




UNIVERSITY
of HAWAII®
MĀNOA

September 26, 2017

MEMORANDUM

TO: Michael Bruno
Interim Vice Chancellor for Academic Affairs

FROM: Jerris R. Hedges, MD, MS, MMM 
Dean

SUBJECT: JABSOM's Response to the Graduate Program Review

Per your request following our September 5, 2017 meeting, attached is our response to the Graduate Program Review.

Dean's Response to John A. Burns School of Medicine Graduate Program Review

September 5, 2017

The John A. Burns School of Medicine (JABSOM) would like to thank the External Reviewers: Drs. William G. Chismar, Dean of Outreach College, Professor of Information Technology Management, Shidler College of Business, University of Hawai'i at Mānoa; Terri Goss Kinzy, Vice President for Research Rutgers, the State University of New Jersey; Cynthia Morris, Professor and Vice Chair, Medical Informatics and Clinical Epidemiology, Assistant Dean, School of Medicine, Senior Associate Director, Oregon Clinical and Translational Research Institute, Oregon Health & Science University; Rachel Novotny, Professor and Chair, Intercollege Nutrition PhD Program, College of Tropical Agriculture and Human Resources, University of Hawai'i at Mānoa; and Chris E. Ostrander, Assistant Dean, Director of Strategic Initiatives and External Relations, School of Ocean & Earth Sciences & Technology, University of Hawai'i at Mānoa. The Reviewers met from April 18-20, 2016 with the UHM and JABSOM administrators, along with departmental and graduate chairs, faculty, staff, and students from Cell and Molecular Biology, Complementary and Alternative Medicine (Clinical Research), Developmental Reproductive Biology, and Tropical Medicine. Prior to the site visit, the team was provided on a confidential web site with support materials, including, self-study documents, Annual Graduate Program and Assessment Reports, quantitative indicators, research productivity and faculty information, as well as UHM past reviews and small program criteria. The final External Review (dated May 31, 2016) was shared with faculty and chairs of all departments and written responses were submitted to Dean Jerris Hedges and Director of Research and Graduate Education Mariana Gerschenson. Additionally, the Graduate Program Chairs met monthly in 2017 with Dr. Gerschenson to address External Reviewers Recommendations. JABSOM has completed most of the recommendations.

All Programs

Low Enrollment: *There were concerns regarding low enrollment and that the MS and PhD programs within the same discipline should be treated as a single program.* This is a UH Manoa definition and JABSOM does not have authority to change categorization.

Students: The review team met with over 50 students. These meetings were described as 'uniformly engaging and the highlight of the visit. Across the eight programs, the students were generally very satisfied with the curriculum, facilities, and faculty, exhibited a high level of comradery, and showed genuine interest in helping the community. Morale is high and the faculty and staff are to be commended on their service to and support of the students.' *There was a recommendation about making the health sciences library available after normal business hours.* All graduate and medical students have same access to the library. *There was also a recommendation about having a shuttle between campuses.* This has been investigated by UH Manoa and it is financially unfeasible. We do provide parking after 4 pm to all students in a secured lot by the school and have 24 hour security for all students.

Student recruitment: The recruitment process for each program was vague. *A recommendation to investigate opportunities to grow the programs through cooperative recruitment efforts across programs was suggested.* In the past year, the Graduate Programs have all prepared brochures to share at scientific meetings and at UH undergraduate meetings to recruit students. Additionally, the Graduate Program web pages and Facebook pages are updated regularly. Development of an integrated approach to student recruitment and greater recruitment synergy is a goal that may require greater integration of the graduate programs; a concept under review.

Student career planning: *A recommendation to consider implementing the use of training plans across all graduate programs and placing significant effort into developing career programs utilizing best practices at other institutions, their institutional knowledge and pulling together the various aspects that were discussed during the meetings.* This has been implemented across all graduate programs and is on the JABSOM web site: <http://jabsom.hawaii.edu/trainees-in-research/masters-phds-trainees/individual-development-plan-policy/>.

