

Unintended Outcomes of Medicaid Drug Cost-Containment Policies on the Chronically Mentally Ill

Stephen Soumerai, Sc.D.

Cost-containment policies frequently focus on reducing drug expenditures, although prescription drug costs are a relatively small proportion of total health care expenditures. Data show that very few drug cost-containment policies can selectively reduce unneeded care while maintaining essential care. In the early 1980s, the New Hampshire Medicaid program introduced a drug-payment limit (a “cap”) that set the number of reimbursable medications a patient could receive per month at 3. Analyses reviewed in this article indicate that New Hampshire’s drug cap, while in effect, reduced the use of prescription drugs among the elderly and the mentally ill but increased hospital and nursing home admissions, partial hospitalizations, distribution of psychoactive medications by community mental health centers, and use of emergency mental health services. Vulnerable populations are most likely to experience adverse effects from hastily-applied drug cost-containment policies, and resulting compensatory measures may create more expenses than the policy removes.

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Analysis by the Centers for Medicare and Medicaid Services determined that over an 11-year period, from 1993 to 2003, absolute prescription drug expenditures in the United States increased by almost 200% (Figure 1).^{1,2} This escalation of absolute drug expenditures has garnered much attention in the media. However, when drug expenditure is divided by total health care cost to create a proportion, drug expenditures account for only about 12% of the whole (Figure 2).^{1,2} In view of the potential long-term costs engendered by untreated chronic illnesses, prescription drug expenditure may in fact be too small in terms of the overall health care system.

Nonetheless, cost-containment policies frequently focus on reducing drug expenditures. Some of the assumptions underlying such policies are 1) that medications are often prescribed unnecessarily and can sometimes even be harmful, 2) that drug reimbursement restrictions and copayments can selectively reduce unneeded care and thus total health care costs, while preserving essential services and equity of care, and 3) that any adverse effects of such policies will be minimal.

In reality, many studies show that few cost-containment policies can selectively reduce unneeded care while maintaining essential care. Medical cost containment has been compared to squeezing a balloon; constricting one area of cost causes other areas to bulge.³

EFFECTS OF MEDICAID DRUG-PAYMENT LIMITS IN NEW HAMPSHIRE

In the early 1980s, the New Hampshire Medicaid program introduced a drug-payment limit (a “cap”) that set the number of reimbursable medications a patient could receive per month at 3. After 11 months, the cap was withdrawn as a result of litigation by a public aid agency and replaced with a \$1 copayment per prescription. In essence, the cap acted as a natural experiment, providing data that my colleagues and I analyzed using time series in order to see the effects of the payment limit on medication use and use of other health care services.^{4–7}

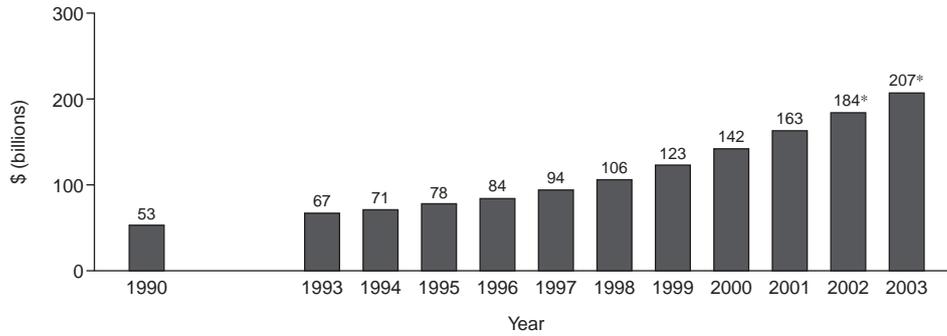
In one such study,³ 48 months of Medicaid claims data from New Hampshire and a comparison state, New Jersey, where there was no drug-payment limit, were analyzed to see if the 11-month drug-payment limit exerted an effect on the prescribing of 16 drugs. For the purposes of the study, medications were defined as “essential” (i.e., having important effects on morbidity or mortality) or “inessential” (i.e., primarily providing symptomatic relief). Our findings indicated that particularly among multi-drug recipients, the cap had an abrupt and significant effect on the rates of use of all 16 medications considered. There was no apparent change in the prescribing of these drugs in New Jersey. In New Hampshire, the number of constant-

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Corresponding author and reprints: Stephen Soumerai, Sc.D., Harvard Medical School, 133 Brookline Ave., 6th Floor, Boston, MA 02215 (e-mail: ssoumerai@hms.harvard.edu).

