forth. For the bivariate tests, the total number of instruction methods was collapsed into two categories (less than/equal to three and greater than three) based on median split of three. For linear regression models, this variable was treated as a continuous variable.

The amount of nutrition education across the four cardiovascular risk factors was assessed via the following question, “How much training have you had on dietary counseling for the following diseases in the outpatient setting?” The response options were “none at all”, “a little bit”, “quite a bit” and “extensive”. For the bivariate tests, the responses were summed across all four diseases and then divided into categories or “low” and “high” based on median split of 1.8. For linear regression models, this variable was treated as a continuous variable.

**Outcome Variable**

Measurement of residents’ frequency of dietary counseling for patients with the four diseases was adapted from the PMAAQ scale (alpha=0.85, test-retest reliability correlation=0.72)32. The question was “In a typical ambulatory week, for what percentage of patients with the following cardiovascular risk factors, do you engage in dietary counseling?” The response options were “never (0%)”, “rarely (1-20%)”, “sometimes (21-40%)”, “half the time (41-60%)”, “often (61-80%)”, “very often (81-99%)” and “always (100%)”. For bivariate tests, these seven categories of frequency of counseling were summed up across all four diseases and then condensed into three categories of “never/rarely”, “sometimes/half the time, and “often/very often/always”. For linear regression models, this variable was treated as a continuous variable.

**Moderators**

The two hypothesized moderators were program support for healthy eating, and personal daily intake of fruits and vegetables. The items under program support for healthy eating habits, as adapted from Spencer et al., were “Residency sponsored meals have healthy food options” and “My residency program encourages me to eat healthy”33. The options were “strongly disagree”, “disagree”, “agree” and “strongly agree”. Our 2-item scale had an alpha of 0.78. For the interaction tests, the responses across the two items were summed.

The second moderator, personal daily intake of fruits and vegetables, was assessed using a diet screener that included six items on fruit and vegetable items (fruit juice, fruit other than as juice, vegetable juice, green salad, vegetable soup or stew, any other vegetables). This screener has been validated in medical students (reproducibility correlation r=0.77, and correlation with Food Frequency Questionnaire r=0.50)34. The responses across all the 6 items were summed.
into one composite score for per day intake of fruits and vegetables.

**Mediator**

Self-efficacy was assessed in a 3-item scale: “Most patients will try to change their lifestyle if I advise them to; “Physicians can have an effect on the patients’ dietary behavior if they take the time to discuss the problem”; and “My patient-education efforts will be effective in increasing patients’ compliance with nutritional recommendations”, as adapted from the NIPS scale (alpha=0.67, test-retest reliability coefficient=0.74) 35. The response options were “strongly disagree”, “disagree”, “agree” and “strongly agree”. Our 3-item scale had an alpha of 0.74. For the mediation tests, the responses across the three items were summed.

**Barriers**

The PDs were asked about barriers to providing nutrition education to the residents based on a question used by Wolfe et al.30 .The question was “Please indicate to what extent each of the following factors are barriers to implementing nutrition education in the outpatient setting at your residency program”. The items were “competing curricular demands”, “lack of physician faculty with expertise”, “lack of faculty interest” and so forth. “Lack of ACGME requirement” was added based on informal interviews with PDs at the author’s residency program. The response options ranged from “not a barrier” to “major barrier” on a 4-point Likert scale. The “moderate” and “major” barriers were collapsed into one category.

Similarly, the residents were asked about barriers they faced in providing dietary counseling to their patients using the following: “Please indicate to what extent each of the following factors are barriers to learning about nutrition education in the outpatient setting at your residency program”. The 12 barriers were adapted from the PMAAQ scale, and included “lack of personal interest”, “unclear evidence for nutrition interventions” for example. The response options ranged from “not important” to “very important” on a 5-point Likert scale 32. The “important” and “very important” were collapsed into one category.

**Covariates**

Covariates included age, gender, post graduate year (PGY1-4), location of program (state), type of program (community based/community based-university affiliated/university based/other), presence of primary care track in the program (yes/no), being the primary care track (yes/no), intended career path (primary care/subspecialty/undecided/other), prior coursework in nutrition outside of medical education (yes/no), location of medical school (US/foreign) and nutrition education in medical school (yes/no), via separate course, lectures, longitudinal integrated curriculum, and online modules.

**STATISTICAL ANALYSIS**

Statistical Analyses were conducted using Stata/IC 12.1. Missing data were excluded. A p value of 0.05 was used to test for statistical significance.

**Descriptive Analyses**

The descriptive statistics for the program directors were calculated as frequency, mean and SD. The resident sample descriptive statistics were reported by the two key independent variables (the number of instruction methods used to provide nutrition education and amount of education) as well as by the dependent variable (frequency of dietary counseling). Descriptive analyses included tests of associations between sample characteristics and both outcome variables (number of instruction methods and amount of training) and predictor variables (daily fruit and vegetable intake) using t-tests, chi squares, and analysis of variance (ANOVA’s) as appropriate.

