Playing Doctor in Tallahassee: How Lawmakers' Efforts to Save Money May Threaten Quality Care for Mentally Ill Medicaid Patients

by
Naomi Lopez Bauman

Policy Report #37
March 2002

About the Author

Naomi Lopez Bauman is a public policy consultant based in Orlando, Florida, and a research associate for The Latino Coalition in Washington, D.C. She has conducted research on federal and state health and welfare programs, children's and women's issues, barriers to entrepreneurship, social security privatization, and tax expenditure programs. Lopez Bauman also served as director of both the Center for Enterprise and Opportunity and the Project on Children at the Pacific Research Institute for Public Policy in San Francisco, California, and was a member of the California Senate bipartisan Task Force on Homelessness.

Lopez Bauman also worked as a research associate in health care and welfare at the Institute for SocioEconomic Studies in White Plains, New York, and as an entitlements policy analyst at the Cato Institute in Washington, D.C. She was a special policy advisor to the state of Michigan's Secchia Commission, which provided recommendations for state government reform. Lopez Bauman holds a B.A. in economics from Trinity University in Texas and an M.A. in government from Johns Hopkins University.

Table of Contents

Figure

Tables

EXECUTIVE SUMMARY

- Seeking to further rein in prescription drug spending under the state's Medicaid program, Florida lawmakers recently enacted new measures to limit rising prescription drug spending. Drug manufacturers are required to provide an additional 10 percent price discount on drugs, up to a combined total 25 percent discount, or else the drugs would not be included in the state's newly created preferred list of drugs in the Florida Medicaid program. Florida's preferred list contains fewer than 830 prescription drugs, making about 1,000 drugs subject to prior authorization.

- While mental health drugs are currently exempted from prior authorization requirements, many mental health advocates fear that psychiatric drugs will lose this exemption if cost saving targets for prescription drugs are not met. Florida lawmakers could eventually adopt a "fail-first" policy, requiring schizophrenic patients to "fail" on the older typical antipsychotics before a physician may prescribe the newer atypical antipsychotics drug treatments.

- The reliance on attempting to control component costs fails to account for the benefits on newer, more effective treatments. For example, the vast preponderance of academic literature demonstrates that newer atypical antipsychotics are often far less expensive than the cheaper typical antipsychotics in the long term. The newer treatments have been shown to reduce serious side effects and suffering for patients, as well as to reduce costs for hospitalization and criminal justice.

- By attempting to limit access to prescription drug treatments, Florida is allowing bureaucrats to interfere and override important health care decisions that rightfully belong with doctors and their patients. Doing so could leave the most vulnerable populations without access to the best available drug treatments. Now is the time for Florida lawmakers to reverse this dangerous course.

