March 4, 2020

TO: ENRIQUE J. LAVERNIA, PROVOST AND EXECUTIVE VICE CHANCELLOR
STEVE GOLDSTEIN, VICE CHANCELLOR, HEALTH AFFAIRS
JAMES STEINTRAGER, CHAIR, ACADEMIC SENATE

RE: Initial Funding Request Related to the Developing School of Population/Public Health

Submitted for your review, please find attached three department proposals and a description of the state of the Department of Population Health and Disease Prevention. The table below presents an overview of the actions included in these four documents.

<table>
<thead>
<tr>
<th>Academic Unit</th>
<th>Unit Action(s)</th>
<th>Degree Program Action(s)</th>
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<tbody>
<tr>
<td>Department of Epidemiology</td>
<td>• Transfer the department from School of Medicine to the Program in Public Health&lt;br&gt;• Change name to Department of Epidemiology and Biostatistics</td>
<td>M.S. and Ph.D. programs in epidemiology stay with the department, but move from the School of Medicine to the Program in Public Health</td>
</tr>
<tr>
<td>Department of Environmental and Occupational Health</td>
<td>• Establish new department in the Program in Public Health</td>
<td>M.S. and Ph.D. programs in environmental health sciences move from the Division of Environmental Health Sciences in the School of Medicine to the Department of Environmental and Occupational Health in the Program in Public Health</td>
</tr>
<tr>
<td>Department of Health, Society and Behavior</td>
<td>• Establish new department in the Program in Public Health</td>
<td>None</td>
</tr>
<tr>
<td>Department of Population Health and Disease Prevention</td>
<td>• None; however, departmental faculty are submitting for the Senate’s information a state of the department description</td>
<td>None</td>
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</table>

The proposals detail the rationale for the changes, as well as the academic programs, faculty, staff, administration, and resources of each department. All actions have the full support of the faculty and relevant administrators, demonstrated by accompanying letters and voting details as follows in the table below. We request approval of all actions related to the academic units and programs to be effective July 1, 2020, if possible. This timeline would fit with the change in fiscal years and, more importantly, would enable us to move beyond current challenges and bring faculty together in productive ways related to the larger vision for the soon-to-be-proposed School of Population and Public Health.
Establishing the four departments under an accredited school of public health will build a critical mass of faculty, students, and research foci to synergize and grow strong interdisciplinary programs, shared resources, initiatives, and opportunities such that the future school can compete nationally and internationally against other established schools.

Please let me know if I can provide any additional information regarding this request.

Sincerely,

Bernadette Boden-Albala, MPH, DrPH
Director and Founding Dean

C: Hal Stern, Vice Provost, Academic Planning
   Tracy Molidor, Associate Vice Provost, Academic Planning
   Katherine Gallardo, Interim Vice Chancellor, Budget & Finance
EXECUTIVE SUMMARY

This document describes state of the Department of Population Health and Disease Prevention (DPHDP). DPHDP is the only department in the Program in Public Health (PPH). As faculty plan for a future School of Population and Public Health at UCI and in consideration of the current faculty composition and changes in the field of public health over the last decade, the time is right to organize the PPH for its next stage of development. The addition of new departments in the PPH will include movement of some DPHDP faculty who will request to be aligned with other departments in the program and future school. This document provides assurance that the core mission of DPHDP remains unchanged. The 14 faculty remaining in DPHDP will continue to support the mission and vision of the department.

The DPHDP was strategically formed to provide expertise in many areas of public health. As the department grew, there were faculty clusters related to distinct discipline-specific philosophy and methodology. The formation of the Department of Health, Society and Behavior (DHSB) represents the next natural step in growth towards a school. The formation of DHSB provides an opportunity for faculty to aggregate around social determinants of health and as such, provide consistent guidance around appointments, recruitment, tenure, and promotion. The important interdisciplinary collaborations which bore out of one faculty in DPHDP will remain despite a number of faculty members moving to DHSB. DPHDP remains a strong and productive
department and research unit. Both departments will have resources available to continue their important missions.

The DPHDP was established in July 2008 as the sole academic unit within the PPH to provide formal academic structure for the multidisciplinary pursuit of a public health mission and administration of degree programs. This forward-thinking strategy promoted interdisciplinary research and growth of public health. We have now reached a critical size and junction whereby faculty are interested in forming additional units with more disciplinary focus.