**Hypotheses Testing**
Bivariate and multivariate linear regression models were used to test the associations between the predictor variables (formal education, amount of education and number of instruction methods) and the outcome variable (frequency of counseling). First, we regressed the outcome variable on each predictor variable separately in a bivariate model. Next, we regressed the same outcome variable on all predictors in a single multivariate model while also controlling for age, gender, post-graduate year, type of program, presence of primary care track, being in a primary care track, intended path, prior nutrition education before medical school and in medical school, and location of medical school education and location of residency program. These were chosen as covariates based on prior literature review and bivariate associations from the descriptive analyses. A standardized beta coefficient was used to report the associations to account for differences in units of the variables.

Moderation of the effect of each predictor variable by fruit and vegetable intake and program support for healthy eating was tested using interaction terms (e.g. amount of education x fruit and vegetable intake, amount of education x resident meals, and amount of education x encouragement of healthy eating habits) in the multivariate analyses. Non-significant interaction terms were dropped. Mediation of the pathways between predictor variables and the outcome by self-efficacy was tested using Sobel’s test.

**Barriers**

Frequency of residents’ endorsement of barriers as important to very important and frequency of program directors’ endorsement of barriers as moderate to major were calculated. Pearson’s correlation was computed between barriers reported by PDs and the training predictor variables (number of instruction methods and amount of training provided). Similarly Pearson’s correlation was computed between barriers reported by residents to dietary counseling and frequency of counseling.

**RESULTS**

We sent emails to 393 program directors. We received 40 responses, giving us a response rate of 10.4% (40/393). Thirty-eight completed the survey, yielding a completion rate of 95% (38/40). Table I shows the sample characteristics of the educators. Thirty-one respondents were program directors and 9 were associate program directors. We received responses from all the regions in the country (30% of responses from the West and less than 30% of responses from each of the other three regions). Most of the educators felt that nutrition education was moderately (41%) or somewhat important (56.4%), but only one educator reported the presence of a formal curriculum on this topic at his or her program. Less than 50% of the educators reported providing “quite a bit/extensive training in dietary counseling” at their programs on all the cardiovascular risk factors except diabetes. The mean number of instruction methods was 5.8 (min=2, max 9) with SD of 1.6. The top four instruction methods for nutrition education were teaching by outpatient preceptors (95%), teaching on inpatient wards (79%), providing online material (79%) and providing the residents a resource list of texts (60.5%). The mean fruit and vegetable intake of the educators was 5.3 servings a day.

One hundred and thirty-three IM residents took the survey from across the nation. Since we aimed for the entire pool of 24794 IM residents in the nation\(^3\), the response rate was 0.5% (133/24794). One hundred and fifteen residents completed the survey, yielding a survey completion rate of 86.5% (115/133). We found that only 10.4% of the residents reported receiving nutrition education via a formal curriculum and 61% of residents reported having none or little bit of training in nutrition across the four diseases. The me-
The median number of instruction methods they used to learn was 3 (min=3, max=7). The most frequently used instruction methods for learning were using online materials (80%), preceptor teaching in the outpatient setting (67%), inpatient teaching (60%), and using a text (63%). Thirty eight percent of residents reported counseling their patients “none of the time” or “rarely”, 48% reported counseling “half the time,” and 22% reported counseling “often or always”. The mean fruit and vegetable intake of the residents was 3.2 servings a day.

**Bivariate Descriptive Analyses**

Table II shows the sample characteristics of the residents by the two categories of total number of instruction methods they reported using to learn about nutrition during residency. Eight residents had missing data for this predictor variable. Residents were more likely to report a greater number of instruction methods if they belonged to a program in the Northeast and West vs (Midwest and Southern regions), and if they attended medical school abroad (vs medical school in the US).

Table III shows the sample characteristics by the two categories of amount of nutrition education the residents reported receiving. Eight residents had missing information on this variable. Residents were more likely to report a higher amount of nutrition training if they belonged to a program in the Northeast and Western regions vs (Midwest and Southern regions), if their program was a community based program (vs a university affiliated community program or a university based program), and if they went to medical school abroad (vs medical school in the US).

Table IV shows the sample characteristics of the residents by three categories of self-reported frequency of patient counseling. Twelve residents had missing information on this variable. Residents reported counseling their patients more frequently if their program was in Northeast and Midwest (vs West and South), and if the program had a primary care track.

**Hypotheses Testing**

Table V shows the results of the bivariate and multivariate linear regression models. In the bivariate linear regression models, two of the three predictors (amount of training received, and number of instruction methods used) were positively associated with frequency of counseling patients (standardized betas=0.39 and 0.43 respectively, p’s<0.001). These two predictors continued to be positively associated with frequency of patient counseling (standardized betas=0.20 and 0.26 respectively, p’s<=0.05) in the multivariate linear regression as well. In addition, total fruit and vegetable intake (standardized beta=0.24, p<0.001) and nutrition education in medical school (standardized beta=0.20, p<0.05) were also found to be positively associated with frequency of counseling.

