

## Psychiatry and Stigmatization

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WHEN MURRAY AND LOPEZ IN 1996 INTRODUCED THE IDEA OF THE DISABILITY-ADJUSTED LIFE-YEAR (which measures healthy years lost to premature mortality or disability), it should have come as no surprise when they found that 7 of the top 10 causes of disability in industrialized countries were mental disorders. Unipolar major depression and alcohol abuse, the top 2 on this list, caused more years lost to disability than the next 5 combined.<sup>1</sup>

The public remains reluctant, however, to respond to this public health problem. A 1996 poll found that most people would be unwilling to support paying for mental illness treatment if it would lead to increases in their premiums or taxes.<sup>2</sup> Legislators appear similarly reluctant to support measures that would make mental health care more accessible. In his report on mental health, the US surgeon general urged proper public education to remove the misperceptions and stigma of mental illnesses that prevent them from being treated like other types of medical illness.<sup>3</sup> This task will likely prove difficult as mental illnesses have suffered from misperception and stigma ever since ancient times.

This issue of MSJAMA examines misperceptions that have impeded delivery of psychiatric care. Christina Delos Reyes describes how misperceptions about addiction, particularly among physicians, hamper the treatment of patients with this mental illness. Jason Etheredge analyzes how misperceptions about the costs and effectiveness of mental health care may influence the success of pending legislation designed to improve coverage of mental illnesses. Prashant Tamaskar and Ronald McGinnis discuss how the falling recruitment rate of medical students into psychiatry is related both to poor mental health care coverage and to misperceptions regarding the efficacy of psychiatric therapies. Michael Rosenbloom discusses the effects that the introduction of psychopharmacologic agents had on our perceptions of psychiatry.

Perhaps it is the term *mental illness* itself that perpetuates misperceptions of these diseases. Calling an illness "mental" implies that it is a fabrication of the mind instead of an organic brain disease. Although scientific research has brought forth new treatments and inched humankind closer to an understanding of the biology of these diseases, it has not been successful in fully convincing the public or physicians that tangible biological disturbances underpin diseases of the mind as well as the body.

### REFERENCES

1. Murray CJL, Lopez AD. *The Global Burden of Disease*. Cambridge, Mass: Harvard University Press; 1996.
2. Hanson KW. Public opinion and the mental health parity debate: lessons from the survey literature. *Psychiatr Serv*. 1998;49:1059-1066.
3. US Surgeon General's Office. *Mental Health: A Report of the Surgeon General* (publication 017-024-01653-5). December 1999. Available at: <http://www.surgeongeneral.gov/library/mentalhealth/pdfs.C2.pdf>. Accessed March 7, 2002.

# Overcoming Pessimism About Treatment of Addiction

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ALTHOUGH 13 MILLION TO 16 MILLION PEOPLE IN THE UNITED States each year could benefit from treatment for addiction disorders, less than 25% of them receive it.<sup>1</sup> Negative attitudes of physicians toward diagnosis and treatment of addiction create barriers to their early identification and treatment. In one survey of general practice physicians and nurses, a majority believed that no available medical or health care interventions are effective in treating addiction.<sup>2</sup> Similarly, most physicians do not screen for alcohol or other drug dependence during routine health examinations.<sup>3</sup> This can result in a delay of diagnosis until the addiction has reached an advanced stage and late-stage pathology is evident.<sup>4</sup> Poor outcomes resulting from delayed diagnosis reinforce physician and patient pessimism about the prospects of recovery.<sup>4</sup>

Such pessimism about therapy is unwarranted. Even brief interventions are effective in decreasing alcohol intake among problem drinkers.<sup>5</sup> A recent study found that half of the patients in an alcohol treatment program were drinking significantly less a year later, and that 36% of patients were abstinent after 3 years.<sup>6</sup> Another program, involving both long-term residential treatment and outpatient drug-free treatment, led to 50% reductions in cocaine, marijuana, heroin, and heavy alcohol use and illegal activity in a 1-year period.<sup>7,8</sup> Rates of compliance and efficacy of addiction treatment are similar to rates found in other chronic illnesses such as diabetes, hypertension, and asthma.<sup>3</sup> For instance, less than 60% of adults with type 1 diabetes mellitus fully adhere to their medication schedule, and the rates may be less than 40% in patients with hypertension or asthma. Among adults with type I diabetes, 30% to 50% each year have exacerbations that require additional treatment, as do 50% to 70% of adults with hypertension or asthma.<sup>3</sup>

