



Graduate Degrees in Clinical Research at John A. Burns School of Medicine (JABSOM)

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Introduction

Few JABSOM faculty have had the opportunity to obtain the knowledge and skills needed to design community-based participatory studies that will increase data and improve health outcomes. The majority of University of Hawaii (UH) faculty involved in research hold appointments in institutes outside of the medical school. Until recently, JABSOM faculty have focused primarily on teaching and service to meet the needs of Hawaii and the Pacific. The lack of a formal academic clinical research training program at UH has depleted the potential pool of multidisciplinary clinical investigators at UH and has led to a gap in the state's research capacity. In particular, few community-based physicians have been able to acquire clinical research skills through specialized training, such as enrollment in specialty fellowships where intensive research training is required.

The MSCR (Master of Science and Clinical Research) curriculum for investigators has been developed in clinical research methods to meet this challenge. Its expansion into a PhDCR will provide in-depth interdisciplinary training that would contribute to the pool of talented community-based investigators in the state. JABSOM has nearly doubled funding for extramural research through the efforts of Dean Cadman, who has worked tirelessly to invigorate the research environment and strengthen clinical research programs, particularly those related to health disparities. To keep pace with this progress, more skilled investigators are needed, especially those participating in multidisciplinary, translational research. Ethical sensitivity, cultural competence and the combined expertise of diverse disciplines are required to build successful community-based participatory research efforts.

The Masters and doctorate curricula in Clinical Research will increase the number of qualified clinical researchers in Hawaii. As part of the NIH Roadmap theme called *New Pathways to Discovery*¹, it is envisaged that innovative interdisciplinary research, particularly in the fields of genetics and genomics, will promise further understanding of health disparities in Asian, Native Hawaiian and other Pacific Islander subpopulations. In addition, consistent with the Roadmap theme, "*Research Teams of the Future*¹ the curriculum will prepare new interdisciplinary research teams to form partnerships that cross traditional boundaries. Finally, in keeping with the NIH Roadmap theme "*Re-engineering the Clinical Research Enterprise*¹, alternative models are emphasized for integrating research efforts by expanding the newly developed MSCR program that encourages research partnerships between organized communities, community-based physicians, and academic researchers. Extending this interdisciplinary approach is the promotion of the integration

of existing clinical research networks, academic departments and community-based organizations in the State of Hawaii.

The greater academic and community are invited in conducting meaningful multidisciplinary research that will lead to a reduction of health disparities among Hawaii's diverse populations. This effort coincides with the NIH Roadmap as well as with the objectives of the national agenda, "Healthy People 2010."

The goals of the program are:

1. Curriculum Development. Development and implementation of a curriculum to train multidisciplinary translational research teams. The curriculum will include courses in applied biomedical ethics, cultural competence and team building.

2. Administrative Development. Solidify an administrative structure in the Dean's office at JABSOM, facilitate program activities, identify funded investigators with expertise in bioethics and cultural competence, collaborate with the schools of Business, Arts & Science, Law, Hawaiian, Asian and Pacific Studies, Engineering, Social Work, and Nursing, e.g., to develop an interdisciplinary curriculum; ensure compliance with NIH requirements, UH policy and procedures and other applicable regulations; identify extramural and other funding sources to ensure continuation of the PhDCR, once the term of this award expires.

3. Investigator Development. Increase investigator competence and foster collaboration between trainees, mentors, and instructors of the PhDCR program, ensuring continued follow-up surveillance that will help guide new graduates as they embark on promising careers in clinical research.

By accomplishing these goals, the base of skilled investigators committed to innovations in community-based multidisciplinary research will be broadened. With their in-depth knowledge and research experience, PhD trainees will contribute to enhancing their capacity to improve health outcomes in diverse populations. This thrust coincides with UH's long-term goal of expanding into a research-intensive institution.

The Curriculum

The curriculum will provide high quality training for doctoral and postdoctoral candidates by increasing the critical mass of clinical

researchers, including minority investigators, at UH. The MS in biomedical science will function as a supportive mechanism for newly trained investigators, by facilitating career development and encouraging research collaborations, particularly those related to health disparities research.

Students will acquire skills in epidemiology and biostatistics and master the scientific principles that underlie clinical research methods. In addition, they will develop the ability to identify and resolve ethical issues involved in clinical research, ensure the safeguarding of human subjects, and understand Institutional Review Boards and other relevant requirements. Finally, students will increase their capacity to seek and obtain NIH and other extramural funding for conducting clinical research.

The competency based curriculum can be completed in two years part-time. The three aspects of the curriculum are: didactic and problem-based modules, a mentored research project, and a seminar series. The program targets junior faculty, fellows, residents, and doctoral candidates from biomedical science, Nursing, Social Work, Psychology and Public Health. Trainees from diverse disciplines into a small group learning experience will broaden trainees' perspectives as well as increase opportunities for innovative, cross-disciplinary collaborations in clinical research.

The PhD offers intensive interdisciplinary learning experiences in applied biomedical ethics, cultural competence and team building, with a special emphasis on issues in the areas of genetics, genomics and end-of-life decision making. Residents and fellows, post-doctoral fellows, PhD candidates, and junior faculty, particularly those of minority descent, will be encouraged to apply.

Conclusion

The MSCR/PhDCR seeks to accomplish specific goals consistent with the NIH Roadmap by helping to create a workforce capable of crossing disciplinary boundaries and leading culturally competent integrative approaches to complex biomedical problems. The curriculum will prepare graduates to pursue careers in multidisciplinary culturally competent clinical research. It will function as a supportive mechanism for newly trained investigators, actively facilitating investigator development and encouraging research collaborations, particularly those related to community-based participatory health disparities research. By offering interdisciplinary PhD curricula, there will be an increase of basic and clinical investigators committed to conducting culturally competent research that will reduce disparities and improve health outcomes among Asian, Native Hawaiian and other Pacific Islander populations. This innovative interdisciplinary approach will serve as a model for other academic programs designed to reduce barriers to conducting culturally competent research in diverse settings across the country.

These projects are funded by grants from the NIH, NCCR, Clinical Research Education and Career Development in Minority Institutions 5R25RR019321-02, and NIGMS PhD in Clinical Research 5K07GM072884-01.

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