I. Introduction

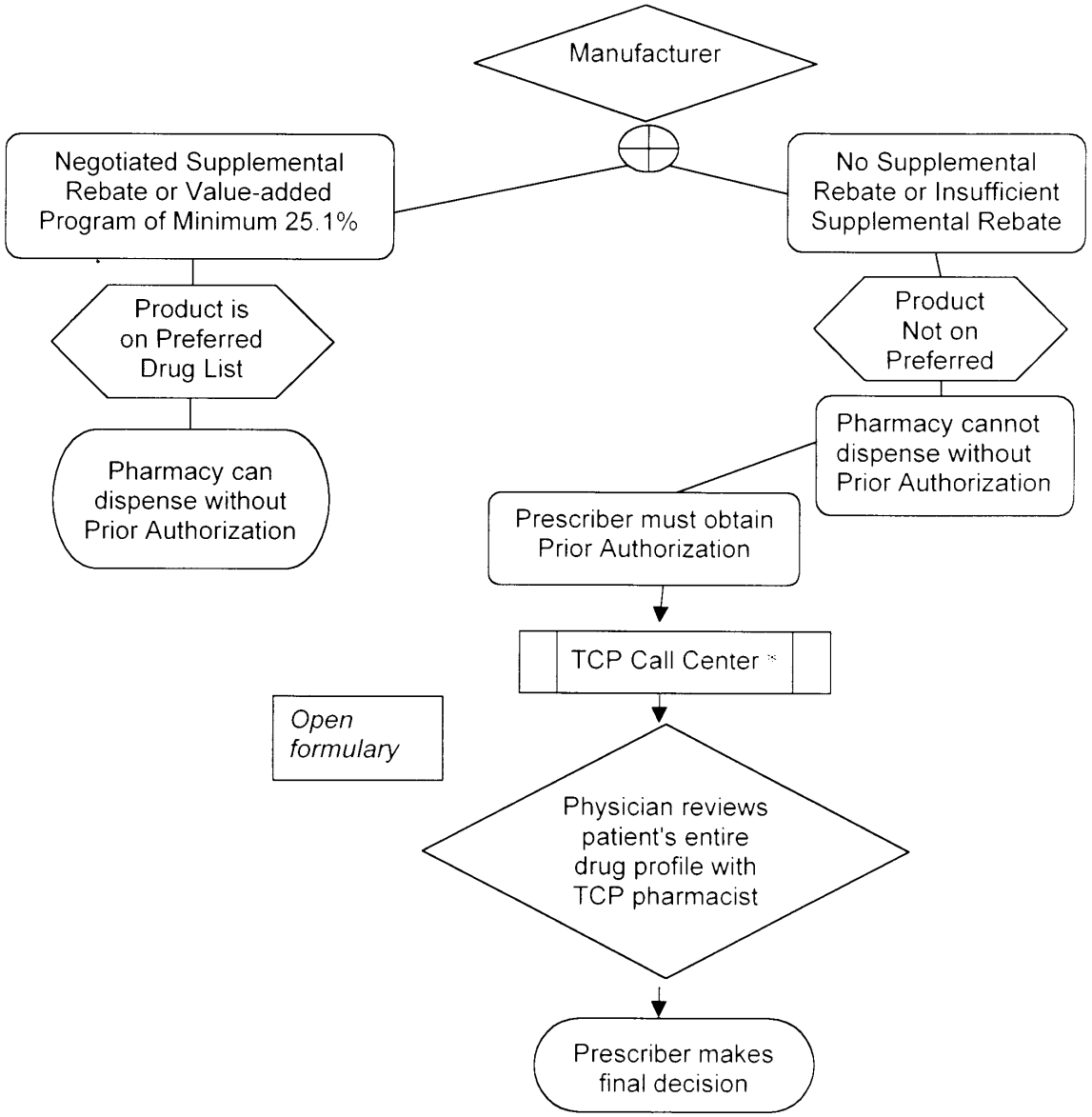
In an effort to curb rising drug expenditures, Florida lawmakers recently enacted new measures to limit rising prescription drug spending under the government's Medicaid program. Enacted in 1965, the Medicaid program is governed and administered between the federal and state governments. The program provides certain medical services and health benefits to the medically indigent. The federal government pays about 59 percent of Florida's total program costs, with the state paying the remaining costs.[1]

Under the program, federal law requires drug manufacturers to enter pricing agreements with the government in order to sell their products through the Medicaid program. In most cases, manufacturers must provide a 15.1 percent discount to the government. If a discount price agreement is not in place, the program will not reimburse those drugs prescribed to Medicaid recipients.

Seeking to further rein in prescription drug spending, Florida lawmakers have enacted a law requiring drug manufacturers to provide an additional 10 percent price discount on drugs, up to a combined total 25 percent drug discount, or else the drugs would not be included in the state's newly created preferred list of drugs in the Florida Medicaid program.[2] Despite strong opposition from patient advocates and drug manufacturers, the preferred drug list is now in place and includes fewer than half of the drugs that are covered by the Medicaid pricing agreement (usually a 15.1 percent discount). Of the 1,827 drugs on the federal list, Florida has fewer than 830 on its preferred list, making about 1,000 drugs subject to prior authorization.[3]

Prior authorization is the process by which physicians treating Medicaid patients must first seek permission from the state to prescribe each drug not included on the state's newly created preferred drug list. While approval is almost automatic in the sense that most authorization requests are granted, the state can take up to 24 hours to approve the request. Furthermore, the process allows the state's Agency for Health Care Administration to encourage physicians to prescribe drugs that are on the preferred drug list. See the Figure.

