

The clinician-scientist: An endangered species in psychiatry

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In psychiatry, a clinician-scientist can be defined as a psychiatrist who spends part of their time providing direct care to patients and a substantial portion of their time dedicated to research. Although having less time dedicated to purely scholarly endeavors, the clinician-scientist has the benefit of direct clinical exposure which can fuel research questions. Clinician-scientist engagement in genomic psychiatry and translational models bridges the gap between bench and bedside through real-world insight into patient phenotypes, symptom heterogeneity, and treatment responses. For instance, as I was working in the psychiatric emergency, I noticed that patients with low-lethality suicide attempts often reported poor lifestyle habits, such as a lack of regular exercise. In turn, this fueled a series of studies, which found that exercise reduced suicide attempts in those with mental illness (1–3). This finding had a direct impact on my subsequent patient care plans, psychoeducation, and future research endeavors (4–6). Similar and much larger-scale findings have led to major breakthroughs in medicine, with clinician-scientists accounting for 37% of Nobel Prizes in Physiology or Medicine (7). Despite the clear necessity for clinician-scientists for novel breakthroughs, the proportion of US physicians engaged in research has decreased from 4.7% in the 1980s to 1.5% currently (7). In psychiatry, from 2003 to 2019, the National Institute of Mental Health expenditure on research in serious mental illness has decreased by 90% (8). This has unfortunately occurred in a period where innovation is a necessity, for instance, in effective suicide prevention methods, due to the rising amount of mental illness. There are a variety of issues contributing to the declining numbers of clinician-scientists, such as the negative perception of psychiatry, lack of research exposure during training, and insufficient protected time for research.

Starting in medical school, students often perceive psychiatry to be less attractive than other medical specialties, without significant changes in their attitude by the end of clinical clerkship (9, 10). In a survey of medical students who definitively ruled out a career in psychiatry, 60% cited their lack of interest to be due to psychiatry's lack of scientific foundation or

a lack of clinical efficacy of psychiatric treatments (9). Not only does this false belief dissuade those from choosing a career in psychiatry, but it also specifically disincentivizes those medical students who may be interested in exploring a clinician-scientist career in the field. Therefore, there is an urgent need for further curriculum restructuring and development to address this. Particularly, emphasis should be placed on early intervention in correcting major misconceptions in psychiatry.

In residency, while the goal is to develop clinical excellence, engagement in research and scholarly activities is underpromoted. Residents face multiple constraints in funding, mentorship, and time which makes it difficult to engage in research. Further, obtaining a higher number of academic degrees (such as a Master's or PhD) is time-consuming, which may deter residents from considering research. "I'll do it when I'm staff" is a common saying amongst residents looking to engage in research. This saying is often the result of the system itself which burdens residents with inflexible workloads that do not permit the exploration of research. For example, in a survey of psychiatry residents across Canada, while 87% recognized the importance of research in clinical practice, only 28.7% believed it was taught well in their home institution and an even smaller fraction (21.7%) were enthusiastic about participating in research (11).

However, in addition to the responsibilities of being a staff psychiatrist, if one does not develop skills while in training, such as writing Research Ethics Board applications, grant proposals, or publishing research, it may dissuade them from pursuing research or scholarly pursuits entirely. However, when provided with opportunities such as dedicated research training rotations where they are able to learn about research design and receive mentorship, residents were found to acquire skills for research, develop an understanding of the processes involved, and increase interest in engaging with future research (12).

In addition to developing future academic psychiatrists, residents involved in research also increase the research output and academic value of the institution. Thankfully, residency programs are beginning to acknowledge the

need for clinician-scientists at the residency level; however, support for residents is still severely lacking. Clinician-scientist and scholar programs or streams are appearing more frequently that allow for dedicated resources and mentorship in psychiatric training but the challenges are not yet well known, given their novelty. All residency programs should aim to implement unique versions of these clinician-scientist streams in order to best support the academic interests of their residents so they may flourish and develop into the future generation of clinician-scientists in psychiatry.

Building upon a framework to support the development of clinician-scientists in oncology, there are a variety of key strategies to be considered in psychiatry (13). First, we need to formally recognize and define the role of a clinician-scientist in psychiatry early on during training. Workshops dedicated to the support of clinician scientists in psychiatry can serve as a starting point to expose trainees to the scientific community. Second, with increasing clinical responsibilities in residency, protected research time must be enforced to ensure sufficient experience in both caring for patients and also toward academic development (including dual degree pathways). Third, established investigators in psychiatry must foster a supportive environment through mentorship of trainees within their institution. This may include providing direction for research endeavors, obtaining funding for research, or assisting with gaining expertise in a niche field. Importantly, programs such as the Stimulating Access to Research in Residency (StARR) support institutional training to provide mentored research opportunities (14). Finally, there must be emphasis on striving for equality and diversity in the clinician-scientist workforce. Here, journals have featured the biographies and career journeys of underrepresented minority groups, demonstrating to aspiring clinician-scientists that these opportunities are indeed available and tangible.

In conclusion, while clinician-scientists are pivotal for advancing the field of psychiatry, negative perceptions, lack of exposure, and insufficient protected time serve as major barriers to engagement. Clinician-scientist engagement in genomic psychiatry and translational models bridges the gap between bench and bedside.





We must support the development of clinician-scientists in psychiatry through formal recognition of their role, protected research time, mentorship (both at an individual and program level), and emphasis on striving for equality and diversity in the workforce. Therefore, it is imperative that we focus on the promotion of clinician-scientists to enhance psychiatric innovation and improve patient outcomes.

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