Personal fruit and vegetable intake, healthy meals by programs and program encouragement for residents’ healthy eating habits, did not significantly moderate the relationship between the three predictor variable and outcome variable. Interaction terms were thus dropped.

Figure I shows the mediation analyses, which revealed significant bivariate associations between the two predictors (amount of education and number of instruction methods) and self-efficacy, and self-efficacy and the outcome variable (counseling frequency). Tests of significance for the indirect pathways between the predictors and outcome variables via self-efficacy were marginally significant (p=0.07), tentatively supporting mediation.

**Barriers**

Table VI shows the barriers that educators faced in providing nutrition education to the residents. Competing curricular demands,
lack of physician faculty with expertise in nutrition, inadequate financial resources and lack of administrative support were found to be the top four moderate to major barriers. Lack of faculty expertise was negatively associated with number of instruction methods used in the program ($r=-0.33, p=0.04$).

Table VII shows the barriers that residents faced in counseling their patients on nutrition. Lack of time, patients coming in for a different purpose, and lack of patient interest in nutrition were found to be the most important barriers. Even though only minority of residents reported the lack of clinic preceptor’s interest in nutrition and lack of personal interest in providing dietary counseling as being important barriers, these two barriers were negatively correlated with frequency of counseling ($r=-0.18, p=0.05; r=-0.19, p<0.05$) respectively.

**DISCUSSION**

Our national needs assessment of nutrition education in Internal Medicine residency showed that while the majority of educators and residents felt that nutrition education was important, most of the of programs did not provide adequate outpatient nutrition education in diet-related diseases (hypertension, obesity, dyslipidemia and diabetes). Only a minority of residents frequently counselled their patients with diet related chronic diseases. Multimodal nutrition education during residency and medical school as well as personal fruit and vegetable intake were found to be independent predictors of residents’ frequency of counseling their patients. Our results tentatively suggested that self-efficacy partially mediated the pathway between nutrition education in residency and counseling practices. Educators faced competing curricular demands in providing education and lacked expertise in teaching nutrition. Residents faced time constraints, lack of faculty interest and patient factors such as lack of interest as barriers to counseling their patients.

**Nutrition education in residency**

Over the past two decades, studies have consistently shown that nutrition education is valued in the medical community, but not adequately covered in medical training $^8,11$. Our study confirms this finding at the national level in Internal Medicine as well, which is concerning given that this specialty produces the largest number of physicians each year$^{16}$, most of whom will see patients in the outpatient setting (primary care or sub-specialty)$^{17}$. In line with the USPSTF and ACC/AHA recommendations for dietary intervention for diet related cardiovascular risk factors$^{2,38}$, we examined the state of nutrition education across all four cardiovascular risk factors. Majority of the residents reported having none or little bit of training in nutrition across the four diseases. Further, only one IM program in our study provided a formal curriculum in nutrition education for cardiovascular risk factors. This may be a conservative estimate due to our small sample size and/ because our question on a formal curriculum encompassed all four cardiovascular risk factors whereas, programs might have curricula dedicated to single risk factors.

Several teaching instruction methods, other than a formal curriculum, have been recently proposed to teach nutrition during residency that range from one day-one week immersion courses to longitudinal exposure and from required rotations to completing online modules$^{39}$. Contrary to these new proposals and older studies$^{20, 21}$, we found that currently, the most frequently used instruction methods in IM programs are texts, preceptor teaching in the outpatient setting, inpatient teaching and online sources. We found differences by region and type of residency program in the utilization of multimodal education by the residents. Associations between each method and counseling
frequency will be addressed in future publications.

Residents’ dietary counseling practices

Our study suggested that only 22% of residents counsel their patients often/always on dietary changes, which is unfortunately similar to numbers reported ten year ago, highlighting the unchanged worrisome state of physician involvement in dietary interventions for chronic diseases. Our study is the first to our knowledge that provides evidence for nutrition education, as opposed to mere assumptions or speculations based on theoretical grounds. We showed that the use of multiple instruction modes in residency is associated with higher frequency of dietary counseling by residents. This finding supports a multimodal exposure to nutrition rather than a single point of exposure, similar to the proposal for longitudinal incorporation of nutrition into the medical school curriculum. Nutrition education in medical school was also a predictor of counseling practices, but based on the effect sizes as shown in the results, nutrition education in residency may be a more important predictor of counseling practices. Contrary to a previous study which examined only bivariate associations, we did not find differences in frequency of counseling by choice of career path or location of medical school in our bivariate or multivariate models. Rather we found differences in counseling frequency by presence of primary care track and geographical regions in bivariate tests, but these associations disappeared in the multivariate models.

In addition to nutrition education, we found that residents who had better personal dietary habits (fruit and vegetable intake) counseled their patients more. Several studies have reported associations between practicing physicians’ health and patient counseling outcomes. Our study is the first to our knowledge that has explored physician-in-training i.e. residents’ dietary habits using a validated screener. We found that residents had a lower mean intake of fruits and vegetables per day than educators’ daily intake. But reassuringly, we found that residents felt that their programs provided healthy meals and encouraged a healthier diet. Therefore, other factors such as high stress levels need to be explored to explain residents’ unhealthy eating habits and to identify ways to promote a healthier diet among the residents.