The program and all degrees managed by DPHDP (B.A. in Public Health Policy, B.S. in Public Health Science, Master of Public Health (M.P.H.), and Ph.D. in Public Health) are accredited by the Council on Education in Public Health (CEPH). First accreditation was achieved in 2012. As part of the transition to an accredited school, the PPH will be asking the Senate to approve the creation of two new departments, including the Department of Environmental and Occupational Health (DEOH) and the Department of Health, Society, and Behavior (DHSB), and approve the transfer of the Department of Epidemiology, to be known as the Department of Epidemiology and Biostatistics (DEB), from the School of Medicine (SOM) into the PPH.

Addition of these three foundational public health departments complements the existing DPHDP. Approval of the departments will include faculty movement out of the SOM as well as movement of faculty out of the existing DPHDP. However, the core group of faculty in DPHDP, united by their research and teaching interests, will remain in DPHDP and continue to advance the PPH mission to create, integrate, and disseminate population community-based knowledge to promote health and reduce the societal burden of human disease and disability through excellence in research, education, and public service.

The Ph.D. in Public Health concentration in global health will continue to be overseen by DPHDP. The Ph.D. in Public Health disease prevention concentration will be jointly managed by DPHDP and DHSB until the last Ph.D. student, who was admitted to the disease prevention concentration through DPHDP, graduates. In the interim, both departments will evaluate the potential development of additional Ph.D. health focus concentrations. Faculty in DPHDP, as the founding faculty of all existing CEPH-accredited degree programs in PPH, will continue their contributions to teaching at all levels appropriate to their expertise.
MISSION

The mission of the Department of Population Health and Disease Prevention is to create, integrate, and translate population-based knowledge into preventive strategies to reduce the societal burden of human disease and disability through excellence in interdisciplinary research, education, and service.

The Program in Public Health was established in 2003 to provide institutional focus for existing academic strengths in various sub-disciplines of public health and to facilitate well-grounded education and innovative research in emerging cross-disciplinary topics in the field. Undergraduate degree programs in public health began enrolling students in 2006, and the DPHDP was established in 2007 to advance the collaborative interdisciplinary mission of public health research, education, service, and professional development. The program offers a B.S in Public Health Science, B.A. in Public Health Policy, minor in public health, minor in global health, M.P.H. with emphases in emphases: biostatistics, environmental health, epidemiology, and sociocultural diversity and health, and a M.S. in Public Health. The department also offers a Doctor of Philosophy (Ph.D.) in Public Health with concentrations in: Disease Prevention and Global Health, a dual-degree M.D./M.P.H., a concurrent J.D./M.P.H. with the School of Law, a concurrent J.D./Ph.D. with the School of Law, and a joint Ph.D. in Environmental Health Sciences with the SOM.

The first M.P.H. cohorts began in 2009. The Program in Public Health was first accredited by CEPH in 2012, for a 5-year period. The Public Health Ph.D. degree was approved by UC President Yudof on June 27, 2013 and the first cohort enrolled in fall 2014. CEPH accreditation was reaffirmed in 2018 with the new Ph.D. degree and dual graduate degree programs, for the
maximum 7-year period. The Program is also a member of the Association of Schools and Programs of Public Health

**Organization of DPHDP**

The DPHDP is currently chaired by Professor Lisa Grant Ludwig. Prior to becoming chair of DPHDP in 2019, she served as department vice chair, and as founding director of the M.P.H. and Ph.D. degree programs. Associate Professor Michael Hoyt serves as elected Faculty Chair for the department and assists the chair with academic personnel reviews.

Under a four-department PPH, the DPHDP will consist of 12 Senate faculty members plus one professor emeritus, supported by a department administrator, sr. financial analyst, and administrative support staff (see Appendix E: Faculty affiliated with the DPHDP). Faculty biosketches are included in Appendix D: Biosketches of Core Faculty Members. Affiliated faculty can be found in Appendix E: Faculty Affiliated with the DPHDP.