Figure.
Preferred Drug Program Approval Process



*Therapeuic Consultation Program (TCP)

Source: State of Florida, Agency for Health Care Administration, September 25, 2001.

Through the use of the prior authorization process and additional drug discounts, lawmakers are attempting to save $227 million in Medicaid prescription drug costs. However, this approach is aimed at a single component cost and fails to account for overall costs and benefits of drug treatments.

While prescription drug spending is increasing, many patients are avoiding expensive treatments. By curtailing prescription drug use and limiting access to the newest, most effective treatments, lawmakers will likely offset any potential savings by higher costs in other areas, such as increased hospitalizations and invasive medical treatments.

Florida's current attempt to control prescription drug spending is unlikely to save money and is a dangerous step toward putting government, rather than doctors and patients, in charge of the patient's health care priorities. Florida lawmakers may be tempted to respond to their failure to control costs by enacting further restrictions on access to medications.

Instead, they should first understand that their solution to increasing prescription drug spending is unlikely to be effective, and that government interference with the doctor-patient relationship could severely damage the well-being of Florida's most vulnerable populations.[4]

Florida's current efforts are a major step down a failed path that consistently fails to save money and compromises patient care. Unless lawmakers hold the line or reverse this dangerous trend, Florida's elderly and mentally ill Medicaid populations could face harm.

II. Do Prescription Drug Restrictions Save Money?

Despite a bevy of evidence to the contrary, Florida lawmakers mistakenly believe that establishing obstacles to obtaining prescription drugs will save $227 million taxpayer dollars. In a 1996 study for the National Pharmaceutical Council, researchers conducted a comprehensive review of 30 studies from 1972 to 1996. Taken together, these studies show that restrictive formularies can decrease drug

costs, but will increase overall costs and diminish quality of care.[5] When restrictions were put in place, costs shifted from restricted drugs to increased use of nonrestricted drugs and other health care services. In her recent study of government attempts to rein in prescription drug spending, health care researcher Laura Dykes cites evidence from the United States and around the world demonstrating that restricting access to drugs actually increases overall health care costs.[6]

Because federal law essentially outlaws restrictive formularies under Medicaid, states are using prior approval as a means to legally operate a closed formulary. Linda Gorman, Ph.D., senior fellow of the Colorado-based Independence Institute, offers an explanation as to how prior authorization accomplishes this and the results of such an approach:

> [O]ne way to legally maintain a closed formulary was to include all FDA approved drugs in the formulary but to require prior approval before they could be dispensed. In general, there were no regulations governing prior approval criteria as long as states responded to requests for prior approval within 24 hours and would pay for a 72-hour emergency supply of the drug under review.
>
> As one would expect if one believes that doctors prescribe drugs to help individual patients, to the extent that prior approval requirements effectively restrict patient access to expensive medicines, they also increase health care costs. By delaying access to therapies known to improve health, such requirements ensure that sicker patients will visit doctors and hospitals more frequently. Prior approval systems are also expensive. Someone must pay for the additional staffing to ask for prior approvals, make, and track them.[7]

The impact of Florida's prior authorization rules has been immediate. While advocates of the preferred drug list maintain that prior authorization does not limit access to the federal Medicaid drug list, recent evidence demonstrates a radical shift in physician prescribing patterns. In Florida, for example, "the market shares of a number of drugs... not on the preferred drug list have significantly fallen in recent months....[T]he market share of Imitrex fell from 60 percent to 6 percent, the market share of Prilosec fell from 38 percent to 4 percent, and the market share of Allegra fell from 17 percent to 1 percent."[8]

III. Examples of Government Control

The lessons of government-controlled health care provide enormous insights and reveal the dangers of such an approach. In order to control costs, Veterans Health Affairs maintains a formulary for prescription drugs that doctors may prescribe for veterans participating in the Veterans Administration (VA) health care program.