Previous studies have examined the relationship of self-efficacy to education and counseling practices in various ways. One study found it to be a predictor of counseling practices but another found a negative association between nutrition education before residency and resident self-efficacy. We add to the literature by proposing self-efficacy as a mediator of the pathway between education during residency and counseling practices. Our results showed that number of instruction methods and amount of nutrition education were predictors of self-efficacy and self-efficacy was a predictor of counseling practices. Tests of the indirect pathways from education to counseling via self-efficacy tentatively supported mediation. This, again, supports the need for nutrition education in residency. Moreover, our self-efficacy scale, having a higher Cronbach alpha, shows an improvement over the existing PMMAQ scale. Predictors of self-efficacy and mediation of other predictors, such as personal daily intake of fruits and vegetables, will be presented in future publications.

Barriers

Consistent with older studies from the 1990s, PD responses indicated that lack of physician faculty expertise remains a key barrier to nutrition education in residency programs even today. In addition, similar to previous studies, competing curricular demands, inadequate financial resources and lack of administrative support were found to be major barriers for IM educators in our study as well as well. However, contrary to
older studies we did not find that lack of evidence for nutrition interventions or inadequate reimbursement for dietary counseling was a major barrier to providing nutrition education. These findings are reassuring given the recent plethora of evidence for dietary changes in cardiovascular risk management\(^{38}\) and the Affordable Care Act’s focus on disease prevention. Thus, the ACGME needs to support institutional reform by making room for prevention and nutrition education in IM residency curricula, which would then prioritize financial and administrative resources for nutrition education, so that we can educate more residents, and thereby generate more role models.

With regard to counseling patients on diet, similar to previous studies\(^{10, 25}\), lack of time in the clinic remains a key barrier for the residents even today. In addition, residents in our study felt that patients were not interested in nutrition education, highlighting the need for promoting nutrition in disease prevention and treatment among the general public. Furthermore, lack of clinic preceptor’s interest in nutrition was also negatively associated with residents’ counseling frequency. So while educators may not have control over logistical and public health nutrition issues directly, they can certainly take an interest in nutrition and encourage the residents to counsel their patients, which would indirectly generate interest among the patients as well.

**Limitations**

Our study has several limitations. Despite extensive efforts to ensure a maximal response rate, our sample size remained small. Nonetheless, our study was conducted at the national level and we did get responses from all regions of the country making the results generalizable. The west was overrepresented, likely due to the author’s location, so regional differences have to be interpreted with caution. The educators who responded were mostly program directors who may not have been as familiar with outpatient nutrition education as associate program directors, so their responses may be inaccurate, thereby underestimating/overestimating the provision of nutrition education.

The use of surveys for data collection results in non-response bias, meaning that non-responders may have systematically differed in their experiences with nutrition education and counseling from the responders. However, we postulate that while the data from the non-responders could have changed our sample characteristics, the associations we examined would have remained similar regardless. Another limitation is the low accuracy of self-reported data since we did not use verification by chart audits or observation. But again we postulate that, while increase accuracy of response would have changed our sample characteristics, the associations we examined would have remained similar regardless. Next, the effect sizes for our associations were small as well. Finally, our cross-sectional study can only suggest association not causality between nutrition education and patient counseling. However, our multivariate analysis did address a lot of potential confounders.

**Recommendations and next steps**

This study’s findings support multimodal nutrition education along with promotion of residents’ healthy eating habits in IM residency programs. Ways to address barriers faced by educators and barriers faced by the residents in having a healthier diet need to be explored. Causal associations between the interventions (multimodal nutrition education and residents’ personal diet) and resident counseling practices need to be explored by means of experimental studies. In addition, future researchers should focus on addressing barriers to dietary counseling, examine the quality of the counseling practices by means of observation and include patients’ perspectives as well. Ultimately, predictors of favorable patient outcomes
such as compliance with dietary advice, and changes in BMI, blood pressure, and cholesterol markers, need to be identified to ensure that the physician's efforts are directed towards reducing the burden of diet-related chronic diseases.

REFERENCES


Table I. Sample characteristics of the educators and the Internal Medicine programs they belonged to