Physicians' negative attitudes of physicians toward addiction may reflect their experiences in medical school. Medical education about the prevention, diagnosis, and treatment of addiction remains disproportionate to the morbidity and mortality caused by this disease. In the late 1980s, the percentage of required medical school teaching hours on addiction was less than 1%.<sup>9</sup> In a recent survey of preclinical medical students, 20% reported receiving "no training in substance abuse" and 56% listed their training as "a small amount."<sup>10</sup> Similarly, a recent survey suggested that almost half of all residency programs in primary care, emergency medicine, psychiatry, and obstetrics/gynecology do not have a required substance abuse disorders curriculum.<sup>11</sup> Of the 56% of programs that required this training, the median num-

ber of hours was seven, ranging from four to 15 hours, depending on medical specialty.<sup>11</sup> Physicians are therefore often trained to treat the acute medical conditions resulting from drug dependencies, but lack the training to recognize and manage it as a chronic, relapsing illness.

The federal government's policies also demonstrate pessimism toward addiction therapy and prevention. In 1999, more than two thirds of the \$17 billion budget of the Office of National Drug Control Policy went to law enforcement, while less than one third went to prevention, treatment, and research combined.<sup>12</sup> These policies ignore the fact that incarcerating persons with addiction is almost 4 times more costly than treating them.<sup>13</sup> In fact, combining criminal justice sanctions and addiction treatment can decrease drug use and related crime.<sup>13</sup>

Changing attitudes toward addiction medicine is an ongoing process requiring participation on many levels and has been identified as an important goal by federal agencies as well as private groups.<sup>1,8,12</sup> Medical students and physicians would benefit from increased training in the knowledge, skills, and attitudes of addiction medicine. Finally, federal and private financing of addiction treatment needs to better reflect the current understanding that addiction is a chronic and treatable illness.

## REFERENCES

1. Center for Substance Abuse Treatment. *Improving Substance Abuse Treatment: The National Treatment Plan Initiative*. Rockville, Md: DHHS; 2000.
2. McLellan AT, Lewis DC, O'Brien CP, Kleber HD. Drug dependence, a chronic medical illness. *JAMA*. 2000;284:1689-1694.
3. Ewing GB, Selassie AW, Lopez CH, McCutcheon EP. Self-report of delivery of clinical preventive services by US physicians. *Am J Prev Med*. 1999;17:62-72.
4. Chappel JN, Schnoll SH. Physician attitudes: effect on the treatment of chemically dependent patients. *JAMA*. 1977;237:2318-2319.
5. Fleming MF, Barry KL, Manwell LB, et al. Brief physician advice for problem alcohol drinkers. *JAMA*. 1997;277:1039-1045.
6. Project MATCH Research Group. Matching alcoholism treatments to client heterogeneity. *J Stud Alcohol*. 1997;58:7-29.
7. Hubbard R, Craddock S, Flynn P, et al. Overview of first year follow-up outcomes in the drug abuse treatment outcome study (DATOS). *Psychol Addict Behav*. 1997;11:261-278.
8. American Society of Addiction Medicine. *Principles of Addiction Medicine*. 2nd ed. New York, NY: Harcourt Brace Press; 1998.
9. Lewis DC, Niven RG, Czechowicz D, Trumble JG. A review of medical education in alcohol and other drug abuse. *JAMA*. 1987;257:2945-2948.
10. Hoffman NG, Chang AJ, Lewis DC. Medical student attitudes toward drug addiction policy. *J Addict Dis*. 2000;19:1-12.
11. Isaacson JH, Fleming M, Kraus M, et al. A national survey of training in substance use disorders in residency programs. *J Stud Alcohol*. 2000;61:912-915.
12. Physician Leadership on National Drug Policy. *Position Paper on Drug Policy*. Providence, RI: PLNDP National Project Office; January 2000.
13. *Principles of Drug Addiction Treatment: A Research-Based Guide*. NIH publication 00-4180. Bethesda, Md: National Institute on Drug Abuse; October 1999; reprinted July 2000.