Figure 1. Prescription Drug Expenditures in the United States^{a,b}

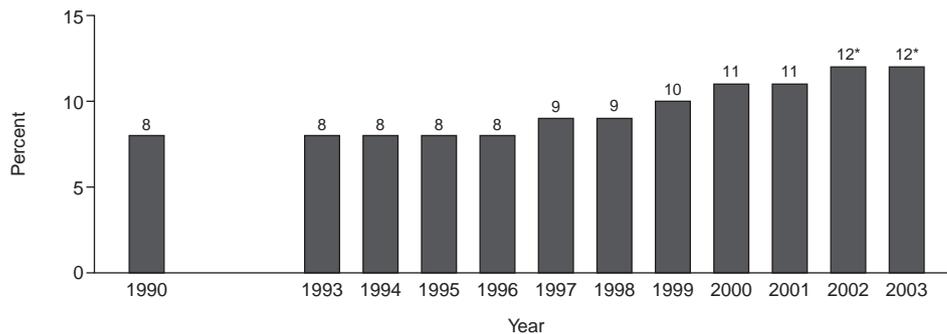


^aData from the Centers for Medicare & Medicaid Services, Office of the Actuary.^{1,2}

^bEstimated fraction of nursing home and hospital care expenditures attributed to prescribed drugs were added to total prescription drug expenditures.

*Projected.

Figure 2. Cost of Prescription Drugs as a Proportion of Total Health Expenditures in the United States^{a,b}



^aData from the Centers for Medicare & Medicaid Services, Office of the Actuary.^{1,2}

^bEstimated fraction of nursing home and hospital care expenditures attributed to prescribed drugs were added to total prescription drug expenditures.

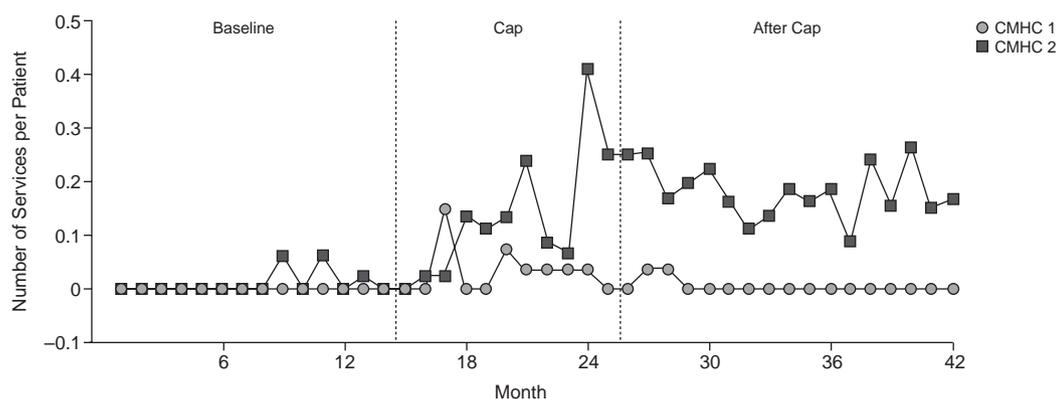
*Projected.

size prescriptions per month for essential drugs dropped by 28%, for inessential drugs by 38%, and for drugs of limited efficacy by 58%. However, essential drugs showed the largest drop in *absolute number* of prescriptions. The rapid climb back to near-baseline levels of prescribing after the cap was withdrawn suggests that the reductions were not based on reassessments of therapeutic needs. Had the cap lasted a full year, New Hampshire would have saved approximately \$780,000; when the cap was replaced by a \$1 copayment, the state saved approximately \$400,000 per year. However, these figures do not take into account any possible increases in the use of other health care services.