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<tr>
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<th>N (%)</th>
</tr>
</thead>
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</tr>
<tr>
<td>Associate Program Director</td>
<td>9 (22.2)</td>
</tr>
<tr>
<td><strong>Region:</strong></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>11 (27.5)</td>
</tr>
<tr>
<td>Midwest</td>
<td>7 (17.5)</td>
</tr>
<tr>
<td>South</td>
<td>10 (25)</td>
</tr>
<tr>
<td>West</td>
<td>12 (30)</td>
</tr>
<tr>
<td><strong>Type of program:</strong></td>
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</tr>
<tr>
<td>Community based</td>
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<td>Community based- University Affiliated</td>
<td>19 (47.5)</td>
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<td>University</td>
<td>14 (35)</td>
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<tr>
<td>Other:</td>
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<tr>
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<td><strong>Presence of primary care track</strong></td>
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</tr>
<tr>
<td><strong>% of residents entering primary care:</strong></td>
<td></td>
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<tr>
<td>0-20</td>
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<tr>
<td>21-40</td>
<td>11 (27.5)</td>
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<td>41-60</td>
<td>5 (12.5)</td>
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<td>61-80</td>
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<td>81-100</td>
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<tr>
<td>Somewhat</td>
<td>16 (40)</td>
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<tr>
<td>Moderately important</td>
<td>22 (55)</td>
</tr>
<tr>
<td>Extremely important</td>
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<td><strong>Presence of formal curriculum</strong></td>
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<td>Reported providing “quite a bit”/ “extensive” training in dietary counseling for:</td>
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</tr>
<tr>
<td>obesity</td>
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<tr>
<td>hypertension</td>
<td>18 (45)</td>
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<tr>
<td>dyslipidemia</td>
<td>18 (45)</td>
</tr>
<tr>
<td>diabetes</td>
<td>21 (52.5)</td>
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<td><strong>Instruction methods used to teach:</strong></td>
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<tr>
<td>Activity</td>
<td>Count (Percentage)</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------------------</td>
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<tr>
<td>Teaching by preceptors in primary care clinic</td>
<td>36 (90)</td>
</tr>
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<td>Teaching on inpatient wards</td>
<td>30 (79)</td>
</tr>
<tr>
<td>Providing online material</td>
<td>30 (79)</td>
</tr>
<tr>
<td>Providing resource list of texts</td>
<td>23 (57.5)</td>
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<tr>
<td>Participating in specialty clinic that focusses on nutrition. Specify:</td>
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<td>Bariatric Clinic</td>
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<td>Diabetes Clinic/Education</td>
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<td>“PHASE”</td>
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<td>Medical Home immersion</td>
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<td>Lipid clinic, obesity clinic</td>
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<td>Endocrine Clinic</td>
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</tr>
<tr>
<td>Nutrition Clinic</td>
<td>1</td>
</tr>
<tr>
<td>Scholarly projects (e.g. quality improvement/curricula improvement)</td>
<td>14 (35)</td>
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<td>Elective offering, Specify:</td>
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<td>Bariatric Surgery</td>
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<tr>
<td>Diabetes</td>
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<tr>
<td>Nutrition</td>
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<tr>
<td>Endocrine</td>
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<td>Integrative Medicine</td>
<td>1</td>
</tr>
<tr>
<td>Obesity clinic</td>
<td>1</td>
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<tr>
<td>Other, Specify:</td>
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<td>Diabetes educator</td>
<td>1</td>
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<td>Noon conference lecture</td>
<td>1</td>
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<td>University based nutrition program</td>
<td>1</td>
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<tr>
<td>Structured individual study with selected reading material</td>
<td>8 (20)</td>
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<tr>
<td>Structured individual study with educational CD</td>
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<tr>
<td>Attendance at a National nutrition conference</td>
<td>1 (2.5)</td>
</tr>
<tr>
<td>Total Fruit and Vegetable Intake (mean ± SD)</td>
<td>5.3 ± 2.8</td>
</tr>
<tr>
<td>&gt;=5 servings of fruit and vegetable intake a day</td>
<td>24 (60)</td>
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Table II. Resident sample characteristics by the number of instruction methods used to learn about nutrition during Internal Medicine residency training

<table>
<thead>
<tr>
<th>Number of instruction methods</th>
<th>&lt;=3</th>
<th>&gt;3</th>
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<tbody>
<tr>
<td>N (%)</td>
<td>70 (56)</td>
<td>55 (44)</td>
</tr>
<tr>
<td>Age* (mean ± SD in years)</td>
<td>29 ± 3</td>
<td>30 ± 3</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31 (56.4)</td>
<td>24 (43.6)</td>
</tr>
<tr>
<td>Female</td>
<td>39 (55.7)</td>
<td>31 (44.3)</td>
</tr>
<tr>
<td>Training level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post Graduate Year 1</td>
<td>29 (55.8)</td>
<td>23 (44.2)</td>
</tr>
<tr>
<td>Post Graduate Year 2</td>
<td>22 (64.7)</td>
<td>12 (35.3)</td>
</tr>
<tr>
<td>Post Graduate Year 3</td>
<td>12 (44.4)</td>
<td>15 (55.6)</td>
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<tr>
<td>Post Graduate Year 4</td>
<td>7 (58.3)</td>
<td>5 (41.7)</td>
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<tr>
<td>Career path</td>
<td></td>
<td></td>
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<tr>
<td>Primary Care</td>
<td>19 (57.6)</td>
<td>14 (42.4)</td>
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<td>Subspecialty</td>
<td>35 (53)</td>
<td>31 (47)</td>
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<td>6 (37.5)</td>
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<td>6 (60)</td>
<td>4 (40)</td>
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<td>Region*</td>
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<td>24 (51)</td>
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<tr>
<td>Midwest</td>
<td>16 (66.7)</td>
<td>8 (33.3)</td>
</tr>
<tr>
<td>South</td>
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<td>8 (27.6)</td>
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<tr>
<td>West</td>
<td>9 (39.1)</td>
<td>14 (60.8)</td>
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<tr>
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<tr>
<td>University based</td>
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<tr>
<td>Presence of primary care track</td>
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<tr>
<td>Yes</td>
<td>44 (52.4)</td>
<td>40 (47.6)</td>
</tr>
<tr>
<td>no</td>
<td>26 (63.4)</td>
<td>15 (36.6)</td>
</tr>
<tr>
<td>In primary care track (of those in programs with a PC track)</td>
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<td></td>
</tr>
<tr>
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<td>16 (59.3)</td>
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<td>25 (42.1)</td>
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<td>US</td>
<td>52 (61.2)</td>
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<td>23 (55)</td>
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<tr>
<td>Before medical school*</td>
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</tr>
<tr>
<td>In medical school</td>
<td>42 (53.2)</td>
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<tr>
<td>Daily fruit and vegetable intake (Mean servings ± SD)</td>
<td>3.6 ± 2.6</td>
<td>4.9 ± 4.9</td>
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*p<0.05
Table III. Resident sample characteristics by amount of outpatient nutrition education received during Internal Medicine residency training

