



## Specialized Research Fellowship in Outcomes Research/Pharmacy Informatics

### GOAL

The purpose of this two-year fellowship program is to train clinical pharmacists to conduct outcomes research, including quality and safety research. Knowledge and experience will be gained in the use of pharmacy informatics and research tools to evaluate drug therapy outcomes. The fellow will also gain experience in teaching in the field of medical outcomes and pharmacy informatics within the academic setting.

### SUMMARY OF PROGRAM ACTIVITIES

The fellowship training program will focus on research, training, education, and experiences related to outcomes research and pharmacy informatics. The fellow will be responsible for designing a research proposal, conducting the research, analyzing the data and preparing and submitting an abstract, manuscript, and presentation of work at a professional or scientific meeting. In addition the fellow will gain experience in teaching in the academic setting in the field of health care outcomes and pharmacy informatics. The teaching experiences will be integrated within the two-year program.

### OBJECTIVES FOR FELLOWSHIP PROGRAM

- Introduce the fellow to new opportunities to conduct research in relation to pharmacy practice.

*A basic knowledge of research techniques and applied uses of these techniques will be demonstrated for the fellow. The fellow will also be involved in current aspects of ongoing research projects.*

- Train the fellow in the fundamentals of research.

*The fundamentals of research practice will be addressed, especially regarding research on medication safety*

- Integrate the fellow within the research process.

*The fellow will actively participate in ongoing research that relates to pharmacy practice. These will include grants that are related to adverse drug events, medication prescribing and patient safety as it relates to pharmacy issues. The fellow will be encouraged to think critically and input his/her opinion regarding the direction of the research projects. As the fellow will be actively engaged in the research process, the insights that the fellow can provide can become instrumental in the research process and lead to educational growth for the fellow.*

- Build upon drug literature evaluation skills and engage in evidence-based medicine approaches.

*Drug information is utilized in all pharmacy practice settings, and research is no exception. The fellow will be directed in the use of information sources both at Brigham and Women's Hospital and in the School of Pharmacy-Boston at Massachusetts College of Pharmacy and Health Sciences that relate to the research project. By the introduction and continued use of these tools, the fellow will be well suited for utilization of these tools in the future to enhance the education and development process. The fellow will utilize resources that will enable him/her to provide drug information to persons on the research/risk management teams*

*The fellow will also lead journal club presentations and other presentations utilizing evidence-based medicine.*

- Conduct an outcomes research project that will be approved by an advisory committee comprised of the fellowship program director, faculty preceptors at Brigham and women's hospital (BWH) and faculty in the School of Pharmacy-Boston at Massachusetts College of Pharmacy and Health Sciences.

*The fellow will be required to develop an interest in research beyond the scope of the rotation, and the fellow will be able to mentor students to further his/her interests in relation to research.*

- Publish and present results of the research project at a national meeting.

*One of the essential tenets of research is being able to conduct research and present the research results to other healthcare professionals. By giving the opportunity to present ongoing results to colleagues, the fellow will gain experience in presenting research findings.*

- Attend grand rounds and other seminars in order to further enhance the fellow's educational experience.

*Brigham and Women's Hospital, Division of General Medicine & Primary Care is an excellent resource for healthcare research and education. The support that is*

*available offers time to attend grand medical rounds to further this educational goal. Clinicians and other researchers from both inside and outside the institution present interesting topics on a weekly basis, and there are many ongoing lectures that present topical cutting-edge material in a variety of subject areas. These sessions will be used to further enhance the educational process.*

*The fellow will also be encouraged to attend the Multidisciplinary Seminar Series in the School of Pharmacy-Boston at the Massachusetts College of Pharmacy (MCPHS-SOP) and Health Sciences. The fellow will be asked to give one presentation in the Multidisciplinary Seminar series at the College.*

- Collaborate with other research professionals both on and off site to expand research experience.

*Current research projects involve co-researchers at independent sites, and the fellow will be interacting with, and responding to healthcare professionals at these sites. The development of the fellow's ability to work with others both on and off-site will be strengthened and communications skills will be solidified in this environment. In addition, networking opportunities for the fellow are possible.*

- The fellow will interact with faculty in both the Department of Pharmacy Practice and Department of Pharmaceutical Sciences. The fellow will be encouraged to seek opportunities to collaborate with colleagues who share similar teaching and research interests.
- Integrate the fellow in the process of utilizing computer systems in the current research project

*Brigham Integrated Computing System (BICS) represents a cutting edge, national model for healthcare computing systems. The fellow will have access to this system and a longitudinal medical records system in the ambulatory care setting. These systems are involved in current ongoing research and the fellow will be involved in the development of basic and advanced decision support for the longitudinal medical records system.*

- Train the fellow in pharmacy informatics at the Division of General Medicine & Primary Care at Brigham and Women's Hospital. In addition, the fellow will also be guided by the faculty in the School of Pharmacy-Boston in teaching in outcomes research, pharmacy informatics and other teaching activities in the academic setting.

*Teaching opportunities exist within both the Departments of Pharmacy Practice and Pharmaceutical Sciences. The fellow will receive an adjunct teaching appointment in the School of Pharmacy-Boston and will participate in teaching opportunities over the two-year period and will gain experience in the area of course/lecture design, delivery, and assessment.*

## PROGRAM ADMINISTRATION

This fellowship will take place in the Division of General Medicine & Primary Care at the Brigham & Women's Hospital in Boston and the School of Pharmacy-Boston at the Massachusetts College of Pharmacy and Health Sciences. At Brigham & Women's Hospital the fellow will be introduced to the field of outcomes research, by participating, in current studies ongoing within the Division. In addition, the fellow will develop a research proposal that involves concepts of medication safety and may involve the use of pharmacy informatics. The on-site faculty of the School of Pharmacy – Boston at Massachusetts College of Pharmacy and Health Sciences will direct this research proposal; however the fellow will be responsible for all aspects of conducting, publishing, and presenting the research. The faculty in the School of Pharmacy-Boston at the College will provide guidance in the area of teaching, curricular development and assessment.