## Misperceptions Behind Mental Health Policy

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ACCORDING TO THE 1999 SURGEON GENERAL'S REPORT ON Mental Health (SGRMH), about 20% of the US population is affected by mental disorders at any given time.<sup>1</sup> However, the SGRMH goes on to say that "there is an enormous disparity in insurance coverage for mental disorders in contrast to other illnesses." People with mental illness thus often go without adequate care and suffer needlessly.<sup>1</sup>

There is a longstanding concern that coverage for mental illness treatment would result in an upsurge in health care costs. At the Medicare amendment hearings before the Senate Finance Committee in 1965, Robert W. Gibson, on behalf of the American Psychiatric Association, pointed out that "no doubt much of the discriminatory conditions set forth in this legislation concerning mental illness derive from a concern that if the mentally ill are treated like all the rest, that it will 'break the treasury.'" Senator Russell Long of Louisiana responded, "I agree with you that largely we have not done more for the mentally ill because the argument has been made that when we get into this field it is going to cost a lot of money."<sup>2</sup>

Senator Long's argument, however, turns out to be unsupported. One recent study by the GAO estimated the cost increase for full parity to be between 2% and 4%.<sup>3</sup> In the 35 states where parity meets or exceeds federal parity laws, parity had only a small effect on premiums, increasing cost by 3.4%.<sup>4</sup> Additionally, the study showed that cost increases were lowest in systems with tightly managed care and generous baseline benefits. This implies that when coverage is present and restrictions that force patients to accept other "covered" solutions are removed, the inadequate care created by the patchwork of treatments ceases to be an issue, freeing up otherwise dedicated resources and consequently reducing overall costs.<sup>5</sup>

Congress took a step toward improving access to mental health care by passing the Mental Health Parity Act (MHPA) of 1996, which took effect on January 1, 1998, and recently sunset on September 30, 2001.<sup>6</sup> This law established parity between the annual and lifetime benefits for mental health illnesses and those for medical and surgical care. Although this act did not require employers to offer mental health care benefits, it did require parity if such benefits existed.

Despite the legal mandate of parity, however, reimbursement for mental health services is often so low that many providers still refuse to treat patients with such coverage. In the private sector it appears that many employers are able to comply with the MHPA while subverting its spirit. The General Accounting Office (GAO) reported that 87% of employers surveyed claimed compliance with the requirements of the MHPA while using cost-sharing mechanisms

allowed by the law.<sup>3</sup> This effectively imposed new restrictions on mental health benefits by permitting strategies such as reducing the number of covered outpatient visits and hospital days, modifying the definition of "medical necessity," or imposing higher copayments and/or deductibles.<sup>3</sup>

Policies that limit reimbursement for mental health services may also reflect a misperception that most psychiatric diseases lack effective treatments.<sup>2</sup> The SGRMH asserts that the current criteria for the diagnosis of mental disorders are as reliable as those for general medical disorders and a range of treatments of well-documented efficacy exists for most mental disorders.<sup>1</sup> A study from the National Institute of Mental Health<sup>7</sup> has shown that success rates of treatment for disorders such as schizophrenia (60%), depression (60%-65%) and panic disorder (80%) surpass those of some common medical procedures such as angioplasty (40%) or atherectomy (50%), when success is defined as a substantial reduction or remission in symptoms of the illness.

Misperceptions about the costs and effectiveness of mental health care prevent legislative action needed to help people with mental illness. A 1998 survey of 1300 randomly selected adults found that 69% supported expansions of mental health benefits, but that this number decreased to 34% if they might be asked to pay for it in increased taxes or insurance costs.<sup>8</sup> This attitude may translate into sluggish legislative action if politicians perceive that their constituents view such initiatives unfavorably. It is imperative for our society to stop devaluing the treatment of mental illness based simply on this lack of understanding.