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<td>Age (mean ± SD in years)</td>
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<td>28 (50.9)</td>
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<tr>
<td>Female</td>
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<tr>
<td>Post Graduate Year 1</td>
<td>28 (53.9)</td>
<td>24 (46.1)</td>
</tr>
<tr>
<td>Post Graduate Year 2</td>
<td>22 (64.7)</td>
<td>12 (35.3)</td>
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<tr>
<td>Post Graduate Year 3</td>
<td>13 (48.2)</td>
<td>14 (51.8)</td>
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<td>Post Graduate Year 4</td>
<td>6 (50)</td>
<td>6 (50)</td>
</tr>
<tr>
<td>Career path</td>
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<tr>
<td>Primary Care</td>
<td>22 (66.7)</td>
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<tr>
<td>Speciality</td>
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<tr>
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<td>6 (37.5)</td>
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<td>Other</td>
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<td>3 (30)</td>
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<td>Northeast</td>
<td>23 (48.9)</td>
<td>24 (51.1)</td>
</tr>
<tr>
<td>Midwest</td>
<td>15 (62.5)</td>
<td>9 (37.5)</td>
</tr>
<tr>
<td>South</td>
<td>21 (72.4)</td>
<td>8 (27.6)</td>
</tr>
<tr>
<td>West</td>
<td>8 (34.8)</td>
<td>15 (65.2)</td>
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<td>22 (62.9)</td>
</tr>
<tr>
<td>Community based- University Affiliated</td>
<td>26 (53.1)</td>
<td>20 (40.8)</td>
</tr>
<tr>
<td>University</td>
<td>32 (69.6)</td>
<td>14 (30.4)</td>
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<tr>
<td>Presence of primary care (PC) track</td>
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<tr>
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<td>47 (56)</td>
<td>40 (44)</td>
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<tr>
<td>No</td>
<td>22 (53.7)</td>
<td>21 (46.3)</td>
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<tr>
<td>In PC track (of those in programs with a PC track)</td>
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<td>14 (51.8)</td>
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<td>24 (40.3)</td>
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<tr>
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<td>In medical school</td>
<td>44 (55.7)</td>
<td>35 (44.3)</td>
</tr>
<tr>
<td>Daily fruit and vegetable intake (Mean servings ± SD)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>3.9 ± 2.8</td>
<td>4.5 ± 4.9</td>
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</table>

