

## Educational Opportunities in Clinical and Translational Research

PATRICK VIVIER, MD, PhD

### ABSTRACT

Clinical and translational research extends basic science research into the clinical realm, bringing the latest advances and potential treatments to the patients who need them. The Brown School of Public Health offers a number of educational programs that trains physicians and researchers in these research methods. The goal of these programs is to help students develop an independent research career and make important contributions in clinical and translational sciences.

**KEYWORDS:** translational research, master's degree, summer, clinical research, research methods

### INTRODUCTION

The goal of clinical and translational research is to extend basic scientific research in the physical, biologic, and behavioral sciences into the clinical arena, including studies that will develop and evaluate clinical interventions and will ultimately improve individual and population health. This "bench-to-bedside" approach is not unidirectional, but rather "a two-way street."<sup>1</sup> By translating basic science research into improved clinical outcomes, clinical and translational research helps provide new treatments to patients more efficiently and effectively. In addition, the experience and findings of clinicians, clinical researchers and public health professionals can greatly inform and stimulate the direction of basic science investigations.

To make this "bench-to-bedside" approach a reality, it is essential to have training programs that help bridge the skills of clinicians, basic scientists, clinical researchers and public health professionals. In order to move the field of clinical and translational research forward in Rhode Island, a number of high quality, graduate-level training experiences have been developed at Brown University, providing a range of opportunities from taking a single course as a special student to completing a full master's degree program.

Brown's Summer Institute in Clinical and Translational Research is an intensive 6-week, full-time training program

that provides doctorally trained clinicians and basic scientists insight into clinical and translational research design, as well as the critical skills necessary for the development of successful research proposals. The Summer Institute, which occurs in May and June each year, consists of two full-credit courses: "Research Methods in Clinical, Translational, and Health Services Research" and "Scientific Writing, Research Presentation, and Proposal Development." The courses are integrated and employ a combination of readings, written assignments, and presentations through which students will learn to develop and refine research questions, design research projects, appropriately implement research methodologies, and understand research ethics, including IRB processes and HIPAA regulations. At the end of the Summer Institute, students present the proposal they have developed to classmates and faculty who provide additional



Dr. Patrick Vivier meeting with students in public health at Brown.

feedback, helping students move forward to a competitive grant application with a sound methodology. After completing the Summer Institute, students have the opportunity to take additional methods courses during the standard academic year in the Brown School of Public Health.

For doctorally trained clinicians and researchers who

would benefit from a full graduate program, Brown University offers a master's degree in Clinical and Translational Research. Students complete nine courses in key methodological areas, such as clinical trials, evidence-based medicine, and survey research, as well as biostatistics and applied data analysis. Students have the opportunity to work closely with faculty mentors from a broad range of clinical and research departments, as well as the School of Public Health research centers, Brown's affiliated hospitals, and other partner sites. The program emphasizes "learning by doing," with students developing research portfolios that include research presentations, scientific manuscripts, and research proposals. The goal is to help students develop an independent research career, making important contributions in clinical and translational sciences. For those who wish to pursue studies beyond the master's level, there are doctoral programs in biostatistics, epidemiology, and health services research, as well as a new PhD program being developed in the Department of Behavioral and Social Sciences – all areas central to clinical and translational research.

Many of the clinical and translational research educational programs focus on those who already are doctorally

trained clinicians or basic scientists. However, there are opportunities for those without advanced degrees to begin their training in clinical and translational research. This includes the Master of Public Health Program, which offers highly relevant course work, as well as the opportunity to complete an internship and thesis on clinical and translational research topics.

For more information on any of the training programs in clinical and translational research, please contact Patrick M. Vivier, MD, PhD, (Patrick\_Vivier@Brown.edu) or visit [www.brown.edu/academics/public-health/mctr](http://www.brown.edu/academics/public-health/mctr).

#### Reference

1. <http://commonfund.nih.gov/clinicalresearch/overview-translational.aspx>

#### Author

Dr. Patrick Vivier is the Director of Interdisciplinary Education Programs in Public Health and Associate Professor of Health Services, Policy & Practice and of Pediatrics at Brown University.