**Table 1: Core faculty members in the DPHDP**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Expertise</th>
<th>Current Home Department</th>
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<tbody>
<tr>
<td>Zuzana Bic, Dr.P.H., M.U.Dr. (MD)</td>
<td>Professor of Teaching</td>
<td>Preventive care, lifestyle medicine, worksite wellness and health, college health, health literacy and promotion</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
<tr>
<td>Hans-Ulrich Bernard, Ph.D.</td>
<td>Professor Emeritus</td>
<td>Human papillomaviruses (HPVs) and cervical cancer. Transcription of HPVs. Epigenetic of HPVs. Evolution, taxonomy and epidemiology of papillomaviruses</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
<tr>
<td>Sharon M. Stern</td>
<td>Professor Emeritus</td>
<td>Environmental Health/Ecology. Active in research focusing on applied ecology, environmental pollution and remediation</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
<tr>
<td>Tim Bruckner, Ph.D.</td>
<td>Associate Professor (joint with DHSB)</td>
<td>Perinatal and life course, epidemiology, economic downturns and health, mental health</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
<tr>
<td>Lisa Grant Ludwig, Ph.D.</td>
<td>Professor and Chair</td>
<td>Earthquakes, the National Earthquake Hazard Reduction Program, environmental geology studies, multi-hazard disaster impacts, seismic vulnerability of lifeline infrastructure, buildings, and affected populations</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
<tr>
<td>Michael Hoyt, Ph.D.</td>
<td>Associate Professor</td>
<td>Biobehavioral processes related to psychological adjustment and coping with cancer and other health-related adversity; common mechanisms related to the onset and recovery from physical illness</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
<tr>
<td>Yunxia Lu, Ph.D.</td>
<td>Associate Professor</td>
<td>Cancer etiology and prevention, cancer prognosis, obesity epidemiology, pharmacoepidemiology</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
<tr>
<td>Andrew Noymer, Ph.D.</td>
<td>Associate Professor</td>
<td>Demography. Epidemiology of infectious disease. Historical epidemiology. Social epidemiology</td>
<td>Population Health &amp; Disease Prevention</td>
</tr>
</tbody>
</table>
Faculty in DPHDP are governed by PPH bylaws because DPHDP is currently the only department in the program. As new departments are approved by the Academic Senate, and faculty of DPHDP are reconstituted as described herein, the faculty will develop and adopt bylaws for governance of the DPHDP.

Teaching workloads will be governed by a program/school-wide framework that will be applied to all faculty and modeled after the teaching workload policy of the School of Biological Sciences. The policy is under development with the input of faculty representatives from each of the four departments. The draft policy will be submitted with the future school of population and public health pre-proposal. Before implementation, the final policy will be approved by faculty. Once approved, the DPHDP chair will be responsible for implementing the policy at the departmental level and making teaching assignments in service of the degrees under the jurisdiction of the department, in accordance with Academic Senate Regulation 750 and Appendix A to Academic Policy Manual - 245.

**MEMBERSHIP AND ADMINISTRATIVE STRUCTURE**

The DPHDP will be an independent academic unit under the administrative umbrella of the PPH. The chair of the DPHDP reports directly to the founding director and dean DPHDP will continue as an independent department, existing with other founding departments, in the establishment of the new school.
Since the DPHDP has existed as the only department within the PPH, the department supported the broad spectrum of expertise constituting public health. This breadth has allowed the department to provide academic support for all the undergraduate and graduate degree programs.

Groups of faculty have focused on global health and disease prevention, while others have united around social determinants of health, and others provided expertise in foundational public health disciplines including environmental health, epidemiology, biostatistics, and health policy.

The DPHDP continues to maintain focus on global infectious and chronic disease, disease vectors, natural disasters, biological disease factors, population health, disease prevention, integrative health and wellness, and international research and training.

Historically, faculty have identified with various areas of expertise since it has been the only department within the PPH for over ten years. With the development of new departments and transfers to the PPH, and subsequent founding departments for the future school, faculty have been presented with the option to join departments that are more aligned with their disciplines, strengths, and research expertise. This updated redistribution of talent is a natural progression as the program grows, new faculty are recruited, and new areas of public health issues are recognized. Further development of the PPH and future school enables our students to join a dynamic learning community that offers multi-disciplinary courses and faculty that represent current and emerging public health areas.

**Research**

Faculty in the DPHDP are productive researchers focused on both domestic and international population health issues.