### REFERENCES

1. US Surgeon General Office. *Mental Health: A Report of the Surgeon General*. December 1999. Available at: <http://www.surgeongeneral.gov/library/mentalhealth/pdfs/C2.pdf>. Accessed December 7, 2001.
2. Senate Committee on Finance. (1965, May) Social Security, Part 2. CIS-NO: 89 S1680-0-B, DOC-TYPE: Published Hearing, SESSION-DATE: 1965, SUDOC: Y4.F49:So1/8/965/pt.2, CIS/Historical Index.
3. US General Accounting Office. *Mental Health Parity Act: Despite New Federal Standards, Mental Health Benefits Remain Limited*. May 2000. Available at: <http://americ20.temp.veriohosting.com/web/MentalHealthParityAct.pdf>. Accessed December 7, 2001.
4. Sing M, Hill S, Smolkin S, Heiser, N. *The Costs and Effects of Parity for Mental Health and Substance Abuse Insurance Benefits* (DHHS Publication (SMA) 98-3205). Rockville, Md: Substance Abuse and Mental Health Services Administration; 1998.
5. American Psychiatric Association. *Mental Health Parity—Its Time Has Come*. April 1999. Available at: [http://apaweb.psych.org/pub\\_pol\\_adv/fac-parity.cfm](http://apaweb.psych.org/pub_pol_adv/fac-parity.cfm). Accessed November 14, 2001.
6. Health Care Financing Administration. *The Mental Health Parity Act of 1996*. 1996. Available at: <http://www.hcfa.gov/medicaid/hipaa/content/mhpa.asp>. Accessed October 24, 2001.
7. National Mental Health Advisory Council. Health care reform for Americans with severe mental illnesses. *Am J Psychiatry*. 1993;150:1450-1452.
8. Hanson KW. Public opinion and the mental health parity debate. *Psychiatr Serv*. 1998;49:1059-1066.

## Declining Student Interest in Psychiatry

Prashant Tamaskar and Ronald A. McGinnis, MD, *Medical College of Ohio, Toledo*

AFTER THE NUMBER OF US PSYCHIATRISTS REACHED A ZENITH in the 1960s, there has been a consistent decrease in recruitment into the profession. During 1988-1998 alone, the number of medical students choosing to pursue a psychiatry residency fell by 42.5%, to a current rate of 3%. This significant decrease from the rates of 7% to 10% in the post-War World II years<sup>1</sup> has occurred despite an unchanging prevalence of psychiatric disorders in the United States.<sup>2</sup> Thus, it is important to understand medical students' current perceptions of the field of psychiatry.

Negative attitudes toward psychiatry often exist before students start medical school. In a 1999 study, first-year medical students rated psychiatry significantly lower than the 3 other specialties surveyed (surgery, internal medicine, and pediatrics) as a desirable career.<sup>3</sup> Psychiatry was rated lowest in prestige, helpfulness to patients, intellectual challenge, and expectation of having a bright and interesting future. These negative attitudes appear to persist even after a clerkship experience.<sup>1</sup> Fourth-year students who chose not to pursue a psychiatry residency cited low effectiveness of psychiatric treatments, poor opinions of peers and faculty about psychiatry, and lack of status of psychiatry within medicine as some of the factors in their decision. In addition, they appear less likely than those entering psychiatry residencies to view the field as intellectually challenging and professionally satisfying to residents.<sup>4</sup> These results are especially significant since the clerkship experience is far more influential in students' decision to pursue psychiatry than it is in any other field.<sup>5</sup> These surveys reveal that although some factors that discourage students from psychiatry are based on realities, others are based on misperceptions that persist despite clinical experiences in medical school.

Declining student interest in psychiatry has been partially attributed to perceptions of disparities in insurance coverage for mental health problems, which may limit psychiatrists' ability to provide care.<sup>1</sup> Fourth-year medical students listed "health care reform and its impact on psychiatry" and the "impact of managed care trends on psychiatry" as factors that dissuade them from choosing a career in psychiatry.<sup>4</sup> These disparities may be felt especially acutely by medical students, as psychiatry departments were the first to face cutbacks and reductions in inpatient care after the congressionally mandated Balanced Budget Act of 1997.<sup>6</sup> A 1995 meta-analysis found that residency recruitment into psychiatry departments increased in direct proportion to resources devoted to psychiatric and mental health education.<sup>1</sup> For example, two of the schools with the highest match

rates into psychiatry were Michigan State University College of Human Medicine, with a 1:1 faculty-to-student ratio during clerkships, and Mayo Medical School, which had 28 full-time psychiatric faculty for 42 students per class.<sup>1</sup>