Not only does the VA generally keep a new drug off its formulary for at least one year after it gains Food and Drug Administration (FDA) approval, the VA is slow to add new drugs to its formulary. (The VA policy is based, in part, on the belief that some veterans could experience drug side effects that were not identified during the drug application, review, and approval processes.)

In 1999, the VA national formulary added 43 products. During that year, however, it deleted 20 products for a net gain of 23 products. To fully appreciate its limitations, it is helpful to compare the VA formulary to drugs that are already commonly used.

A recent report by the White House's National Economic Council, using 1996 data from the U.S. Department of Health and Human Services, identified the 20 most used drugs for elderly Medicare recipients.[9] (See Table 1.) Even if some of these drugs were new in 1996, sufficient time has now elapsed to add these drugs to the VA formulary. Yet today, only 7 of the 20 drugs are listed in the VA formulary. Florida's preferred drug list, with only 11 of the 20, is almost as limited.

Robert Goldberg, a senior fellow at the Ethics and Public Policy Center in Washington, D.C., provides an example of how the VA formulary restricts access to the most effective treatments. As Goldberg notes, "VA patients with pancreatic cancer are not allowed to receive Gemzar, the newest drug for that disease, as a matter of course. They must "fail" on other drugs first."[10]
At that point, a physician could apply for a waiver. Of course, this is after more effective treatment options have been delayed and the veteran has already suffered needlessly. Not only does the VA health care program's restrictive formularies

delay access to some of the most effective treatments, the program continues to restrict access to these treatments even when medical evidence supports the newer treatment.

The VA previously required that veterans with schizophrenia go through a 10-week trial on a designated typical antipsychotic medication. If the patient failed on that treatment, then they could access alternative medicines. This highly controversial "step protocol" policy was recently addressed in the Department of Veterans Affairs fiscal year 2002 budget.

In the new policy, Congress has directed the Veterans Administration to ensure that physicians in its system will be able to exercise clinical judgment when prescribing atypical antipsychotic medications, without fear of reprisal from the VA when physicians recommend more expensive drugs. While the new approach does not reverse the fail-first policy, it does allow physicians to use their best clinical judgment when treating patients.

Fortunately, schizophrenics in the VA system have better protection against placing efforts to control costs above patient well-being. The VA experience should serve as a cautionary tale for Florida lawmakers and citizens.

Table 1.
Drugs Most Used by Aged Medicare Beneficiaries by VA Formulary Listing and Florida Preferred Drug Listing

Drug	*Drug treatment for*	*Available under VA National Formulary?*	*Included in Florida Preferred Drug Listing?*
Lanoxin	Heart failure	Yes	No
Furosemide*	Heart failure (diuretic)	Yes	Yes
Synthroid	Thyroid disease	No	No
Coumadin	Stroke; clot prevention	Yes	No
Premarin	Estrogen replacement	No	Yes
Atenolol	Heart disease; hypertension	Yes	Yes
Vasotec	Heart disease; hypertension	No	Yes
Zantac	Stomach acid reducer	No	No
Norvasc	Heart disease; hypertension	No	Yes
Triamterene/HCTZ	Hypertension; heart failure	Yes	Yes
Cardizem	Heart disease; hypertension	No	No
Lasix	Heart failure (diuretic)	No	No
Zestril	Heart failure; hypertension	No	Yes
Hydrochlorothiazide	Heart failure; hypertension	Yes	Yes
Prilosec	Stomach acid reducer	No	No
Zocor	High cholesterol	No	Yes
K-Dur	Potassium replacement for diuretics	No	Yes
Hytrin	Prostatic hypertrophy	No	No
Verapamil	Heart disease; hypertension	Yes	Yes
Procardia	Heart disease; hypertension	No	No

* Lasix generic alternative.

