Objective: The authors discuss the importance of introducing research training in psychiatry and neurosciences to medical students.

Methods: A review of existing models of research training in psychiatry with focus on those providing research training to medical students is presented.

Results: Two research-training models for medical students that are easy to adopt and have possible nationwide applicability are identified, along with other useful research-training models.

Conclusion: Specific recommendations on how to foster research training in psychiatry and neurosciences for medical students throughout the U.S. are presented.

Academic Psychiatry 2006; 30:16–22

As far as my research experience, it played a major role in impacting what I decided to do, i.e., psychiatry, and what my interests are within the field. Having a research experience as a medical student is important because it exposes us to what is currently going on within the field and also allows us to participate in the potential future of psychiatry, which is very fulfilling and exciting. It also allows us to become more proficient at deciding which studies are most meaningful. I think that even if it is not something that you would want to continue, the experience itself is very important because it helps to encourage students to ask questions and to hopefully move the field forward. It is an experience unlike anything else in medical school and it can really help to get students interested in different areas. I had no previous research experience and I did not know what to expect. It was a constant learning process which I really liked, and I also enjoyed the creative and academic nature of designing projects and then how many other studies become possible because of the results. For me, it really made psychiatry come to life in a different way from my rotations, and feeling like you are hopefully contributing to the future of how different disorders are treated is very exciting. Then, as a result of presenting the poster/paper, you can attend meetings which are really great experiences to have as a student. It allows us to see what other institutions are doing and to discuss our research with others and then come up with more questions. It was a great experience for me to discuss the ideas other researchers and clinicians had about our research.

—Sara Bobak, M.D., Wayne State University School of Medicine, Class 2005

Many, if not all, would argue that the future of psychiatry depends on research advances, and such advances are dependent upon an adequate number of psychiatric investigators (1). At the same time, psychiatry, along with other medical specialties, faces the crisis of a decline in the numbers of clinical researchers. The proportion of physician investigators applying for clinical research grants is steadily declining and was down to 25% in 1998 (2). There are various reasons for this decline, including increasing demands of an academic career in the form of growing clinical and teaching loads among young physicians, large indebtedness after graduating from medical school, lack of research training during medical school and residency, and lack of research funding. The decrease in the numbers of clinical researchers presents a great challenge to the national clinical research enterprise (3). This challenge is not limited to any particular specialty (4, 5), but it does present serious challenges for psychiatry and its subspecialties (6, 7).
Additionally, the clinical research workforce is growing older. Only 8% of principal investigators conducting industry-sponsored clinical trials are younger than 40 years, and less than 4% of competing research grants awarded by the National Institutes of Health (NIH) in 2001 was awarded to investigators age 35 or younger [cited in (3)]. The lack of research experience may be a factor among younger physicians on a personal level.

According to one small study (8), integration of research with clinical practice was correlated with greater job satisfaction and personal satisfaction with a career in psychiatry for Canadian psychiatrists.

There has also been a significant decrease of psychiatrists in postgraduate training during the 1990s. Only time will tell whether the recent increase in the number of students entering psychiatric residency is a sign of an improving trend or a delay in a permanent decline. Further, the field of psychiatry is not attracting enough top students (9). The reasons for the lack of medical students’ attraction to psychiatry are complex and poorly understood (10).

The statement of a medical student, cited earlier in this article, clearly documents that research experience during medical school can be an important and “guiding” one, at least for some students. Interestingly, medical school applicants frequently ask about the availability of research experience during their interview (11). It seems obvious that training in research makes sense in the framework of national research enterprise (3), on a specialty level (6, 7) and possibly on a personal level (8).

As training of future clinical researchers clearly becomes a critical issue for the future of medicine and psychiatry, we may start to ask specific questions. Whom, what, how, where and when to train? Residency training is considered by many "a key crossroads in the career path of many M.D.s" (12, p 43). However, it represents but “one step toward a research career” (12, p 43). The question “How early does the research pipeline issue begin?” has also been raised by many (4). It is possible that the optimal time to decide on a research career is before residency. Research training is inadequate in the majority of residency training programs in the United States (13). In addition, some experts question considering residency training during residency in isolation, and not as a part of the entire developmental pipeline (14). Medical student training is another part of the research pipeline (though perhaps not the earliest one anyway, as some try to introduce biomedical research to high school students). And, as Nathan pointed out (2), “If clinical research is to flourish, medical students must become interested in the field. To-day, medical students have multiple opportunities to gain experience in basic research but few to engage in clinical research.” Nathan (2) also emphasizes that “The NIH cannot solve the problem of clinical investigation alone because it is only one of several contributors to the discipline.” Early experience in research, as in other parts of medical education (15), “could strengthen and deepen cognitively, broaden affectively, contextualize, and integrate early medical education.”

Medical student research experience in psychiatry seems to make sense. But how do we do it, and do we have any experience in training medical students in psychiatric research?

Models of Research Training in Psychiatry

The available literature on research training in psychiatry suggests the existence of at least six possible models of research training. These are: the Columbia Model (16), the Michigan Model (17), the Pittsburgh Model (18), the Wayne State Model (19), the University of California San Diego Model (20, 21), and the Yale Model (22).

Additionally, there are other models of medical student research training available that are not psychiatry-specific, such as the Duke University School of Medicine Model (23) and the Mt. Sinai School of Medicine Model (24). These models describe various structures, funding, mentoring, and other aspects of research training. They emphasize the importance of longitudinal experience. However, only three (19–22) present any research experience or research training for medical students, and only two (20–22) seem to have a possible widespread application at present. Interestingly, the author of the description of one of these models (17) not focused on medical student training describes his own dilemma about entering a psychiatry residency. At the time of his third-year psychiatry clerkship, he did not believe (mistakenly) that “there were any good psychiatric research opportunities” (at the University of Michigan).

The Columbia Model flourishes in a department that has nine separately funded NIH T32 institutional research training programs in various areas (e.g., child psychiatry, psychobiology, neurobiology). These programs/fellowships are developed and funded for psychiatrists who wish to obtain research training. The University of Michigan Department of Psychiatry offers a residency research track, which provides a longitudinal research experience. It is a 5-year program with up to 18 months of protected research time during PGY-2 through PGY-5 residency training years (17). The Pittsburgh Model of research career de-