*p<0.05

TABLE IV. Resident sample characteristics by frequency of nutrition counseling in the outpatient setting
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<tr>
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<th>Never/Rarely</th>
<th>Sometimes/Half the time</th>
<th>Often/Very often/Always</th>
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<td>56 (48.3)</td>
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<td>Age (mean ± SD in years)</td>
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<td>29.6 ± 3.2</td>
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<td>Gender</td>
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<tr>
<td>Male</td>
<td>15 (29.4)</td>
<td>24 (47.1)</td>
<td>12 (23.5)</td>
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<tr>
<td>Female</td>
<td>23 (35.4)</td>
<td>32 (49.2)</td>
<td>10 (15.4)</td>
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<tr>
<td>Training level</td>
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<td></td>
</tr>
<tr>
<td>Post Graduate Year 1</td>
<td>16 (34)</td>
<td>21 (44.7)</td>
<td>10 (21.3)</td>
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<tr>
<td>Post Graduate Year 2</td>
<td>13 (39.4)</td>
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<td>4 (12.1)</td>
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<td>6 (24)</td>
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<td>Career path</td>
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<td>8 (25)</td>
<td>21 (65.6)</td>
<td>3 (9.4)</td>
</tr>
<tr>
<td>Subspecialty</td>
<td>22 (36.1)</td>
<td>25 (41)</td>
<td>14 (22.9)</td>
</tr>
<tr>
<td>Undecided</td>
<td>5 (33.3)</td>
<td>6 (40)</td>
<td>7 (26.7)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (37.5)</td>
<td>4 (50)</td>
<td>1 (12.5)</td>
</tr>
<tr>
<td>Region*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>9 (20.4)</td>
<td>24 (54.6)</td>
<td>11 (25)</td>
</tr>
<tr>
<td>Midwest</td>
<td>3 (13)</td>
<td>15 (65.2)</td>
<td>5 (21.7)</td>
</tr>
<tr>
<td>South</td>
<td>14 (53.9)</td>
<td>9 (34.6)</td>
<td>3 (11.5)</td>
</tr>
<tr>
<td>West</td>
<td>11 (52.4)</td>
<td>7 (33.3)</td>
<td>3 (14.3)</td>
</tr>
<tr>
<td>Type of program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community based</td>
<td>8 (26.7)</td>
<td>14 (46.6)</td>
<td>8 (26.7)</td>
</tr>
<tr>
<td>Community based- University</td>
<td>17 (38.7)</td>
<td>17 (38.7)</td>
<td>10 (22.7)</td>
</tr>
<tr>
<td>Affiliated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>13 (31)</td>
<td>25 (59.5)</td>
<td>4 (9.5)</td>
</tr>
<tr>
<td>Presence of primary care (PC) track*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>20 (25.6)</td>
<td>44 (56.4)</td>
<td>14 (18)</td>
</tr>
<tr>
<td>No</td>
<td>18 (47.4)</td>
<td>12 (31.6)</td>
<td>8 (21)</td>
</tr>
<tr>
<td>In PC track (of those in programs with a PC track)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5 (19.2)</td>
<td>16 (61.5)</td>
<td>5 (19.2)</td>
</tr>
<tr>
<td>No</td>
<td>15 (28.9)</td>
<td>28 (53.8)</td>
<td>9 (17.3)</td>
</tr>
<tr>
<td>Medical Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>29 (36.7)</td>
<td>39 (49.4)</td>
<td>11 (13.9)</td>
</tr>
<tr>
<td>Foreign</td>
<td>9 (24.3)</td>
<td>17 (46)</td>
<td>15 (29.7)</td>
</tr>
<tr>
<td>Prior nutrition education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before medical school</td>
<td>8 (42.1)</td>
<td>8 (42.1)</td>
<td>3 (15.8)</td>
</tr>
<tr>
<td>In medical school</td>
<td>20 (26.3)</td>
<td>41 (54)</td>
<td>20 (19.7)</td>
</tr>
<tr>
<td>Daily fruit and vegetable intake (Mean servings ± SD)</td>
<td>3.4 ± 2.1</td>
<td>4 ± 2.4</td>
<td>7.5 ± 6.7</td>
</tr>
</tbody>
</table>

*p<0.05
TABLE V. Bivariate and Multivariate predictors of residents’ frequency of dietary counseling in the outpatient setting

<table>
<thead>
<tr>
<th></th>
<th>Standardized Beta</th>
<th>Standard Error</th>
<th>P value</th>
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<tbody>
<tr>
<td><strong>Bivariate Association</strong></td>
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<tr>
<td>Formal Curriculum</td>
<td>-0.98</td>
<td>0.37</td>
<td>0.79</td>
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<tr>
<td>Amount of training</td>
<td>0.39</td>
<td>0.18</td>
<td>0.00</td>
</tr>
<tr>
<td>Number of instruction methods</td>
<td>0.43</td>
<td>0.06</td>
<td>0.00</td>
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<tr>
<td><strong>Multivariate Association</strong></td>
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<td></td>
</tr>
<tr>
<td>Amount of training</td>
<td>0.20</td>
<td>0.21</td>
<td>0.05</td>
</tr>
<tr>
<td>Number of instruction methods</td>
<td>0.26</td>
<td>0.08</td>
<td>0.02</td>
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<tr>
<td>Total fruit and Vegetable Intake</td>
<td>0.24</td>
<td>0.03</td>
<td>0.00</td>
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<tr>
<td>Nutrition Education in Medical School</td>
<td>0.20</td>
<td>0.24</td>
<td>0.03</td>
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<tr>
<td>Post Graduate level</td>
<td>0.19</td>
<td>0.12</td>
<td>0.06</td>
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<tr>
<td>Age</td>
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<td>0.04</td>
<td>0.62</td>
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<tr>
<td>Gender</td>
<td>0.09</td>
<td>0.21</td>
<td>0.31</td>
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<tr>
<td>Path</td>
<td>0.13</td>
<td>0.14</td>
<td>0.15</td>
</tr>
<tr>
<td>Type of Program</td>
<td>-0.10</td>
<td>0.17</td>
<td>0.32</td>
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<tr>
<td>Presence of primary care track</td>
<td>0.03</td>
<td>0.23</td>
<td>0.72</td>
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<tr>
<td>Being in primary care track</td>
<td>0.08</td>
<td>0.31</td>
<td>0.40</td>
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<tr>
<td>Medical Education in the US</td>
<td>-0.03</td>
<td>0.28</td>
<td>0.78</td>
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<tr>
<td>Nutrition education before medical school</td>
<td>0.10</td>
<td>0.31</td>
<td>0.28</td>
</tr>
<tr>
<td>Region</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Northeast (as reference)</td>
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<td></td>
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<tr>
<td>Midwest</td>
<td>0.36</td>
<td>0.30</td>
<td>0.71</td>
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<tr>
<td>South</td>
<td>-0.16</td>
<td>0.31</td>
<td>0.13</td>
</tr>
<tr>
<td>West</td>
<td>-0.16</td>
<td>0.32</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Figure I. Mediation Analysis