Although students' perceptions of financial disparities may reflect realistic concerns, their beliefs about the ineffectiveness of psychiatric treatments are often based on misperceptions. There is ample evidence that psychiatric treatments are just as effective, if not more so, than those for other illnesses.<sup>7</sup> It is curious, however, that students' misperception appears to be unaltered by their direct experiences with psychiatric treatment. Similarly to first-year medical students, who ranked psychiatry the lowest of 4 specialty choices when asked about "degree to which patients are helped,"<sup>3</sup> fourth-year medical students going into other fields rated "effectiveness of psychiatric treatments" as the third most negative factor for their decision not to enter psychiatry.<sup>4</sup> Thus, many medical students continue to question the efficacy of psychiatric treatment despite their medical school experiences.

One effective method to correct this misperception may be better integration of primary care and mental health care. In a recent study, fourth-year medical students' perception of treatment for mental illness became more favorable when psychiatry was cotaught with internal medicine and presented as a central and integral part of a medical patient work up.<sup>8</sup> By integrating primary care and mental health care to better treat patients and improve perceptions of psychiatry, students may have a more positive clerkship experience, which may also translate into more interest in the profession.

### REFERENCES

1. Sierles FS, Taylor MA. Decline of US medical student career choice of psychiatry and what to do about it. *Am J Psychiatry*. 1995;152:1416-1426.
2. US Department of Health and Human Services. *Mental Health: A Report of the Surgeon General—Executive Summary*. Rockville, Md: US Dept of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health; 1999.
3. Feifel D, Moutier CY, Swerdlow NR. Attitudes toward psychiatry as a prospective career among students entering medical school. *Am J Psychiatry*. 1999;156:1397-1402.
4. Lee EK, Kaltreider N, Crouch J. Pilot study of current factors influencing the choice of psychiatry as a specialty. *Am J Psychiatry*. 1995;152:1066-1069.
5. Paiva REA, Vu NV, Verhulst SJ. The effect of clinical experiences in medical school on specialty choice decisions. *J Med Educ*. 1982;57:666-674.
6. Stoudemire A. Quo vadis, psychiatry? *Psychosomatics*. 2000;41:204-209.
7. National Mental Health Advisory Council. Health care reform for americans with severe mental illnesses. *Am J Psychiatry*. 1993;150:1450-1452.
8. Coodin S, Chisholm F. Teaching in a new key: effects of a co-taught seminar on medical students' attitudes toward schizophrenia. *Psychiatry Rehabil J*. 2001; 24:299-302.

# Chlorpromazine and the Psychopharmacologic Revolution

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BEFORE 1955, PSYCHIATRY WAS STILL HEAVILY INFLUENCED BY the psychoanalytic method and had yet to come up with a reliable treatment for schizophrenia that went beyond the usual methods of institutionalization, restraint, sedation, and psychosocial intervention.<sup>1</sup> Chlorpromazine was not only the first pharmacologic agent that relieved many of the symptoms associated with schizophrenia but also represented the first step toward understanding mental illness in terms of receptors and neurotransmitters.

Treatment for schizophrenia in the pre-chlorpromazine era was empirical and based on hypotheses that were popular at the time. In the 1930s, psychiatrists believed a “biological antagonism” existed between schizophrenia and epilepsy, and hence induced convulsions in patients both chemically and electrically.<sup>2</sup> Despite some success in relieving psychotic symptoms, these methods were traumatic and ultimately unhelpful.<sup>1</sup> The chemical convulsants induced cyanosis and muscle pain, and were dreaded by patients. A director of a Swiss public asylum during this period described the experience in the following manner: “The sight of the artificially produced attack of epilepsy, especially of the contorted blue faces, was so awful to me that I sought to get away from the room whenever I could.”<sup>3</sup> Electroconvulsive therapy (ECT) was also used to treat schizophrenia along with other mental disorders; however, the convulsions put the patient at risk for broken limbs and fractured vertebra.