Sources: U.S. Department of Health and Human Services analysis of MCBS 1996 as cited in *The White House National Economic Council* / *Domestic Policy Council*, "Disability, Medicare, and Prescription Drugs," July 31, 2000; *VHA National Formulary*, Jan. 2002, at www.vapbm.org/PBM/natform.htm; and State of Florida, Agency for Health Care Administration, Preferred Drug List, Oct. 25, 2001.

IV. What Lies Ahead for Florida?

Until recently, Florida had few barriers to obtaining prescription drugs on the federal list. The opposite is true today. Of the 1,827 drugs on the federal list, Florida has fewer than 830 on its preferred list, making about 1,000 drugs subject to prior authorization.[11] As a result, Florida's Medicaid preferred drug list excludes the majority of drugs that once were readily available.

While mental health drugs (as well as anti-HIV drugs and drugs for institutional residents) are currently exempted from prior authorization requirements, many mental health advocates fear that psychiatric drugs will lose this exemption if prescription drug cost saving targets are not met. See Tables 2 and 3.

Cost-cutting efforts, such as the recently amended VA step protocol for schizophrenics, have been closely monitored by mental health advocates who fear that Florida lawmakers may eventually adopt an approach similar to the VA's former fail-first policy. This policy required schizophrenic patients to "fail" on the older, typical antipsychotics before a physician could prescribe the new atypical antipsychotics drug treatments.

Table 2.
Florida Medicaid Preferred Drug List

Therapeutic Classification	*Drug Name*
Typical Antipsychotic	Chlorpromazine HCL
	Fluphenazine Decanoate
	Fluphenazine HCL
	Haloperidol
	Haloperidol Lactate
	Loxapine
	Loxapine Succinate
	Loxitane C
	Mellaril-S
	Moban
	Orap
	Perphenazine
	Serentil
	Stelazine
	Thioridazine HCL
	Thiothixene
	Thiothixene HCL
	Thorazine
	Trifluoperazine HCL
	Trilafon
Atypical Antipsychotic	Clozapine (generic, brand not available)
	Geodon
	Risperdal
	Seroquel
	Zyprexa
	Zyprexa Zydis

Table 3.
Drugs Not Listed in the Florida Medicaid Preferred Drug List

Therapeutic Classification	*Drug Name*
Typical Antipsychotic	Compazine
	Depixol
	Droperidol
	Fentazin
	Haldol
	Largactil
	Lidone
	Loxapac
	Loxitane
	Modecate
	Molindone
	Prolixin
	Sparine
	Stelazine
	Taractan
	Vesprin
Atypical Antipsychotic	Clozaril (brand)

V. Background on Schizophrenia

Schizophrenia is medically classified as a brain disease in which psychotic episodes, such as delusions and hallucinations, are common. People with schizophrenia, who account for about 1 percent of the adult population, are far more likely to be permanently disabled, homeless, and dependent on public assistance.[12]

The cost of the disease on the public system includes criminal justice costs, long-term hospitalization, and patient suffering and death—about 15 percent of schizophrenics commit suicide. It is estimated that schizophrenia treatment is responsible for 22 percent of total mental illness costs and 2.5 percent of all health care costs.[13]

Drug therapy is the primary treatment for the disease, although psychosocial therapy is generally recommended as part of the treatment regimen. For decades, the standard drug treatment was a class of drug known as typical antipsychotics. Beginning in the early 1990s, a new class of drug known as atypical antipsychotics became available.[14, 15]

Although atypical antipsychotic drug therapy costs substantially more than typical antipsychotic drug therapy, the majority of the research, as reflected in the academic literature, supports the proposition that overall cost reductions result from their use, particularly in the area of hospitalization. In addition, many patients may avoid some of the severest side effects associated with the typical antipsychotics.[16] Many psychiatrists now believe that atypical antipsychotics should be used as first-line therapy.[17] However, as in the VA fail-first example, atypical antipsychotics are often the target of cost-cutting efforts because of their relative high cost.

