

 Share |   

[Newsroom Home](#)

[News Releases](#)

[Press Kits](#)

[AAMC Reporter](#)

[STAT](#)

[Contact Public Relations](#)

Search Newsroom

Filter by:

Join the Conversation






The AAMC offers opportunities to connect with us on Facebook, Twitter, YouTube, and more.

[Learn how to follow us >>](#)

 [Subscribe to AAMC News Releases >>](#)

AAMC Member Institutions

-  [AAMC-member Medical School Directory](#)
-  [Member Medical Schools](#)
-  [Member Teaching Hospitals and Health Systems](#)

More Doctors Seek Training in Implementation Science

AAMC Reporter April 2013

—By Jen Uscher, special to the *Reporter*

While Adithya Cattamanchi, M.D., was completing his postdoctoral fellowship in pulmonary and critical care medicine at the University of California, San Francisco (UCSF) School of Medicine, he discovered that he wanted more formal training in areas like biostatistics and study design. He thought advanced training would improve the quality of his research on tuberculosis.

“As my research career evolved, I realized more and more that I wanted to be involved in taking practices that had good evidence behind them and understanding why they weren’t being adopted in routine health care settings,” Cattamanchi said.

Cattamanchi enrolled in the implementation science track of the master’s degree program in clinical research at UCSF. The skills he gained in the program, which he completed in 2010, helped him successfully apply for an R21 grant from the National Institutes of Health (NIH). With that funding, he is developing and testing a strategy to increase provider uptake of guidelines to evaluate patients suspected of having tuberculosis in Uganda.

Like Cattamanchi, a growing number of clinicians are seeking training in implementation science—a field that focuses on how to promote the adoption of proven interventions in everyday practice. Training opportunities have expanded over the past 10 years and now include certificate and degree programs, fellowships, and shorter-term options like seminars and workshops.

The physicians and other health care professionals who pursue these training programs typically are involved in the development or evaluation of health interventions or policies and are interested in enhancing their clinical research skills and exploring other areas that were not covered in their earlier education.

“In general, during medical school and residency, you don’t necessarily have much exposure to the topics that are addressed in an implementation science training program like population health, epidemiology, biostatistics, and quality improvement,” said Alexander Ommaya, D.Sc., AAMC senior director of clinical effectiveness and implementation research.

Ommaya noted that training in implementation science often is offered through either schools of public health or medical schools, but in some cases is offered through other university divisions. For example, at Tufts University, the Clinical and Translational Science graduate program is housed in the Sackler School of Graduate Biomedical Sciences.

“Because implementation science is so broad and includes so many disciplines, there are many approaches to training,” Ommaya said.

At UCSF, the implementation science track of the master’s degree program in clinical research and a certificate program in implementation science are offered through the Department of Epidemiology and Biostatistics and sponsored by the UCSF Clinical and Translational Science Institute.

The one-year, part-time certificate program is geared toward doctors, dentists, nurses, pharmacists, and public health professionals who are already out in the field doing quality improvement or program development work and want supplemental training.

The implementation science track of the master’s degree in clinical research is a two-year program for physicians and those holding other clinical doctorates who hope to pursue full-time independent research careers or delivery system/quality improvement careers. Most of the students in the master’s program receive funding through, for example, a fellowship or career development award.

“The demand for our courses is continuing to grow,” said Ralph Gonzales, M.D., M.S.P.H., professor of medicine and of epidemiology and biostatistics, and director of the Implementation Science Program at UCSF. “We’ve also seen that we’re having a very positive impact on our students’ grant writing and project success rates.”

Gonzales explained that students in the master’s program apply the principles they are learning to their own clinical research projects. For example, an OB/GYN fellow developed a proposal for a program to engage obstetricians to reduce the use of staples




April 2013 Home



“The implementation science track was really important to my work because it’s about how you can make things work in the real world—how you can take something from a proven idea into practice.”

—*Jess Waldura, M.D.*

Related Resources

-  [Aligning and Educating for Quality \(ae4Q\)](#)
-  [Teaching for Quality \(Te4Q\)](#)
-  [Research on Care Community \(ROCC\)](#)

after C-section because of the risk of infection. A pulmonary and critical care medicine fellow is looking at programs to reduce ventilator-associated pneumonia in the intensive care unit.

Jess Waldura, M.D., an associate adjunct professor in the Department of Family and Community Medicine at UCSF School of Medicine, completed the implementation science track of the master's degree program in clinical research in 2012. For her research project, she studied whether primary care providers who used the National HIV Telephone Consultation Service felt more capable of managing HIV-positive patients.

