Why I am a psychiatric scientist

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WHY I AM A PSYCHIATRIC SCIENTIST

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When I started medical school 10 years ago I had just graduated with honors from a good university, and I
thought I knew something. Only later did I discover how ignorant I had been about mental illness.

Back then I had no idea how common the serious mental illnesses are, and when I thought about them at all I had
a vague idea that mental illness was a sort of permanent generic weirdness that ran in families: something out of
Arsenic and Old Lace. My only encounter with psychiatry had been an uninspired lecture during my college
pre-med seminar from a psychiatrist who seemed more odd himself than the patients he described. I still have the
homework from that class on which I wrote "psychiatry is definitely a low-interest career for me."

The first hint of interest came in my required neuroscience and human behavior courses in the first year of
medical school. I found the brain, with its connections to our very selves and its complex physiology, infinitely
more interesting than (say) the heart, which can after all be replaced by an artificial pump and in which nearly
every cell does the same thing. Still, I had a hard time imagining myself as a psychiatrist. My student clerkship in
neurology should have been a clue since I thoroughly enjoyed the rotation but found the nervous system below
the neck a complete bore.

The turning point for my career was my student psychiatry rotation at John Umstead State Hospital in Butner,
North Carolina, where I learned three crucial lessons. The major psychiatric illnesses are syndromes. They are
common and serious but often treatable. And I love being a psychiatrist.

My first patient had never read a psychiatry textbook but showed every textbook feature of mania. Her thoughts
were confused and she was essentially unable to function. After a week of lithium the difference in her behavior
and ability to function was astounding. It was obvious to me that mania was a syndrome: a collection of medical
symptoms shared by many patients, usually with the same underlying physiology. The idea that her manic
behavior could be merely a personal idiosyncrasy seemed ludicrous. I wanted to know right then what wasn't
working right in her brain when she was ill, why it wasn't working right, and why it worked so much better with
lithium.

This patient and others at the state hospital also taught me that psychiatric illnesses are the most human of all
illnesses. A broken leg or an infected lung affects a peripheral part of someone: it doesn't change one's
perceptions, one's emotions, one's thought patterns, even one's very self-image. I previously had no idea of the
stigma patients faced in the world in general and even among the general medical community. I also had no idea that with proper diagnosis and treatment many people with psychotic illnesses could return to perfectly normal lives.

Knowing about a patient's life and social setting, theoretically important for any doctor, was finally considered a genuine part of my job. I came home enthusiastic about trying to help my patients. For the first time, I found myself reading widely in the medical literature because I cared passionately about the answers rather than because I had to. And best of all, often my patients got better, and sometimes it was even because of something I did. I loved being a psychiatrist.

These three lessons from my medical student days are still a big part of why I chose psychiatry for my medical specialty training. But why do I also do science?

In part it's because I am still fascinated with how the brain works, both in health and in illness. In part it's because of my own personality features. But a big part of the answer is my conviction that the best answers for my patients will eventually come from scientific research.

It is true that our current treatments for schizophrenia, manic-depressive illness, obsessive-compulsive disorder, major depression, and panic disorder help millions of patients, and our knowledge of effective psychiatric treatments has improved more in the last 20 years than in the entire preceding history of the world. But as many readers well know, we haven't arrived yet. Most treatments leave something to be desired. For instance, antipsychotic medications have many annoying and sometimes serious side effects. Antiobsessional treatments usually reduce symptoms only partially. And none of the current treatments for these conditions is usually curative. Further knowledge of the causes and physiology behind these illnesses is bound to lead to better treatment.

I know better than to hope that all my research efforts will lead to better treatment. The progress of science tends to be more like tracing a maze than like riding down a well-marked highway. After all, the only way to know for sure which studies will be successful and which won't is to know the answer beforehand, in which case we wouldn't have to do the experiment. But even though I know there will be some blind alleys in research, I am optimistic about the long-term outcome. I take heart from remembering three of the major psychiatric illnesses of a century ago: neurosyphilis, untreated epilepsy, and mental retardation due to dietary iodine deficiency. Scientific effort in the 19th century--including work by the psychiatrists Antoine Bayle, Hans Berger, and Julius Wagner-Jauregg--succeeded in demystifying, destigmatizing, treating, curing, or even preventing millions of cases of psychiatric complications of these illnesses. There is every reason to hope that the powerful research tools of the 20th and 21st centuries will make similar advances with schizophrenia and the other major psychiatric illnesses of today.

I believe modern neuroscience research will continue to make progress despite some significant challenges. For instance, medical research nowadays depends much more than it used to on the generosity of private donors, since NIH funding hasn't generally kept up with inflation and since Federal grants now cover less of the total cost of the research effort. Furthermore, even very productive researchers face increasingly stiff competition for these NIH funds, and the medical schools which employ them are facing dire economic straits themselves. Consequently, private funding is more important than ever to help keep good research going between Federal grants. In my case, I am very grateful to NARSAD and its many donors for helping me at this early stage in my research career.
My NARSAD-funded research study was first motivated by a patient with Parkinson's disease whom I saw at the beginning of my movement disorders training. Initially she was tearful, sad, apathetic about former interests, and disinterested in food, and she was considering suicide. An hour later, when her morning dose of antiparkinsonian medication had "kicked in," she was telling jokes, showing off, and feeling "on top of the world." This woman had mood fluctuations which paralleled fluctuations in her brain dopamine levels. By comparing patients like this one to patients whose mood stays steady even though their ability to move fluctuates throughout the day, my NARSAD research will attempt to discover which areas of the brain (and which kind(s) of dopamine receptor) may be more involved with mood symptoms, and which with movement.

My other current research efforts include PET studies to determine which parts of the normal brain are more influenced by each dopamine receptor subtype, as well as PET and MRI studies of dystonia. Dystonia means characteristic twisting or pulling movements of the body (like writer's cramp or torticollis) which can occur for various reasons, including as a side effect of antipsychotic medication.

Research has its ups and downs, like any sustained effort, but I live for those days when we do a new type of study for the first time, or days when we get results that may explain how part of the brain works. Although I love these moments, what keeps me going the rest of the time is my continued contact with patients. The woman I mentioned with Parkinson's disease and medication-related mood changes is one example. Other patients--like a woman in her 80s getting treatment for the first time for lifelong Tourette syndrome, or a man with Huntington's disease and severe apathy--remind me of how much we have yet to learn about how the brain produces psychiatric symptoms.

These patients also remind me that there is an important part of medical practice outside of diagnosis, treatment or even cure. No matter how much medical science progresses, and whether or not there is a "miracle" treatment or even any treatment for a given patient, that patient will still need a doctor who is knowledgeable, compassionate, supportive and understanding. Hopefully in the future, when psychiatric illnesses are even more treatable than they are today, we as physicians will still be striving for this ideal.