Fortunately, a growing number of studies are finding favorable patient outcomes and reduced costs for this class of drug treatment. For example, atypical antipsychotics, when compared to typical antipsychotics, provide superior outcomes for treating depressive and psychotic symptoms, hostility, and suicidality in schizophrenic patients.[18]

In one study, publicly funded schizophrenia patients who received Clozapine treatment for six months had reduced days of psychiatric hospital care, reduced overall costs, and improved health outcomes. After six months, savings amounted to a staggering $11,464 per patient.[19] In another study, treatment using olanzapine (an active ingredient in both Zyprexa and Zyprexa Zydis) reduced average annual hospital costs by $9,387 compared to Haloperidol treatment.[20]

While not all studies support cost savings for atypicals,[21] the vast majority suggest overall cost reductions when total health care costs are considered. In an undisclosed Medicaid population, researchers found annual cost savings of $2,458 for atypical patients compared to the traditionally treated group.[22] A study of Georgia Medicaid patients found a significant decrease in hospital admissions with an

increase in Clozapine use.[23] Another study of Texas state psychiatric patients found hospital inpatient cost savings of $27,850 per patient per year with atypcial treatment.[24] Several studies of community mental health centers also bear out reduced costs with atypical treatment.[25]

Numerous examples exist of governments' limiting access to prescription drug treatments and how these approaches consistently fail to both save money or preserve quality care. For that reason, Floridians should know about and publicly debate whether lawmakers should interfere with the doctor-patient relationship, especially when it involves the state's most vulnerable populations.

VI. Conclusion

Before the public allows Florida lawmakers to further interfere with takeover of the state's Medicaid medicine cabinet, Floridians should understand that:

- Governments limit access to the newest, most effective drug treatments in order to control costs. The reliance on attempting to control component costs fails to account for the benefits on newer, more effective treatments.

- Both reduced prescription drug spending and quality health care cannot be achieved through restricted access to the newest, most effective drug treatments.

The question for Florida lawmakers should be how to best protect the state's needy citizens, not how to keep doctors from prescribing medications. The health care system, despite its imperfections, currently has the world's best drug innovations and treatments. By attempting to limit access to prescription drug treatments, Florida is allowing bureaucrats to interfere and override important health care decisions that rightfully belong with doctors and their patients. Doing so could leave indigent Floridians without access to the best available drug treatments.

Florida lawmakers should learn from the lessons of the failed approaches of other state governments, as well as those of governments around the world. Achieving

cost savings for taxpayers while providing quality health care for the state's mentally ill Medicaid population can be achieved. By impeding the ability of physicians to provide quality care for their patients, Florida lawmakers are traveling down a dangerous path. Now is the time for them to reverse course and put these important health care decision back in the hands of doctors and their patients.

Endnotes

[1] State of Florida, Agency for Health Care Administration, "Summary of Governor's Budget Recommendations," Jan. 2002, p. 8.

[2] Chapter 409, Florida Statutes. The new law also imposes a monthly four-brand prescription limit for Medicaid patients.

[3] The preferred drug list went into effect on July 1, 2001. This list will be phased out in stages and replaced by a permanent list created by the Pharmaceutical and Therapeutics Committee. The preferred drug list was revised on Oct. 25, 2001. Nineteen drugs were added and 12 deleted. Prior to the new law, Florida only required prior authorization for certain chemotherapy drugs, all enteral products, Serostim, and Proleukin. The formulary was open but excluded anorectics, vitamins, phosphate binders, most nonlegend drugs, investigational drugs, smoking cessation drugs, and cough and cold drugs for people over age 21.

