Cite this article as:
R G Frank and T G McGuire
Estimating costs of mental health and
substance abuse coverage
Health Affairs 14, no.3 (1995):102-115
doi: 10.1377/hlthaff.14.3.102

The online version of this article, along with
updated information and services, is available
at:
http://content.healthaffairs.org/content/14/3/102

For Reprints, Links &
Permissions : http://content.healthaffairs.org/1340_reprints.php

Email Alertings : http://content.healthaffairs.org/subscriptions/etoc.dtl

Not for commercial use or unauthorized distribution
To Subscribe: https://fulfillment.healthaffairs.org

Health Affairs is published monthly by Project HOPE at 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133. Copyright © by Project HOPE - The People-to-People Health Foundation. As provided by United States copyright law (Title 17, U.S. Code), no part of may be reproduced, displayed, or transmitted in any form or by any means, electronic or mechanical, including photocopying or by information storage or retrieval systems, without prior written permission from the Publisher. All rights reserved.

Not for commercial use or unauthorized distribution
Prologue: States increasingly are looking for ways to improve the financing of mental health care for their disadvantaged citizens. Will the uncertainty of the cost estimating process lead them to buck off from innovative legislation? During the debate on national health care reform, one organization estimated that the cost of providing mental health and substance abuse (MH/SA) treatment coverage to an uninsured person would be a whopping 245 percent higher than the cost of covering a typical, currently insured person. Such estimates discouraged the Clinton administration from proposing more comprehensive mental health coverage. But where did that number come from? Two mental health care financing experts, Richard Frank and Tom McGuire, ask, Do the calculations stand up to scrutiny? This paper sheds light on that difference in results and the many others that caused estimates of the mental health/substance abuse benefit proposed in the Clinton plan to differ by almost 100 percent. State policymakers, charged with reducing expenditures for Medicaid, the corrections system, education, and welfare, would be wise to heed Frank and McGuire’s advice on reducing such uncertainty about cost estimates in the future.

Frank is a professor in the Department of Health care Policy at Harvard Medical School and a research associate with the National Bureau of Economic Research. He is conducting studies on public financing of mental health services, immunization procurement policy, and design of MH/SA insurance coverage. He holds a doctorate in economics from Boston University.

McGuire is a professor of economics at Boston University. He has written extensively on mental health economics and policy. He is the recipient of two sequential five-year Research Scientist Awards from the National Institute of Mental Health to study the financing of mental health services.
Abstract: The cost of expanding mental health and substance abuse treatment coverage is a major impediment to reforming insurance coverage for these types of conditions. The recent experience with national health care reform offers a case study in cost estimation for mental health and substance abuse coverage. The impact of managed care and the cost of expanding coverage to currently uninsured persons introduced uncertainty into predictions. This paper critically reviews that experience and draws lessons for estimating future costs of policy initiatives.

R

Restructuring the organization and financing of mental health and substance abuse care is a prominent feature of many states' health care reform initiatives, especially now that comprehensive system-wide reform has slipped from the top of the domestic policy agenda. Colorado, Iowa, Massachusetts, and Ohio, among other states, have adopted plans that will greatly alter traditional approaches to financing mental health care for disadvantaged populations. State policymakers must prepare cost estimates for these new insurance arrangements. The recent experience of considering a national health care reform plan points to the difficulties associated with estimating costs for new types of insurance coverage for mental health and substance abuse care.

In this paper we reexamine the cost estimates made for the mental health and substance abuse (MH/SA) components of President Bill Clinton’s proposal to reform the health care delivery system. Even though the Health Security Act would have shifted more costs than it created, the cost of MH/SA coverage was a major stumbling block to including a basic benefit within health care reform. The discrepancies between the various cost estimates suggested an area of considerable budgetary and political risk that made both the Clinton administration and Congress wary of the MH/SA coverage proposed in the act. A contentious debate took place over the MH/SA cost estimates during the larger health reform deliberations. The uncertainty in these estimates, in the end, led the administration and Congress to shy away from including broad coverage for MH/SA care.

Now that the curtain has fallen on the Health Security Act, we can revisit the cost debate without the pressure of pending policy. In fairness to all involved, it should be kept in mind that the spring and summer of 1993 was a very busy time for those in the business of making cost projections, and the MH/SA coverage was perhaps the most variable component of the entire package. Three areas emerged as the central points of disagreement among those making estimates: (1) the impact of managed care; (2) the costs of insuring the uninsured; and (3) a set of so-called offset effects (services that, when used, reduce costs in other areas of the insurance plan). The controversy in these three areas was attributable to (1) differing assumptions made in the face of significant uncertainty; (2) failure to incorporate results from research into the estimation process; (3) differences in the types of data used for making estimates; and (4) differing
standards for using information to make guesses, hunches, and judgment calls. In reviewing the three substantive areas of disagreement, we call attention to how these four methodological factors produced a divergence of opinion about expected costs.

**Prices For Mental Health And Substance Abuse Coverage**

The Health Security Act’s proposed coverage for MH/SA care was similar to that found in many private insurance plans. Inpatient and residential care was covered for thirty days, with thirty additional days available under some circumstances. “Managed care” or the in-network option of combination plans would have required little cost sharing. Conventional insurance would have required cost sharing of 20 percent plus a one-day deductible. Psychotherapy was covered for thirty visits per year with a $25 copayment in the managed benefit, and 50 percent cost sharing in “unmanaged” plans. Intensive nonresidential treatment was covered on a trade-off basis for inpatient care. Prescription drugs and psychiatric procedures other than psychotherapy were covered at parity with other medical services.²

Six estimates of the MH/SA costs of the Health Security Act were made; five of them were published (Exhibit 1). Cost numbers refer to the costs that are the responsibility of the payer and do not include copayments or the costs of uncovered services. The first row of Exhibit 1 presents the overall premium cost for MH/SA benefits in the Health Security Act; the second row shows the cost for all types of privately insured populations. The following three rows disaggregate private insurance costs by type of care management arrangements. The “uninsured composite” presents cost estimates for all previously uninsured persons under the Health Security Act. The last two rows present disaggregated estimates of the costs of insuring the uninsured, which were made in two of the studies.