They also engage in cross-disciplinary research within and outside the graduate program, including over $11.4M (inception to date) in active grant funding listed in Appendix F (see Appendix F: Active Extramural Research Grants of Proposed Core Faculty). For recent grant submissions, see Appendix G: Proposals Submitted and Pending. Guiyun Yan is developing a Center on Global Health. In the department now, Tim Bruckner is co-director of the Center on Population, Inequality, and Policy. Several of our faculty participate in campus-wide research centers such as the IISBR and UCI MIND. Additional details about faculty members’ research and other accomplishments are available in their biosketches (see Appendix D) and in the research summaries that follow.

**Global Infectious Disease and/or Neurodevelopment Research**

The department has a strong global infectious disease focus and we highlight some areas of faculty research strength, including developing complex mathematical models to understand disease behavior at the cellular level, understanding mosquito behaviors and malaria transmission; and exploring factors like HIV on brain development.
Much of the funding for infectious disease work has come from NIH and NSF. Additionally, DPHDP has recently submitted an NIH training grant to create an innovative new training program in Dynamic Modelling of Infectious Disease.

Senior faculty and Chancellor’s Fellow Guiyun Yan’s large malaria lab examines the impact of environmental modifications from water development projects and shifting agricultural practices on the epidemiology of clinical (severe and uncomplicated) malaria, transmission and pathogenesis. Yan’s work and large set of global trainees are reflective of his international research reputation.

Professor Yan’s research lab examines the diversity of environmental bacterial microbiota in dengue and malaria mosquitoes, and the impact of environmental bacterial microbiota on mosquito gut microbiota assembly and mosquito life history traits and vector competence. https://sites.uci.edu/yanlab/

Professor Dominik Wordaz has developed mathematical models to analyze viral dynamics including dynamics between HIV, its target cells, and specific immune responses to the virus (mostly CD8+ and CD4+ responses). His lab has measured the relative contribution of these two transmission pathways to virus spread and the basic reproductive ratio of the virus and found them to be of comparable magnitude. Viral evolution is known to be an important determinant of disease progression. Most studies on HIV evolution in vivo assume that each cell is infected by a single virus. It has, however, been shown that multiple virus particles can simultaneously infect a cell. This gives rise to a variety of interactions among the viruses, which can influence the evolutionary trajectory of the infection. For example, two virus strains can complement each other inside the cell, which can help a defective virus or a less fit virus to persist. Similarly, different viruses can inhibit each other, which can also influence evolution. Multiple infection enables recombination, which can impact viral evolution in complex ways. Wordaz’s lab has been establishing a mathematical framework to study these dynamics.

Wodarz’s research group continues to develop mathematical and computational models of resistance evolution in cancer (especially chronic lymphocytic leukemia, (CLL), and chronic myeloid leukemia, (CML). The goal is to understand the principles according to which resistance emerges, and to find ways to overcome resistance, through novel treatment regiments and schedules. This lab is developing mathematical models to study immune-mediated control of infectious diseases and, more recently, also cancer. In particular, this research is exploring how evolution of viral infections such as HIV can lead to failure of vaccine-mediated protection, and how immunological control can be boosted by alternative approaches, such as using specific drug treatment schedules to boost immunity by allowing limited replication of the pathogen with which the host is infected.

Assistant Professor Daniel M. Parker, and his team work on the spatial epidemiology of infectious diseases. This work includes detailed micro-epidemiological work on malaria and
other vector-borne infectious diseases, with a focus on risk factors for infections and spatial targeted public health interventions, including active case detection of malaria and dengue, mass drug administration for malaria, and assessing the proper spatial scales at which to do interventions (i.e., at household, multiple household, neighborhood, village levels). This work is done through a combination of field and laboratory work, and builds on his experience in tropical medicine, biocultural anthropology, remote sensing, and spatial statistics.

UC Presidential Chair, Oladele Ogunseitan’s work includes examining environmental dimensions of antimicrobial resistance using methods to detect antibiotic resistance profiles in polluted environments. Other research includes microbial diversity and ecosystem health, as well as e-waste toxicity and health effects.