Manfred Sakel, a physician from Vienna, believed that schizophrenia resulted from the influence of abnormal brain cells on behavior.<sup>2</sup> Thus, contemporary psychiatrists attempted to selectively destroy these weaker cells by inducing insulin comas in patients.<sup>2</sup> Although the procedure worked for at least the short-term, the induction of an insulin coma brought patients dangerously close to hypoglycemic death and consequently was associated with a 10% mortality.<sup>3</sup>

Treatments in the 1940s were equally unpleasant. Influenced by the work of the Portuguese neurologist Egas Moniz, Walter Freeman pioneered the transorbital leucotomy whereby a blunt surgical knife was used to destroy the frontal cortex. Although the procedure was initially used only on patients with severe mental disease, it was later expanded to include patients with a wide range of diagnoses.<sup>2</sup> Unfortunately, prefrontal leucotomy was also a mutilating procedure that was irreversible and associated with a high mortality rate.<sup>2</sup>

Although these treatments for schizophrenia sometimes improved psychotic symptoms, their efficacy was unreliable and the side effects often negated their overall benefit to patients. In 1951, Henri Laborit, a surgeon in the French

navy, began experimenting with chlorpromazine, which was originally intended to be used as a surgical anesthetic.<sup>3</sup> Soon psychiatrists throughout France, including Jean Delay and Pierre Deniker who pioneered the use of the drug for schizophrenia, began using chlorpromazine to treat patients with symptoms of mania and psychosis.<sup>3</sup> After Smith Kline & French started marketing chlorpromazine as Thorazine, psychiatrists were able to treat this disease with a specific drug, thus making their therapeutic approach more similar to the rest of the medical profession.<sup>3</sup> In addition, the use of chlorpromazine for schizophrenia marked one of the first instances in which this disease was treated by an orally administered agent rather than by a medically supervised, physically invasive procedure.

Within 8 months of the introduction of chlorpromazine, approximately 2 million patients had received the drug.<sup>4</sup> Chlorpromazine was 70% effective in relieving the hallucinations, delusions, and disorganized thought associated with schizophrenia.<sup>1</sup> Unlike previous therapies, chlorpromazine made uncontrollable patients more manageable without rendering them unconscious.<sup>5</sup> It suddenly seemed possible that schizophrenia could be a more treatable disease, and patients who had once been confined to living in an institutionalized environment could now visit art museums, meet relatives for dinner, and shop at stores with or without an attendant.<sup>3</sup> One report describes a 29-year-old woman whose pre-chlorpromazine conduct was characterized by “self-inflicted injuries, temper tantrums, sullenness, and antagonistic behavior” toward staff and other patients. After the administration of the drug, her physician described her as “pleasant, cooperative, capable.”<sup>6</sup>

The effects of the drug seemed miraculous to physicians who had previously worked with patients with schizophrenia. Robert Cancro states, “It is difficult to communicate to younger colleagues the miracle that 150 to 300 mg of chlorpromazine a day appeared to be to the house officers of 1956.”<sup>7</sup> Heinz Lehmann, who introduced chlorpromazine to North America, was astonished by the results of this new agent: “Two or three of the acute schizophrenics became symptom-free. Now I had never seen that before. I thought it was a fluke—something that would never happen again but anyway there they were. At the end of four or five weeks, there were a lot of symptom-free patients. By this, I mean that a lot of hallucinations, delusions, and thought disorder had disappeared. In 1953, there just wasn’t anything that ever produced something like this—remission from schizophrenia in weeks.”<sup>3</sup>

Eventually, the widespread use of chlorpromazine resulted in an the deinstitutionalization of large numbers of patients with schizophrenia. Although the behavior of schizo-

phrenic patients was once considered to be incompatible with independent functioning in society, the drug enabled thousands to lead lives outside psychiatric institutions. In 1953, the highest point of population in mental hospitals was 560 000, and by 1975 this number had dropped by two thirds to 193 000.<sup>8</sup>