[4] Both economic impact and patient quality of life should be considered in formulary decisions, according to W. M. Glazer, "Formulary decisions and health economics," *Journal of Clinical Psychiatry*, 1998, vol. 59 (suppl. 19), pp. 23-9.

[5] Richard A. Levy, Ph.D. and Douglas Cocks, Ph.D., *Component Management Fails to Save Health Care System Costs: The Case of Restrictive Formularies*, (Reston, Va.: National Pharmaceutical Council, 1996).

[6] Laura Dykes, "Prescription for a Health Rx Industry," Pacific Research Briefing, Oct. 2001.

[7] Linda Gorman, Ph.D., "Treatment Denied: Colorado Health Care 'Reform' and the Mentally Ill," *Independence Institute Issue Paper*, no. 2-2001, Apr. 19, 2001, p. 9.

[8] Pharmaceutical Research and Manufacturers of America, *Plaintiff vs. Rhonda M. Meadows and Bob Sharpe* (State of Florida, Agency for Health Care Administration), Defendant, "Report and Recommendation," United States District Court for the Northern District of Florida, Tallahassee Division, p. 10. A ruling in the case was made in favor of the defendants. At the time of this writing, PhRMA was appealing the ruling to the 11th Circuit Court of Appeals.

[9] The White House National Economic Council/Domestic Policy Council, "Disability, Medicare, and Prescription Drugs," July 31, 2000.

[10] Robert Goldberg, "Comparing Prescription Drug Proposals: Bush vs. Gore?" NCPA Policy Report No. 239, Nov. 2000. Restrictions and/or criteria for use of Gemcitabine, a generic alternative to Gemzar, must first be considered at the facility or VISN level, according to the VA Formulary.

[11] The preferred drug list went into effect on July 1, 2001. This list will be phased out in stages and replaced by a permanent list created by the Pharmaceutical and Therapeutics Committee. The preferred drug list was revised on October 25, 2001. Nineteen drugs were added and 12 deleted.

[12] A. Rupp and S. Keith, "The Costs of Schizophrenia: Assessing the Burden," *Psychiatric Clinics of North America*, June 1993, vol. 16, no. 2, pp. 413-23.

[13] W. M. Glazer, "Clinical Outcomes of Pharmacotherapy for Schizophrenia and Implications for Health Economics," *Journal of Clinical Psychiatry Monograph*, Feb. 1997, vol. 15, no. 2, pp. 22-3.

[14] D. L. Noordsy, W. C. Torrey, et. al., "Recovery-Oriented Psychopharmacology: Redefining the Goals of Antipsychotic Treatment," *Journal of Clinical Psychiatry*, 2000, vol. 61 (suppl. 3), pp. 22-29. The authors point out that atypical antipsychotic treatment may lead to accelerated progress in rehabilitation and recovery.

[15] While not a panacea, the advance of atypical antipsychotics is described as a "significant advance in a field that has been dormant for decades." See G. Remington and S.A. Chong, "Conventional versus novel antipsychotics: changing concepts and clinical implications," *Journal of Psychiatry and Neuroscience*, 1999, vol. 24, no. 5, pp. 431-41.

[16] J. A. Worrel, P. A. Marken, et. al., "Atypical antipsychotic agents: A critical review," *American Journal of Health-System Pharmacology*, Feb. 2000, vol. 57, pp. 238-55. See also, J. Van Os, C. Gilvarry, et. al., "To what extent does symptomatic improvement result in better outcome in psychotic illness?" *Psychological Medicine*, 1999, vol. 29, pp. 1183-95. Van Os, et. al. evaluated 708 patients over a two-year time period and found that reductions in positive, negative, depressive, and manic symptoms were all independently associated with reduced social disability and fewer hospital admissions.

[17] D. Mossman and D. S. Lehrer, "Conventional and Atypical Antipsychotics and the Evolving Standard of Care," *Psychiatric Services*, Dec. 2000, vol. 51, no. 12, pp. 1528-1535. Many also believe that this will soon be a standard of care legally requiring informed consent if treatment relies on the conventional treatment.