Affiliated faculty Kristina Uban’s work has focused on understanding prenatal exposures including ETOH, as well as infectious diseases (e.g., HIV) and the relationship between these exposures and brain development in early childhood and development. In July 2018, Uban established the Developing Brains Laboratory at UCI to further elucidate brain-hormone relationships in adolescents with fetal alcohol spectrum disorder (FASD) and is a core faculty member of UCI’s IISBR.

Emerging diseases. As part of her work with the UN and UNICEF, affiliated faculty Bernadette Boden-Albala created a training workshop entitled “Behavioral and Communication Strategies for Emerging Infections,” which provided skills-based training for health professionals and public health students focused on multi-level organizational responses for both the acute and subacute phases of emerging infectious diseases in low, middle and high income countries (ex. Polio, SARS, Ebola). This workshop focused on specific organizing and communication strategies for different types (transmission mode) of emerging diseases in different populations. Role play, crisis scenarios, communication planning, and intervention design were used to enhance learning.

Vaccine Research. Associate Professor Andrew Noymer is an historical and social epidemiologist, and a demographer of health, working at the interface of population studies and infectious disease epidemiology. Recent focal diseases have included measles, influenza, and polio, although. Noymer’s work is oriented more broadly on the general social-biological interface that creates infectious disease.

Cancer Survivorship and Chronic Disease Research

Associate Professor Michael Hoyt’s research focuses on the biobehavioral processes related to psychological adjustment and coping in the context of cancer survivorship and health-related adversity. Some of this work includes examination of sleep, immune function, and neuroendocrine stress to depression in prostate and testicular cancer patients. In addition to Hoyt’s primary faculty appointment in DPHDP, he is a program member of the UC Irvine
CCFCCC, core faculty member in the UC IISBR, and a consulting psychologist at Memorial Sloan Kettering Cancer Institute.

Associate Professor Yunxia Lu’s research interests are in cancer etiology and prognosis. She and her colleagues focus on obesity and gastrointestinal cancer with an emphasis on the energy-balancing pathways that are involved in nutrition, sex hormones, and microbiota. Lu’s team initiated hypothesis-driven studies using data from multiple resources including clinics, communities, health registries, labs, and public databases. Their previous studies clarified that obesity, especially abdominal obesity, is an essential risk factor for esophageal adenocarcinoma, small intestinal adenocarcinoma, colon cancer, and rectal cancer. However, obesity surgery cannot prevent colorectal cancer, and anti-reflux surgery cannot stop the prognosis of esophageal adenocarcinoma. Moreover, the risk of colorectal cancer is significantly increased by abdominal obesity and metabolic disorders rather than lone factors. With sex hormone hypotheses based on distinct gender differences in gastrointestinal cancer, Lu’s studies have examined reproductive factors as a proxy of sex hormones, associating them with colon cancer, but not significantly associated with small intestinal cancer and esophageal cancer. They further studied plant estrogen, a group of natural hormones that were associated with esophageal cancer and inflammatory bowel diseases. Interestingly, Lu and her team found obesity interacting with dietary factors through anti-inflammation pathways. Currently, they are developing research on interpretation of gender differences of gastrointestinal cancer based on genetics, epigenetics, and immune disorders and they are further initiating studies on obesity intervention, with consideration of gender and race disparities. Lu expects her findings will continue to contribute to primary and tertiary prevention of gastrointestinal cancers.

Professor Lari Wenzel teaches in the Department of Medicine in the SOM and in the DPHDP. Currently, Wenzel serves as the associate director of population science and cancer control, and as the director of the biobehavioral shared resource for the CFCCC. Wenzel’s overall goal of her cancer control research program is to improve health outcomes and health-related quality of life (HRQoL) for cancer survivors. Her team has successfully developed and tested the efficacy of NCI-funded biobehavioral interventions which have improved quality of life, psychosocial outcomes including symptoms of depression, and neuroendocrine and immune parameters for cervical cancer survivors, a particularly vulnerable multi-ethnic cancer survivor population (CA-118136; CA-98794). Wenzel is actively involved in academic, scientific, and collaborative interactions nationally. A significant component of her work in HRQoL and health outcomes evaluation has included leadership positions within the NCI-funded national cancer cooperative group networks, including the former Gynecologic Oncology Group as Quality of Life Committee chair, the NRG Oncology Patient-Centered Outcomes Research Committee co-chair, and the co-chair of the ECOG-ACRIN Patient-Reported Outcomes Committee.
Affiliated faculty Karen Edwards’ research focuses on genetic epidemiology of cardio-metabolic and neurologic diseases and cancer. Evaluating the interplay between genetic and environmental, including dietary factors, and public health genomics. Edwards is a pioneer in the field of public health genomics, including ethical, legal, and social implications of genomic research at local, state, and federal levels. She uses a range of methods in her genetic epidemiologic work (family and twin studies, case-control and cohort studies, meta-analysis), as well as mixed-methods approaches that include key informant interviews, focus groups, participant surveys, and other quantitative and qualitative methods in her NIH-funded research. She collaborates with a number of colleagues in DPHDP, SOM, and the CFCCC.