## DIVISION OF GENERAL MEDICINE & PRIMARY CARE, BRIGHAM AND WOMEN'S HOSPITAL

The Division is involved in a Center of Excellence that is funded by the Agency for Healthcare Quality and Research (AHRQ) and the fellow will have the ability to participate in these studies. In addition there are many ongoing studies that use information technology to improve medication safety. The fellow will also be given the opportunity to attend monthly group meetings where different research projects are presented. The fellow will also have the opportunity to present the study he/she is working on to the group. The fellow will be working with other research professionals including physicians, pharmacists, nurses, biostatisticians, computer programmers and research assistants.

The fellow will have the ability to take classes at Harvard School of Public Health's Program in Clinical Effectiveness. The program is designed for the clinician seeking quantitative and analytic skills needed for clinical research or interested in health care administration. If the fellow chooses to participate, David Bates MD, Chief of the Division of General Medicine & Primary Care will act as mentor for this portion of the program. By fulfilling the requirements of the Harvard School of Public Health, the fellow will have the option to obtain a Master of Science (MS) degree or a Master of Public Health (MPH) degree; they will need to be accepted to this program.

Brigham and Women's Hospital is a founding member of Partners Healthcare System and a teaching affiliate of the Harvard Medical School. Brigham and Women's Hospital is a tertiary care hospital with 716 beds. Over the last 10 years, it has been either the largest or second largest non-university recipient of research funding from the National Institutes of Health. BWH is committed to excellence in patient care, medical research and the training of health care professionals. The fellow will be supervised by Andrew

C. Seger PharmD, Senior Research Pharmacist in the Division of General Medicine & Primary Care.

## MASSACHUSETTS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Founded in 1823 by an association of Boston pharmacists, the Massachusetts College of Pharmacy and Health Sciences (MCPHS) was formed to educate men and women for careers in the profession of pharmacy. Today, the College is pledged to meet the increased demand for the well-educated pharmacist and to prepare the future leaders of the profession. Within walking distance of numerous prestigious colleges, universities, and teaching hospitals, MCPHS is situated in the Longwood Medical and Academic area. This proximity affords students, residents, and fellows with many opportunities to interact with renowned scientists, practitioners and faculty within the health care field. MCPHS grants degrees in several undergraduate and graduate programs.

The School of Pharmacy-Boston at MCPHS is comprised of the Department of Pharmacy Practice and the Department of Pharmaceutical Sciences. The faculty within the School of Pharmacy-Boston is committed to educating and training Doctor of Pharmacy students that will deliver high quality pharmaceutical care in all settings. In addition, the faculty within the Department of Pharmacy Practice has a variety of expertise and maintains practice sites in the Longwood Medical Area and throughout Massachusetts. They conduct research in their areas of expertise both at the practice sites and within academia. The Department of Pharmaceutical Sciences is comprised of faculty in the basic and social administrative sciences. The Department Chair will facilitate and coordinate the teaching activities of the fellow with faculty within both Departments. The Residency and Fellowship Committee of the School of Pharmacy-Boston will work with the faculty administration of the fellowship program to provide guidance and feedback regarding the implementation and maintenance of the program.

## FACULTY ADMINISTRATION

David W. Bates, M.D.  
Chief, Division of General Medicine  
Brigham & Women's Hospital  
Medical Director, Clinical & Quality  
Analysis  
Partners HealthCare Systems, Inc.  
Professor of Health Policy and Management  
Harvard School of Public Health

Andrew C. Seger, Pharm.D.  
Senior Research Pharmacist  
Division of General Medicine  
Clinical Quality & Analysis  
Partners HealthCare Systems, Inc.

Caroline Zeind, Pharm.D.  
Chair, Department of Pharmacy Practice  
Associate Professor of Pharmacy Practice  
School of Pharmacy-Boston  
Massachusetts College of Pharmacy  
and Health Sciences

Michael Montagne, Ph.D.  
Professor of Social Pharmacy  
Department of Pharmaceutical Sciences  
School of Pharmacy-Boston  
Massachusetts College of Pharmacy  
and Health Sciences

Luis Pereira, Ph.D.  
Assistant Professor of Biopharmaceutics  
and Pharmacokinetics  
Department of Pharmaceutical Sciences  
School of Pharmacy-Boston  
Massachusetts College of Pharmacy  
and Health Sciences

#### Application Requirements:

Interested candidates must have completed a Doctor of Pharmacy Program and have a minimum of one year of residency training and at least two years of Pharmacy Practice experience. Candidates must also be U.S. licensed pharmacists.

Applicants should submit a letter of intent, curriculum vitae, and three letters of reference to:

Andrew C. Seger, PharmD, RPh  
Senior Research Pharmacist  
Division of General Medicine & Primary Care  
Brigham and Women's Hospital  
1620 Tremont Street  
One Brigham Circle, 3<sup>rd</sup> Floor, BC-3-002LL  
Boston, MA 02120-1613  
Email: [aseger@partners.org](mailto:aseger@partners.org)  
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