At the same time, some psychiatrists viewed chlorpromazine as an inadequate replacement for institutionalized care. Previously, patients diagnosed with schizophrenia may have been hospitalized for their entire lives; now many of these individuals who still manifested psychotic symptoms were left to wander the streets, often unable to care for themselves.<sup>5</sup> In addition, the deinstitutionalization movement was driven as much by the federal and state governments' desires to reduce the costs of caring for mental illness as much as by the success of chlorpromazine.<sup>5</sup>

Despite the controversy surrounding it, chlorpromazine began a novel trend in psychiatry: treatment of mental diseases with pharmacologic agents. Like the cardiologists, who had digitalis and  $\alpha$ -blockers, psychiatrists now had their phenothiazines and tricyclic antidepressants. After the introduction of chlorpromazine, drugs were developed for schizophrenia as well as other Axis I disorders that were previously deemed incurable. In 1956, imipramine, a tricyclic antidepressant, and iproniazid, a monoamine oxidase inhibitor, were found to introduce "euphoria" in depressed patients.<sup>9</sup> Eventually, categories and subcategories of drugs for specific mental illnesses were established. For instance, the anxiolytics (meprobamate, lorazepam) and hypnotic-sedatives (phenobarbital, propofol) were used for anxiety disorders.<sup>9</sup> For the treatment of depression, a psychiatrist can now choose from a monoamine oxidase inhibitor, a selective serotonin reuptake inhibitor, a norepinephrine/dopamine reuptake inhibitor, a serotonin/norepinephrine reuptake inhibitor, and a serotonin type 2A receptor antagonist.<sup>9</sup> Patients who prior to the pharmacologic revolution may have been treated with lobotomy and ECT for an "incurable" mental disease were finally receiving treatment that made their illnesses manageable.

The psychopharmacologic revolution also influenced the attitudes of psychiatrists. During the pre-chlorpromazine era, psychiatry had alienated itself from the rest of medicine, whereas afterwards a new generation of psychiatrists emerged who identified themselves more as medical physicians than as psychoanalysts. In a 1987 study, psychiatric residents who completed their training in the late 1970s and early 1980s expressed less antagonism toward the medical model, endorsed medical education in larger numbers, experienced more hours in neurology training, and felt that the internship was an essential aspect of psychiatric education.<sup>10</sup>

Although chlorpromazine may have been responsible for several significant changes in psychiatry, the drug did not necessarily correct all the problems associated with earlier schizophrenia treatment. First, chlorpromazine's mechanism of action remained a mystery until the dopamine receptor binding studies conducted in the 1960s and 1970s, and even in modern times, psychiatrists do not have a clear understanding of the molecular basis of many psychopharmacologic agents. In 1984, decades after the introduction of chlorpromazine, one of the major complaints among medical students about psychiatry was the ambiguity of treatment.<sup>11</sup> Second, chlorpromazine had a variety of adverse effects that included postural hypotension, tardive dyskinesia, a permanent condition characterized by abnormal choreo-athetoid movements, and confusion. Heinz Lehmann went as far as to describe the drug as acting like a "chemical lobotomy."<sup>3</sup> Finally, chlorpromazine made schizophrenia *manageable* rather than *curable*, and thus the benefit came with a degree of risk.

However, chlorpromazine marked the first step in the direction of chronically managing schizophrenia, and it stimulated a series of investigations that began to provide psychiatry the biological explanations that it had always lacked. The main target of the drug was found to be the D2 dopamine receptor, and this information was correlated with the fact that chlorpromazine only relieved positive symptoms. Furthermore, the identification of receptor subtypes during the 1980s helped researchers understand the affinities of neuroleptics for the dopamine-D2 and serotonin 5-HT<sub>2A</sub> receptors.<sup>9</sup> Consequently, this understanding of schizophrenia has continued to lead to the development of more specific neuroleptic agents with fewer adverse effects and more specific actions.