Chronic disease sequelae (e.g., post-treatment Lyme disease) Public Health faculty member, Wodarz is studying a CLL model that is relevant to work on chronic disease sequelae. Following treatment with the tyrosine kinase inhibitor “ibrutinib”, the CLL population remains stable with no progression. This work combines mathematical models and clinical data to analyze and understand the risk of disease relapse. Wodarz’s lab continues to analyze mathematical models to explore the conditions under which it might be possible to stop treatment and allow the boosted immune response to naturally suppress diseases in the long term.

Global Health, Disease Prevention, Policy, Integrative Health and Wellness

Professor and Chair Lisa Grant Ludwig conducts research that focuses on fundamental science questions relating to potentially devastating effects of earthquakes, which have broad impacts and policy implications. She has used geologic methods to explore the spatial and temporal rupture characteristics, and the levels of shaking, produced by prior large earthquakes. Using a variety of methods, Grand Ludwig has worked with colleagues to understand the seismic vulnerability of lifeline infrastructure, buildings, and affected populations. She has also studied disaster impacts on academic biomedical research communities, and has been involved in formulating policy recommendations for multi-hazard disaster resilience of academic research facilities throughout the U.S.

Oladele Ogunseitan’s work includes bibliometric analysis of research productivity on the global challenge posed to environmental quality and human health, by the hazardous nature of electronic waste. He is a top-ranked U.S. researcher (See: Gupta, B.M., et al., 2018. E-Waste Research: A Scientometric Assessment of Global Publications Output during 2007-16. International Journal of Information Dissemination and Technology. Currently Ogunseitan is co-chair of Apple Inc.’s Green Chemistry Advisory Board to help reduce toxic components of electronics and to reduce e-waste. Ogunseitan directed the workforce development program for our NIH-funded Institute for Clinical and Translational Science (ICTS), and he guided the inaugural cohort of trainees in the NIH pre-doctoral (TL1) and postdoctoral (KL2) programs.
Ogunseitan’s research seeks to discover and mitigate environmental risk factors contributing to adverse human health impacts of development across national boundaries.

Ogunseitan also serves on the Board of Directors for the UC Global Health Institute and on the Board of Directors of the ASPPH. Recently, he completed a project funded by the Centers for Disease Control and Prevention, with a coalition of agencies and cities – Partnerships to Improve Community Health (PICH) – to reduce the burden of chronic diseases and to eliminate disparities in preventive health care in particularly vulnerable communities. In 2019, Ogunseitan was awarded the honor of UC Presidential Chair. He is one of only two in UCI’s history to be awarded this distinction.

Zuzana Bic’s work is integrative in nature and focused on understanding the role of nutrition in health and wellness. Specifically, Bic is exploring drug abuse and nutritional status, as well as nutritional interventions on mental health. She is an expert on preventive care, lifestyle medicine, worksite wellness and health, and college health and wellness. Bic has developed new courses on topics in nutrition and global health, introduction to alternative and complementary medicine, disease prevention, drug abuse and its prevention, stress management essentials, public health programs for the corporate world, international public health practices, public health communication, educating instead of medicating in public health, introduction to public health, and case studies in public health practice. In addition, she was instrumental in developing the certificate in College Population Health Promotion and Wellness and the minor in Integrative Health & Wellness. Currently, Bic is a chair for the Subcommittee of International Education (SIE) at UCI and involved in University of California Education Abroad Committee to assess and evaluate study abroad sites for students.