Curriculum: The Reviewers were supportive of the major focus in several programs on biostatistics and bioinformatics training for students. There was variability across programs in training regarding the responsible conduct of research (ethics). *A recommendation to investigate a shared curriculum across the programs in the areas of biostatistics, bioinformatics, and ethics.* We concur with this recommendation and now all JABSOM graduate students are required to enroll in graduate level Ethics course. Additionally, we have added graduate courses in biostatistics and bioinformatics and made them available to all graduate students. Development of an integrated approach to the delivery of such programs to all graduate students is a goal that may require greater integration of the graduate programs; a concept under review.

Program Assessment: *A recommendation to implement standard student exit surveys across programs to assess the programs.* We agree with this finding and all graduate programs now have an exit survey. Development of an integrated approach to student exit surveys is a goal that may require greater integration of the graduate programs; a concept under review.

Student services support: The students reported either having no problems understanding and complying with the UHM policies and procedures, or are having very significant problems doing so. The determining factor seemed to be the presence or lack of a supportive staff person to liaise with the UHM Office of Graduate Education. Hiring a good person in each department may be difficult and, given the relative small numbers of students, unnecessarily costly. *The recommendation was to integrate student services, and possibly other administrative functions, across other graduate programs.* We are working with each program and Office of Graduate Education to educate the students about UHM policies and procedures. For instance, in the past year, we have implemented annual Orientation sessions at both campuses for our students to attend. Development of an integrated approach to student services support is a goal that may require greater integration of the graduate programs; a concept under review.

Cell and Molecular Biology

Overall: The Cell and Molecular Biology (CMB) graduate program integrates MS and PhD programs for students with an interest in health-related research that emphasizes the techniques and approaches of cell and molecular biology. Faculty in the program come from JABSOM, the University of Hawai'i Cancer Center, the College of Natural Sciences, the College of Tropical Agriculture and Human Resources, and the School of Ocean and Earth Science and Technology. In 2009, the program started a Neuroscience Specialization. There are currently 39 students, with 5 students in the MS and 25 students in the PhD programs, 9 of which are in the neuroscience specialization. The leadership within the program appears to be strong and collaborative. With 18 full-time CMB faculty members and numerous affiliate faculty members from across campus, the program faculty is sufficient for the current number of students, and growth. The faculty is active in research and appear dedicated to the success of their students. The administrative support staff received high praise from the students and the faculty.

Students: The students, mostly from Hawai'i, appear motivated, with no major concerns about the program. They like the program's curriculum and flexibility, and the ability through the lab rotation to find a good fit with faculty members and lab research. A surprisingly few number of students expressed an interest in an academic career; most were planning on careers in industry. In the program's self study report, the faculty recognized this shift in the career interests of students and responded by building relationships with the Shidler College of Business around entrepreneurship. However, there seems to be no career information on the program's website or in the CMB Handbook. *There is a recommendation to aid existing students and to help recruit new students, the program's website and other publications should outline career options for graduates of the program.* A seminar series is being organized to outline career options for graduate students.

Curriculum: *There is a recommendation about the lack of bioinformatics course and this is incorrect.* The CMB Graduate Program has a course: CMB 642 Introductory Bioinformatics for the Bench Biologist.

Clinical Research

Overall: The Clinical Research Program assets were student networking and student support of the faculty and overall program. The purpose of the program is to create a mechanism for clinicians to learn the skills and competencies associated with clinical research. There were numerous weaknesses including: Dependence on a cohort model, Lack of a clear educational outcomes for the program, Limited complexity and depth of the curriculum, Time to degree, Limited complexity and quality of master's or dissertation research, and Lack of sufficient faculty. *The recommendation was to Stop Out the Ph.D. program and restructure the MS Program.* JABSOM concurs with these recommendations. The Ph.D. program is in Stop Out for two years as of 2017. The MS program is being restructured by the departmental faculty with Dr. Gerschenson, Dean Aune, Associate Dean Maeda and myself. The modifications include

improvements with considerable expansion of expertise of actively involved graduate faculty including newly enlisted faculty, a thoroughly revised model for student recruitment and participation, and a fully restructured and significantly extended curriculum with concentrations in Clinical Research and Quantitative Health Sciences Research for the MS program. JABSOM will consider the feasibility of a re-initiating the Ph.D. program in the future. A detailed response to the External Review's recommendations has been submitted for review to Deans Aune and Maeda at the Office of Graduate Education in August, 2017 and will be forwarded to the OVCAA.