#### REFERENCES

1. Meyer JM, Simpson GM. From chlorpromazine to olanzapine: a brief history of antipsychotics. *Psychiatr Serv*. 1997;48:1137-1139.
2. Freeman H. *A Century of Psychiatry*. Barcelona, Spain: Harcourt Publishers Ltd; 1999.
3. Shorter E. *A History of Psychiatry: From the Era of the Asylum to the Age of Prozac*. New York, NY: John Wiley & Sons Inc; 1997.
4. The introduction of chlorpromazine. *Am J Psychiatry*. 1976;27:505.
5. Snyder S. *Drugs and the Brain*. 2nd ed. New York, NY: Scientific American Library; 1996.
6. Artigues MF. My father, my life, and chlorpromazine. *N C Med J*. 2000;61:90-94.
7. Cancro R. The introduction of neuroleptics: a psychiatric revolution. *Psychiatr Serv*. 2000;51:333-335.
8. Lipton MA, DiMascio A, Killam KF. *Psychopharmacology: A Generation of Progress*. New York, NY: Raven Press; 1978:4.
9. Ban TA. Pharmacotherapy of mental illness—a historical analysis. *Prog Neuropsychopharmacology*. 2001;25:709-727.
10. Coryell W. Shifts in attitudes among psychiatric residents: serial measures over 10 years. *Am J Psychiatry*. 1987;144:913-917.
11. Jos CJ, Waite J. Medical students' perception of psychiatry. *Am J Psychiatry*. 1985;142:660.

## Haircut

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I AM WALKING DOWN A SMALL STREET. THE HEAT IS UNBEARABLE. I can feel the sun bathing, burning my skin. It is an abrasive, almost painful sensation, but I am happy. Let it burn, even if I get skin cancer one day. There are things that matter in life and this isn't one of them today. Last night, I saw a 3-year-old girl die on the operating table after falling in the bathtub and cracking her skull on the faucet. The suffocating August air, the sun, and the smell of the exhaust from a truck idling at the traffic light are not at all unpleasant this evening. It's 5:20. I should hurry, the barber shop is closing in 10 minutes. If I get there at 5:25, will they still cut my hair? So what if I will make them work a bit overtime today. I hope they'll work overtime for me. I would do it for them.

I am a third-year medical student at the end of my first month at the hospital. I started work at 5:30 this morning, so I could finish by 5:00 PM and get a haircut. I woke my patient at 5:35 to do the daily physical exam. The 73-year old woman was groggy and angry and told me to go to hell. "I'm sorry, I need to do this now." I am lying. I can do it four hours later, but that means one more day without a haircut. It's okay, I tell myself. When I get more efficient at this, I won't have to wake them this early. Mrs Jones will wake up at 5:35 today, so my patients in the future won't have to. Then I tell myself I'm full of it and laugh. The truck exhaust smells different and sweet, unfamiliar. I am now more used to the smell of feet, armpits, pus and sweat, vomit, soap and coffee. Coffee . . . It's been too long since my last cup.

Hospital coffee is terrible, but beggars can't be choosers. My last patient, 33, has injected cocaine since he was 16. "I tried to stop, but I need it, man." I smile, knowingly, respectful of his habit. I am also afraid of him. "Watch the needle. Don't get stuck . . ."—a mantra in my mind as I struggle through a procedure.

An unshaven man in dirty clothes is walking past me. Our eyes meet; I smile and nod. A month ago I would have looked away. But too many people look like him at the hospital, and I always smile and nod. Sometimes, I do it because I like them; often, because I feel bad about their pain; once in a while, to conceal my horror and disgust. I see things that make me sick and scared, and I take pride in my ability to hide my emotions from patients. I think it will make me a better doctor. Maybe not.

As I sit in the barber's chair, he smiles and nods. I wonder what he really thinks. "The usual?" I say yes and thank him. Wow. It's been two months since he cut my hair. I am impressed and envious. All my patients seem to blend together, almost faceless, remembered by their age, symptoms, and the picture of their tumor on the MRI. My teachers say they remember patients as people. Until I do, I hope patients forgive me. Or maybe I don't really care. I try to take good care of all of them, I care about many of them, but I hardly ever worry if they care about me. That way, if they hate me, it doesn't hurt as much. Because I try never to hate them back. I work overtime for them. Maybe they'll do it for me one day.

**Editor's Note:** Please send *murmur* submissions (personal essays, fiction, or poetry on either medical or nonmedical topics) to Teri Reynolds at [treynol@itsa.ucsf.edu](mailto:treynol@itsa.ucsf.edu).