Associate Professor David Timberlake has engaged in research in the emerging field of tobacco regulatory science. Timberlake’s projects have covered a plethora of topics in tobacco control, including the epidemiology of transitions in use of tobacco products, tobacco harm reduction, marketing of smokeless tobacco, and policy issues pertaining to taxation and indoor smoking restrictions.

Affiliated faculty Tim-Allen Bruckner’s research interests are perinatal epidemiology, biodemography, and mental health services. Bruckner is the co-director of UCI’s Center on Population, Inequality, and Policy. His previous work examining both selection in utero and the pediatric paradox, in which frail non-Hispanic black births show lower neonatal mortality than do non-Hispanic whites. He has served as lead or senior author on 10 papers that identify selection in utero as an important driver of infant health.

Assistant Professor Daniel M. Parker does global health work in Southeast Asia and the Horn of Africa. Much of this work if focused on the relationships between human travel and activity patterns, the risk of acquiring infections, the distribution of pathogens across landscapes, and
access to healthcare facilities. Malaria is a major focus of his research, but other health problems of interest include maternal and child health, infections of unknown etiology, and dengue fever. Dr Parker is also active in training students from malaria endemic areas to use geographic information systems, including cartography and the analysis of spatial data.

**Teaching and Academic Degrees**

DPHDP will continue to contribute to the future school by providing oversight for the curriculum and disciplinary expertise in the areas of global health, biological determinants of health, disease prevention, and risk factors affecting population health. Due to their interdisciplinary nature, the B.A. in Public Health Policy and the B.S. in Public Health Science will remain and be administered at the program level, but faculty from all departments will contribute teaching and pedagogy for all instructional activities. The curriculum will be determined by a schoolwide committee. Similarly, the M.P.H. is a professional degree and will also remain and be administered at the program level; however, faculty content expertise will remain at the department level. Specifically, the DPHDP will provide guidance on curricular and programmatic activities for the M.P.H., and potentially a proposed emphasis in global health. The shared administration of the Ph.D. in Public Health between DPHDP and DHSB will prevent disruption for Ph.D. students in this degree program. This shared agreement will remain in effect until approximately one year after UCOP approval of the future school public health or until the last Ph.D. student who was admitted to the disease prevention concentration through the DPHDP graduates. Thereafter, the content expertise for the concentration in disease prevention will reside in the DHSB and the content expertise for the concentration in global health will reside in the DPHDP.

Since its inception the program has trained eight Ph.D. graduates, with three in global health and five in disease prevention. Alumni have gone on to successful careers in industry, academia, health care, and federal and state government. The six-year enrollment projection for the Ph.D. in Public Health is for a steady state cohort of approximately 90 highly-qualified Ph.D. students, between the two concentrations.

**Table 2: Ph.D. in Public Health Enrollment Projection by Academic Year**

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<tbody>
<tr>
<td>Global Health (25.0%)</td>
<td>9</td>
<td>11</td>
<td>15</td>
<td>19</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Disease Prevention (75.0%)</td>
<td>27</td>
<td>34</td>
<td>45</td>
<td>56</td>
<td>68</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Total student enrollment</td>
<td>36</td>
<td>45</td>
<td>60</td>
<td>75</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
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</table>
**Ph.D. in Public Health**

The Ph.D. curriculum is designed to prepare students to formulate hypotheses, design and conduct population studies, and evaluate research findings in the context of risk factors, vulnerable populations, and disease outcomes. Ph.D. students acquire the research skills necessary to make discoveries that advance understanding of the determinants of health and strategies to prevent disease.

The degree program requires a total of 84 units: 10 core courses, 4 required courses specific to each concentration (global health or disease prevention), and additional units for dissertation research and approved electives. Core courses include courses in research design, research proposal development, ethics and the responsible conduct of research, epidemiologic methods, quantitative methods, qualitative methods, research communication, and directed research. For current degree requirements, see Appendix H: Graduate Program Requirements and Courses.

Each student is assigned a first-year faculty advisor who will guide the student toward developing a curriculum plan, initiating research, and selecting members of the dissertation committee, including a dissertation advisor. Doctoral students typically complete most course requirements during the first two years and advance to doctoral candidacy during the third year. Advancement to candidacy requires mastery of required courses and successful oral defense of an original dissertation research proposal. Finally, upon completing their dissertation research, students submit and defend a written doctoral dissertation.