Unsurprisingly, particularly vulnerable patients such as the elderly and the mentally ill were most severely affected by New Hampshire's drug-payment limit. In another study,⁵ 36 months of Medicaid claim data from New Hampshire, encompassing the 11 months during which the cap was in place, were again compared with Medicaid claims data from a well-matched cohort in the comparator

state, New Jersey. Data pertained to patients aged 60 years or older who were taking 3 or more essential medications, at least 1 of which constituted maintenance treatment for a chronic disease (cardiovascular disease, pulmonary disease, diabetes mellitus, seizures, and coagulation disorders). The use of specific medications, hospital admissions, and admissions to nursing homes were chosen as the outcome measures. (The 3-drug cap did not apply to long-term care facilities.) During the baseline year, the median number of standardized monthly doses of essential drugs for the 5 chronic illnesses were similar in the 2 states—2.8 in New Hampshire and 2.3 in New Jersey. Following institution of the drug-payment limit, however, drug use in New Hampshire fell by 35% (to 1.9 doses per patient per month) while remaining stable in New Jersey. When the \$1 copayment replaced the drug-payment limit in New Hampshire, the use of most of these agents quickly returned to near-baseline rates. Although there was no significant increase in rates of hospitalization, patients in New Hampshire were about twice as likely as patients in

Figure 3. Effect of New Hampshire's Drug-Payment Limit (cap) on Use of Emergency Mental Health Services^a



^aAdapted with permission from Soumerai et al.⁷
Abbreviation: CMHC = community mental health center.

New Jersey to enter a nursing home. Increased nursing home admissions may have been attributable to financial hardship resulting from out-of-pocket drug costs, exacerbated illness resulting from undermedication, and/or other factors. Regardless of cause, it is highly likely that nursing home admissions were caused by the cap and reflected a negative impact on these patients' quality of life. Further, the increased nursing home care costs were found to exceed the amount of money that New Hampshire saved on drugs statewide by instituting the drug-payment limit.

A separate study⁶ of the above population of noninstitutionalized chronically ill aimed to discover the characteristics of those patients most adversely affected by the drug-payment limit, and revealed that the greatest changes in use of essential drugs occurred among patients with 3 of 11 specific comorbidities: psychosis or bipolar disorder, anxiety or sleep disorder, and chronic pain. It appeared that, under the conditions of the cap, some patients had to choose between mental and physical wellness. The most important predictor of the loss of essential drugs was the long-term use of antipsychotics or lithium, anxiolytics or sedatives, or analgesics (which may exert both psychoactive and somatic effects). Thus, the cap's adverse effects were especially problematic for low-income older people with comorbid mental health conditions.

The role of comorbid mental illness was brought forward in analysis examining the effects of New Hampshire's drug-payment limit on patients with schizophrenia.⁷ Forty-two months of Medicaid claims data from New Hampshire and New Jersey were compared for noninstitutionalized, permanently disabled patients with schizophrenia aged 19 to 60 years. Like many individuals with schizophrenia, these patients were enabled by psychotropic medications to live in the community. In addition to antipsychotics, which are crucial, other beneficial drugs commonly prescribed to patients with schizophrenia

include benzodiazepines, mood stabilizers, antidepressants, and antiparkinsonian agents used to treat motor disturbances. For the purposes of analysis, study drugs were separated into 3 categories: antipsychotics, anxiolytic/hypnotic agents, and medications for affective disorders (lithium and antidepressants). At the time this study was conducted, atypical antipsychotics were not yet widespread; thus, the antipsychotics prescribed were inexpensive, generic, conventional agents.

Institution of the drug-payment limit promptly produced a decline of approximately 15% in the reimbursed use of antipsychotics in New Hampshire.⁷ Reimbursed use of anxiolytics/hypnotics fell by approximately 37% and lithium/antidepressants by approximately 49%. However, in response to the cap, there was a substantial increase in the distribution of antipsychotics by community mental health centers (CMHCs). That is, compensatory measures to provide drug treatment for some patients attending CMHCs created a shift in cost from Medicaid to the state mental health system. Aside from increased visits to CMHCs, there were notable increases in the use of emergency mental health services and partial hospitalizations (Figure 3). As these services are intended to circumvent the necessity of admission to the state psychiatric hospital, it follows that rates of admission to the state psychiatric hospital did not rise significantly. On the whole, data suggest that the drug-payment limit caused patients in the community to experience an exacerbation of schizophrenic symptoms. Indeed, continued higher-than-precap rates of outpatient community health center visits and partial hospitalizations suggest some lasting effects of the cap, perhaps due in part to patient relapse.