Developmental and Reproductive Biology

Overall: The Developmental and Reproductive Biology (DRB) Graduate Program at the University of Hawai'i at Mānoa is a relatively new PhD program with a very strong research focus.

Interactions with the graduate division: The faculty and students had dramatically different views of the relationship with the graduate division. The program leadership felt relationships were good. The students, however, felt they had little direction as to program requirements and expressed frustration with the graduate division. *There is a recommendation that student support staff is needed. However, based on the program size and the similarities and importance of a link to the graduate division, it is recommended that such support staff be provided, but shared between programs.* It is acknowledged that the DRB program is in need of administrative staff to assist students. For the current academic year, the Department secretary and the Program Chair will provide the students with necessary administrative support and the Department Chair supports this approach. However, an administrative strategy, such as shared support staff between programs will also be explored to improve operational and cost efficiencies. Development of an integrated approach with the Cellular & Molecular Biology program to strengthen the program infrastructure is a concept under review.

Student funding: *There is a recommendation regarding evaluating how TA are funded in DRB.* The DRB policy is to prioritize TA assignment to PhD students as well as MS students with an intention to switch to the PhD program. To enhance students' full engagement in research, we aim to secure financial support for all students through TA, GA (i.e., Pls' grants), and scholarship/fellowship. Accordingly, we will encourage and assist students' applications for available fellowships, including NIH F31. We will also consider admission of MS students without financial support, which is likely to increase the enrollment number to address the issue of being a small program. It should be noted that that the available TA positions are intended to support those graduate students who oversee undergraduate education in Anatomy and Physiology.

Another recommendation is to evaluate if the MS path for pre-MD students would bring in additional revenue. DRB will discuss this possibility with the JABSOM administration. However, financially unsupported MS students are likely to need part- or full-time jobs elsewhere, which

would diminish their research experience in the DRB Program. The suggested approach also requires careful admission scrutiny.

The final DRB recommendation was due to the small size of DRB, 'transitioning the DRB program into a specialization within CMB ... appears warranted and this is an efficient way to enhance the student experience and address many of the concerns.' JABSOM and the OVCAA have recently met to review this recommendation and concur that DRB and CMB should merge into one program. Such a merger will require consideration of multiple factors and will benefit from active faculty support and innovation.

Tropical Medicine

Overall: The MS and PhD in Tropical Medicine (TM) are research-intensive graduate programs, based in the Department of Tropical Medicine, Medical Microbiology and Pharmacology, focused on basic, translational, and field research on microbial diseases of global public health importance and of special interest to Hawaii and the Asia-Pacific region. Administered within JABSOM, the TM Graduate Program supports the JABSOM mission to teach and train biomedical scientists. The program is student-focused with strong, collaborative leadership. The program is a high-quality, unique, and valuable program within the UHM graduate education offerings.

Curriculum & student support: Students within the TM program benefit from access to strong facilities, comprehensive curriculum, collaborative cadre of faculty and staff, departmental provision of mentoring and student support services, and a growing infusion of private funding to support student research and scholarship. However, additional effort can be made to liaise the exceptional facilities and work done within TM with private sources of funds, especially related to student support and success. *There is a recommendation to advance the development and adoption of topical (tropical medicine related) topics within or in concert with the Responsible Conduct of Research (RCR) course currently available.* JABSOM agrees that the adoption of RCR topics relevant to Tropical Medicine would be an important addition to our RCR training curriculum. JABSOM will task the department's curriculum committee and student representatives to develop new modules that cover relevant topics. The plan is to offer two advanced RCR training sessions per year to cover topics such as research on neglected tropical diseases, development and human trials of vaccines for vulnerable populations, and the ethics and cultural aspects of research on vulnerable populations in developing countries. A basic research ethics course is a mandatory, core course for TM graduate students and is offered by JABSOM (CMB 626) and UH Microbiology (MICR 614).