**Global Health Concentration.** The focus of the Ph.D. research concentration is to investigate the global context of disease burden and the improvement of population health status.

After earning a Ph.D. degree with an emphasis in global health, students will be able to:

- Demonstrate knowledge of the major theoretical underpinnings of advances in global health research;
- Explain the relationship between theory and research methods focused on understanding the association of risk, vulnerability and outcome in global health;
- Compare and contrast the health status of different populations with respect to their burden of disease;
- Formulate research hypotheses in the intersection of risk factors, vulnerable populations and burden of disease; and
- Compose research proposals and conduct original research resulting in discoveries that contribute to improved understanding of risk factors and variations in disease burden in a population and strategies to alleviate the burden at the global level.
**Disease Prevention Concentration.** The focus of the Ph.D. concentration in disease prevention is to discover insights into how human behavior, social constraints, and other contextual factors influence strategies to prevent disease in populations that are vulnerable to risk factors.

After earning a Ph.D. degree with an emphasis in disease prevention, students will be able to:

- Demonstrate knowledge of the major theoretical underpinnings of strategies for disease prevention;
- Explain the relationship between theory and research methods focused on understanding the association of risk, behavior and vulnerability with respect to disease pathways;
- Analyze interrelationships among the determinants of illness and maladaptive health behaviors using theories of health behavior;
- Formulate research hypotheses in the intersection of health risk factors, health behavior and health promotion and policies toward disease prevention; and
- Compose research proposals and conduct original research resulting in discoveries that contribute to improve understanding of the role of behavior and health promotion strategies in mitigating the vulnerability to health risk factors in specific populations, with the goal of applying the knowledge to disease prevention.

**Global Health Undergraduate Minor**

The minor in global health, through a concentrated portfolio of courses that provide a solid foundation in the environmental, biological, sociocultural, and ethical domains of global health scholarship. This allows students to develop interdisciplinary and alternative world perspectives on health. Upon completion of the minor, students will be able to identify and define the landscape and importance of prevalent global health issues, analyze and evaluate complex texts relating to global health through close reading, critical interpretation, assignments, class-presentations and discussions. The minor concludes with each student conducting independent research and communicating independent arguments about global health in research through a hands-on capstone project.

**New Undergraduate Minor in Integrative Health and Wellness (submitted for Senate review)**

The minor in integrative health and wellness, through a concentrated portfolio of courses, introduces on a global level the fundamentals of complementary and alternative medicine (CAM) and integrative health and wellness; examines the scientific evidence of appropriate integrative therapeutic approaches based on the health problem and aligns with the WHO (World Health Organization) mission to encourage the application of CAM/Integrative health and wellness on a global level and from a public health perspective.
**Revenues/Resource Allocations**

The base/core budget (see Appendix I: Department of DPHDP Budget) proposes to utilize permanent Senate faculty FTE (19900 state funds) and research faculty in DPHDP are expected to compete for external grants to support their scholarly activity. Such grant awards will help to supplement the department budget through indirect cost recovery (ICR). The department budget assumes 50% ICR share with the PPH. Vacated FTE will revert back to the director and founding dean to reallocate based on unit needs.

Unit income in the form of teaching assistantships will be provided by the PPH and future school. The UCI Graduate Division will provide support for the Ph.D. program through the block model allocation formula and flexible funding support. All other resources and support will flow from the PPH and future school of public health to the DPHDP to support operations, invited speakers, and graduate students.

To provide additional operating support, the DPHDP and PPH will explore opportunities for self-sustaining graduate programs.

**Conclusion**

The DPHDP will be an interdisciplinary department within the proposed school that will fulfill several public health teaching competencies for an accredited school of population and public health. Under the guidance of the new director and founding dean, DPHDP will continue to grow and thrive in research and teaching.
APPENDICES

Appendix A: Letter of Support Resources from Provost/EVC
Appendix B: Letters of Support Faculty
Appendix C: Administrative Structure of DPHDP
Appendix D: Biosketches of Core Faculty Members
Appendix E: Faculty Affiliated with the DPHDP
Appendix F: Active Extramural Research Grants of Proposed Core Faculty
Appendix G: Proposals submitted and pending
Appendix H: Graduate Program Requirements and Courses
Appendix I: Department of PHDP budget