\[
\text{Number of Instruction} \rightarrow \beta=0.06^* \rightarrow \text{Self-efficacy} \rightarrow \beta=0.76^* \rightarrow \text{Frequency of Counseling} \]

\[
\text{Amount of education} \rightarrow \beta=0.17^* \rightarrow \text{Self-efficacy} \rightarrow \beta=0.78^* \rightarrow \text{Frequency of Counseling} \]

*p<0.05
### TABLE VI. Barriers faced by program directors in providing nutrition education

<table>
<thead>
<tr>
<th>Barrier</th>
<th>% reporting moderate-major barrier</th>
<th>Correlation with amount of training provided</th>
<th>P value</th>
<th>Correlation with number of instruction methods used</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competing curricular demands</td>
<td>80</td>
<td>-0.22</td>
<td>0.19</td>
<td>-0.15</td>
<td>0.36</td>
</tr>
<tr>
<td>Lack of physician faculty with expertise in nutrition</td>
<td>76</td>
<td>-0.13</td>
<td>0.45</td>
<td>-0.33</td>
<td>0.04</td>
</tr>
<tr>
<td>Inadequate financial resources for program development</td>
<td>61</td>
<td>0.12</td>
<td>0.47</td>
<td>-0.06</td>
<td>0.73</td>
</tr>
<tr>
<td>Lack of administrative support</td>
<td>61</td>
<td>0.05</td>
<td>0.76</td>
<td>-0.08</td>
<td>0.63</td>
</tr>
<tr>
<td>Lack of faculty interest</td>
<td>54</td>
<td>0.03</td>
<td>0.83</td>
<td>-0.17</td>
<td>0.33</td>
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<td>Lack of insurance reimbursement for nutrition interventions</td>
<td>48</td>
<td>-0.04</td>
<td>0.81</td>
<td>0.008</td>
<td>0.96</td>
</tr>
<tr>
<td>Lack of resident interest</td>
<td>43</td>
<td>0.21</td>
<td>0.20</td>
<td>0.06</td>
<td>0.69</td>
</tr>
<tr>
<td>Unclear evidence base for nutrition interventions</td>
<td>33</td>
<td>0.21</td>
<td>0.20</td>
<td>-0.11</td>
<td>0.53</td>
</tr>
<tr>
<td>Lack of ACGME requirement</td>
<td>26</td>
<td>0.10</td>
<td>0.55</td>
<td>-0.09</td>
<td>0.59</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Teaching nutrition takes time</td>
<td>22</td>
<td>-0.22</td>
<td>0.18</td>
<td>0.02</td>
<td>0.87</td>
</tr>
<tr>
<td>2. Work flow challenges</td>
<td></td>
<td></td>
<td></td>
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</table>
### Table VII. Barriers faced by residents in counseling patients on nutrition

<table>
<thead>
<tr>
<th>Barrier</th>
<th>% reporting as important/ very important</th>
<th>Correlation with frequency of counseling provided</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of time</td>
<td>69</td>
<td>-0.12</td>
<td>0.20</td>
</tr>
<tr>
<td>Patients come for a different purpose</td>
<td>59</td>
<td>-0.17</td>
<td>0.08</td>
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<tr>
<td>Lack of patient interest in nutrition</td>
<td>52</td>
<td>0.08</td>
<td>0.40</td>
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<tr>
<td>Lack of systems for tracking and prompting nutrition counseling</td>
<td>46</td>
<td>-0.05</td>
<td>0.55</td>
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<tr>
<td>Lack of proper patient education materials</td>
<td>45</td>
<td>-0.18</td>
<td>0.06</td>
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<tr>
<td>Lack of availability of health educators</td>
<td>45</td>
<td>-0.13</td>
<td>0.16</td>
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<tr>
<td>Insufficient reimbursement</td>
<td>33</td>
<td>-0.13</td>
<td>0.17</td>
</tr>
<tr>
<td>Lack of clinic preceptor's interest in nutrition</td>
<td>31</td>
<td>-0.18</td>
<td>0.05</td>
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<tr>
<td>Cultural differences between you and your patients</td>
<td>25</td>
<td>0.01</td>
<td>0.91</td>
</tr>
<tr>
<td>Lack of personal interest in providing nutrition counseling</td>
<td>21</td>
<td>-0.19</td>
<td>0.04</td>
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</table>