[18] P. E. Keck, Jr., S. M. Strakowski, and S. L. McElroy, "The Efficacy of Atypical Antipsychotics in the Treatment of Depressive Symptoms, Hostility, and Suicidality in Patients With Schizophrenia," *Journal of Clinical Psychiatry*, 2000, vol. 61, suppl. 3, pp. 4-9.

[19] N. Blieden, S. Flinders, et. al., "Health Status and Health Care Costs for Publicly Funded Patients With Schizophrenia Started on Clozapine," *Psychiatric Services*, Dec. 1998, vol. 49, no. 12, pp. 1590-93.

[20] S. L. Tunis (symposium proceedings), "The Impact of Schizophrenic Patient Functionality on Service Utilization and Cost," *The American Journal of Managed Care*, July 1999, vol. 5, no. 10, sup., pp. S583-90.

[21] See C. M. Hammond, J. F. Pierson, et. al., "Economic Evaluation of Risperidone in an Outpatient Population," *Annals of Pharmacotherapy*, 1999, vol. 33, pp. 1160-6; G. Remington and I. Khramov, "Health Care Utilization in Patients with Schizophrenia Maintained on Atypical Versus Conventional Antipsychotics," *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 2001, vol. 25, pp. 363-9; R. Rosenheck, D. Leslie, and M. Sernyak, "From Clinical Trials to Real-World Practice: Use of Atypical Antipsychotic Medication Nationally in the Department of Veterans Affairs," *Medical Care*, 2001, vol. 39, no. 3, pp. 302-8; and K. C. Coley, C. S. Carter, et. al., "Effectiveness of Antipsychotic Therapy in a Naturalistic Setting: A Comparison Between Risperidone, Perphenazine, and Haloperidol," *Journal of Clinical Psychiatry*, Dec. 1999, vol. 60, no. 12, pp. 850-56. One study showed no significant differences in treatment effectiveness or costs. See M. J. Schiller, M. Shumway, and W. A. Hargreaves, "Treatment Costs and Patient Outcomes With Use of Risperidone in a Public Mental Health Setting," *Psychiatric Services*, Feb. 1999, vol. 50, no. 2, pp. 228-32.

[22] B. S. Nightengale, et. al., "Economic outcomes of antipsychotic agents in a Medicaid population: Traditional agents vs. risperidone," *Psychopharmacology Bulletin*, 1998, vol. 34, no. 3, pp. 373-82.

[23] B. C. Martin and L. S. Miller, "Expenditures for treating Schizophrenia: A population-based study of Georgia Medicaid recipients," *Schizophrenia Bulletin*, 1998, vol. 24, no. 3, pp. 479-88.

[24] W. Reid, "New vs. old antipsychotics: The Texas experience," *Journal of Clinical Psychiatry*, 1999, vol. 60 (suppl. 1), pp. 23-35.

[25] See P. M. Galvin, et. al., "Clinical and economic impact of newer versus older antipsychotic medications in a community mental health center," *Clinical Therapy*, 1999, vol. 21, no. 6, pp. 1105-16; D. DelPaggio, "The pharmacoeconomics and efficacy of atypical antipsychotics within Alameda County BHCS," Alameda County Behavioral Health Care Services, Fall 1998, vol. 2, no. 4, pp. 10-11; and Poster presentation at American Psychiatric Association, 1999, Washington, D.C.; M. A. McCollum, "Models of alternative funding structures and cost effective care," Fourth Plenary Session, The Carter Center, Nov. 12, 1997; D. M. Ziegler, "A Study of Treatment Outcomes from Atypical Antipsychotics Medications in the Virginia Public System of Community Care," manuscript pending publication; and D. M. Ziegler (poster presentation), "Novel antipsychotic treatment outcomes in community mental health centers," Institute of Psychiatric Services, Oct. 12, 2001.