The unit has fostered a collaborative culture within the TM program that is focused on the dual success of faculty-led research activities and the educational attainment of its graduate students. The TM faculty is satisfied with the quality of students attracted to the TM program and is genuinely interested in ensuring the long-term success of its' graduates. Facing the reality of limited academic job prospects, students within the TM program would benefit from

exposure to career options outside academia as well as committee-level engagement with each student in the development of an IDP. *There is a recommendation that students need seminar/workshop exposure to non-academic careers (biotech, government agencies, WHO, pharma, policy).* JABSOM agrees that exposure to non-academic careers is particularly relevant in today's job market for PhD candidates and recent PhD graduates. TM faculty will invite speakers from various alternative career paths to participate in a symposium on career options to be held once per year. Speakers may include Tropical Medicine alumni who are pursuing careers in the pharmaceutical and biotechnology industries, the Centers for Disease Control and Prevention, the World Health Organization, and the US Office for Science and Technology.

The TM program has been impacted by reduced institutional support in recent years, in particular, by the decline in JABSOM-funded GA positions as the chair's package reaches an end. Students in the TM program have derived great benefit from a unit-level student support staff position, though that position is currently unfilled. *A recommendation for additional effort to engage foreign governments and private funders to support research, to complement existing COBRE-funded efforts, could lead to expansions in both faculty and student opportunity and support, though the unit must maintain a principle focus on the quality of the education and research offered to its students.* The TM program historically has accepted international graduate students through the East-West Center (EWC) who receive partial or complete support from their home countries and/or the EWC. This continues to be the case today. In addition, the department is the beneficiary of scholarship endowments from private funders (UH Foundation scholarships endowed by Joseph & Earleen Alicata; Chancellor Virginia Hinshaw; and former JABSOM students of Dr. Yoshitsugi Hokama). These endowments have been another source of direct student support for stipends and tuition. The department website has a donor link, which enables potential donors to make donations online or by mail to the department: ["Make a Gift"](#).

Another recommendation is for TM to continue a strong effort at the faculty level to augment P20 funding with additional R- awards, especially to offer additional opportunities for students (i.e. USAID, NSF). TM also needs to invest energy in the acquisition of international private/NGO funding (i.e. WHO, Gates) for research as well as individual student fellowships (Fulbright, Gates, WHO). In recent years, some TM graduate faculty members have been successful in obtaining supplements to their NIH R grants to support their graduate students. Other international and private funding agencies that have provided support for graduate students through research grants are the Dengue Vaccine Initiative, Gates Foundation, Chun Foundation, Thrasher Research Fund, St. Baldrick's Foundation, Myra W. and Jean Kent Angus Foundation, Hawaii Community Foundation, and an award from a university in India. The Fulbright Program has been a source of funding for several of our international graduate students over the years. In addition, individual students have been very successful in applying for support from the ARCS Foundation, Sigma Xi, and various other professional societies. Students are strongly encouraged to apply for external funding and faculty actively mentor students in preparing fellowship, scholarship, travel and research grant applications.

New programs: There is a growing worldwide demand for training in tropical medicine,

JABSOM has opportunities to provide beneficial TM programs, which will also provide additional tuition revenue for UH Manoa. The department has recently developed and gained approval to offer a *Tropical Medicine Certificate*, designed for non-research oriented students desiring advanced knowledge without working in a lab. It is aimed largely at the broader Pacific region, though there is substantial potential for the certificate program to generate tuition revenue for UH Manoa in the future. *There is a recommendation to investigate innovative ways to deliver tropical medicine training to a wider audience. Potential options include hybrid MS and certificate programs with online components combined with intensive, short-term on-campus classes, and a series of short (1 to 3 weeks), noncredit training programs that can stand alone or lead to noncredit certificates.* A Graduate Certificate Program will initially be an on-campus program and there is a long-term plan to eventually convert many of the TM courses to on-line offerings. However, this transition will require additional resources and access to an appropriate technological infrastructure.