Overall, drug savings by the state were small compared with the increased use of expensive services apparently sparked by this cost-containment policy. After the cap was replaced by the \$1 copayment, prescriptions for anti-

psychotics, anxiolytics/hypnotics, and lithium/antidepressants returned to near-baseline levels within the study population, while the distribution of psychoactive medications by community mental health centers declined.⁶ There was also a downward trend in the use of most acute mental health services.

It is notable that rates of mortality and somatic morbidity are higher among people with schizophrenia than among the general population. Again, it appeared that patients (and prescribers) were pressed by the cap to prioritize either mental or physical health. For example, a schizophrenic patient in New Hampshire was admitted to the hospital during the cap with extreme agitation and diabetic ketoacidosis.⁶ Her normal medication regimen included an antipsychotic, an antiparkinsonian drug, insulin, and a cardiac medication. Pressed by the drug-payment limit to discontinue 1 of her medications, the patient had chosen to sacrifice insulin in favor of continuing the other 3 drugs, leading to her hospitalization with diabetic ketoacidosis.

This study found that increases in the costs of mental health services among study patients in New Hampshire during the cap exceeded the savings in drug expenditures by a factor of more than 17.⁷

TRIPPLICATE PRESCRIPTION POLICY FOR BENZODIAZEPINES IN NEW YORK

In a forthcoming article, researchers examined the impact in New York of a regulatory strategy known as a triplicate prescription policy, in which a record of prescriptions for certain drugs is filed with a surveillance unit within the state's Department of Health on the prescribing of benzodiazepines. Triplicate prescription is in part a cost-containment policy, but intended effects include the prevention of drug abuse. The rationale for the 1989 New York triplicate prescription policy on benzodiazepines was the reduction of cost, perceived overuse, and abuse, although only a small proportion of patients misuse or abuse these drugs. Benzodiazepines are legitimately used to treat seizure disorder, some symptoms of schizophrenia, and short-term anxiety, among other conditions.

One year after the introduction of the triplicate prescription policy, prescribing of benzodiazepines had fallen by over 50% as compared with New Jersey, which had no such policy and where prescribing remained stable. The drop was abrupt, occurring largely in the first months after the policy took effect. Certainly it is unlikely that more than half of the prescriptions written for benzodiazepines prior to the triplicate prescription policy were unnecessary or inappropriate. In fact, the reduction in the number of patients with seizure disorder who stopped receiving benzodiazepines in New York was similarly precipitous. The triplicate prescription policy appeared, in fact, to be an impediment to proper benzodiazepine use. The policy did not discriminate in favor of appropriate use, nor did it function as an

educational program for patients or doctors to manage the risk of misuse.

CONCLUSION

Cost-containment policies frequently focus on reducing drug expenditures, though prescription drug costs are a relatively small proportion of total health care expenditures. While overprescribing does exist, many drugs are highly cost effective in reducing both short-term and long-term morbidity and mortality. Cost-containment policies within Medicaid such as drug reimbursement limits, as well as triplicate prescription policies, are unlikely to selectively reduce unneeded care while preserving essential care. Even slight perturbations within the health care system can have costly secondary or compensatory effects for vulnerable populations, such as increased admission to hospitals and nursing homes and greater use of community mental health centers and emergency mental health services. Furthermore, artificially reduced prescribing tends to revert to near-baseline levels when drug cost-containment policies are withdrawn. Large reimbursement changes require rigorous evaluation before widespread adoption, and policy changes that pose substantial risks to vulnerable populations must undergo especially careful evaluation of positive and negative effects prior to implementation. It is necessary to communicate timely and objective data on the potential and actual effects of drug policies to policy makers. Piecemeal efforts at cost-containment—balloon squeezing—can result in reduced access to health care and decreased quality of health care, resulting in compensatory measures that may create greater expenses than the cost-containment policy saves.

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