"The implementation science track was really important to my work because it's about how you can make things work in the real world—how you can take something from a proven idea into practice. I was focusing on how to get HIV care to work better in primary care," Waldura said, adding that the master's program helped her reach her goal of transitioning to a full-time research career.

Applying implementation science in health care systems

Johns Hopkins University recently launched two educational programs that cover topics related to implementation science and cater to health care professionals who are responsible for designing and implementing quality and safety improvements in their organizations.

"For a lot of physician managers and leaders, more and more their job is to make things better," said Albert W. Wu, M.D., M.P.H., professor of health policy and management and of medicine, and director of the Center for Health Services and Outcomes Research at the Johns Hopkins University Bloomberg School of Public Health.

"You have the results from a clinical trial and you have a policy based on those results. The question is, how do you make it work in your organization? Our programs address this," Wu said.

A new certificate program in quality, patient safety, and outcomes research is designed for physicians, graduate students, and fellows from the Bloomberg School and other health professionals. It includes a practicum that provides a hands-on, mentored experience in research or practice related to quality of care, patient safety, or outcomes.

"All of the courses in the certificate program include exercises in how to implement a strategy or intervention once you have established from research that it is effective," Wu said.

Much of the course work can be completed online and some students who have signed up for the certificate program—particularly those who work, for example, at a hospital, pharmaceutical company, or health care research organization—are taking the courses on a noncredit basis from other states or countries.

In addition, the Armstrong Institute for Patient Safety and Quality at Johns Hopkins offers a variety of workshops on approaches to improving patient safety that include modules on implementation science. The workshops are open to faculty and staff at Johns Hopkins and, in most cases, to health care professionals from other organizations.

According to Wu, the doctoral program at Bloomberg that focuses most on implementation science theories and methods is the Ph.D. Program in Health Services Research and Policy. In the health services track, which Wu noted is growing in popularity, students take courses on patient safety, care quality, and patient outcomes assessments.

At other institutions, certificate and degree programs in clinical and translational science often weave in implementation science content as well. At Tufts University, students in the M.S., Ph.D., and certificate programs in clinical and translational science all take a monthlong summer introductory course that covers topics related to implementation science, including study design and community and patient engagement strategies. Most trainees in these programs are physicians who are completing a medical subspecialty fellowship or are junior faculty members at a Tufts-affiliated hospital.

Educating faculty

To develop a critical mass of medical school and teaching hospital faculty experts interested in teaching medical students and residents about quality improvement and patient safety, the AAMC recently established the Teaching for Quality (Te4Q) initiative. Plans are under way for the AAMC to offer a pilot faculty development workshop this year and then roll out a comprehensive program in 2014.

"We think the best way to generate interest and competence in implementation science and quality improvement among the health care professionals of tomorrow is to kick-start the faculty development," said Dave Davis, M.D., senior director of continuing education and performance improvement at the AAMC.

Another AAMC program, Aligning and Educating for Quality (ae4Q), assists medical schools and teaching hospitals in aligning their quality improvement efforts with their continuing medical education (CME) programs and activities. At the 27 participating sites, CME planners work with their quality improvement colleagues to identify a

problem and implement a change—for example, improving the utilization of blood products.

Growing opportunities

Many implementation science training programs focus heavily on developing grant-writing skills so trainees can compete successfully for research funding from the NIH and other federal agencies. Students often are required to submit grant applications as part of their degree completion and are finding that more new funding opportunities are emerging.

"Just as implementation science training opportunities are increasing, so are the number of grants for research that involves implementation science," Wu said.

For example, Wu noted, the Agency for Healthcare Research and Quality has a program called Accelerating Change and Transformation in Organizations and Networks II that funds projects implementing evidence-based interventions in health care systems.

"I think it's a good thing that the practice and research pieces of this are growing up together and are expanding rapidly," Wu said.

AAMC's Research on Care Community

The AAMC has established the Research on Care Community (ROCC) as the home for academic medicine leaders and their teams who are committed to the use of research to enhance health equity and implementation of best practices to improve health care.

More than 100 members have joined ROCC, an arm of the association's Best Practices for Better Care initiative. Members focus on identifying and sharing leading approaches that support health system and research integration, alignment of research and quality improvement, and institutional commitment to clinical effectiveness and implementation research scholarship.

For more information, [visit www.aamc.org/initiatives/rocc/](http://www.aamc.org/initiatives/rocc/).