Estimates made by the Congressional Budget Office (CBO) and by the Congressional Research Service (CRS) were not published. However, since CBO staff estimated the cost for the more generous MH/SA coverage in the Senate Labor and Human Resources Committee bill at the same cost as the Health Care Financing Administration’s (HCFA’s) estimate of the Health Security Act, we can infer that the CBO estimate of the cost of the Clinton plan’s MH/SA benefit would have been much lower than HCFA’s. The wide variation (almost 100 percent) in the overall estimates reported in the first row of Exhibit 1 makes the differences in opinion clear.³

There was considerable agreement among estimating groups about the likely premium cost of an “unmanaged” indemnity plan with the same MH/SA benefit design as the Health Security Act when enrollees resemble the currently employed and insured population of the United States. Esti-
### Exhibit 1

Estimates Of The Costs Of Mental Health/Substance Abuse Care In The Health Security Act

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>$240-$305</td>
<td>$209-$228</td>
<td>160-177</td>
<td>148-164</td>
<td>$259</td>
</tr>
<tr>
<td>Insured composite</td>
<td>165-185</td>
<td>-</td>
<td>88</td>
<td>141</td>
<td>164</td>
</tr>
<tr>
<td>Insured fee-for-service (managed indemnity)</td>
<td>215-240</td>
<td>129</td>
<td>140</td>
<td>-</td>
<td>213</td>
</tr>
<tr>
<td>Preferred provider organization</td>
<td>140-165</td>
<td>157</td>
<td>65</td>
<td>-</td>
<td>94</td>
</tr>
<tr>
<td>Health maintenance organization</td>
<td>45-75</td>
<td>163</td>
<td>-</td>
<td>-</td>
<td>65</td>
</tr>
<tr>
<td>Uninsured composite</td>
<td>550-750</td>
<td>460-495</td>
<td>430-490</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Uninsured</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>187</td>
<td>218</td>
</tr>
<tr>
<td>Severely mentally ill</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,354</td>
<td>4,209</td>
</tr>
</tbody>
</table>

**Sources:** See below.

**Note:** The Congressional Budget Office and Congressional Research Service estimates, not published, were lower than those of HCFA.

[^a]: American Academy of Actuaries.
[^b]: American Psychiatric Association/Milliman and Robertson.
[^c]: American Managed Behavioral Healthcare Association and National Association of State Mental Health Program Directors/Milliman and Robertson.
[^d]: Health Care Financing Administration.
[^e]: Coopers and Lybrand.

Estimates of the unmanaged indemnity plan were based on data and experience with private indemnity-type health insurance claims. However, the experts part company when forecasting the effects of managed care and the costs of applying the Health Security Act coverage to uninsured persons.

**Impact of managed care.** The second row of Exhibit 1 identifies one outlier in the “insured composite” estimate. The American Managed Behavioral Healthcare Association (AMBHA) and Milliman and Robertson estimated a cost of $88 per person per year, about half the amount of the other estimates. This estimate is smaller primarily because the estimators were more optimistic about the number of persons who would be enrolled in a managed benefit plan.

Exhibit 2 shows the estimates made regarding the distribution of the insured population across forms of managed care. Again, the AMBHA/
Milliman and Robertson assumptions are quite different from the rest. Every other study made an identical set of assumptions about the distribution of enrollees: 50 percent would be in managed indemnity or no-management plans, 30 percent in a preferred provider organization (PPO) or point-of-service plan, and 20 percent in a health maintenance organization (HMO) or exclusive provider plan. The AMBHA/Milliman and Robertson study estimated that only 20 percent of the insured population would be in a managed indemnity plan.

Terms were not always used consistently by the estimators. In some cases (HCFA, Coopers and Lybrand, and the American Academy of Actuaries [AAA]), “managed indemnity” meant essentially an unmanaged benefit, whereas the AMBHA and American Psychiatric Association (APA) studies appear to have allowed for some management savings in almost all plans. Monica Oss’s survey counted eighty million enrollees (in private insurance or Medicaid) in some form of specialty managed mental health care as of January 1994. About half of this group would be considered to be in a “managed indemnity plan” in which the management is done by a so-called managed behavioral health care vendor. About forty million people are in a mental health PPO with some utilization review that is managed by a specialty mental health organization. About 22 percent of the U.S. population is enrolled in HMOs, which, of course, manage mental health care along with all other care, but some of these would have been counted in

<p>| Exhibit 2 |</p>
<table>
<thead>
<tr>
<th>Population Distribution Across Plan Types, By Percentage Of Insured Or Uninsured Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Insured</strong></td>
</tr>
<tr>
<td>Managed indemnity or no management</td>
</tr>
<tr>
<td>PPO/point-of-service</td>
</tr>
<tr>
<td>HMO/exclusive provider</td>
</tr>
<tr>
<td><strong>Uninsured</strong></td>
</tr>
<tr>
<td>Managed indemnity</td>
</tr>
<tr>
<td>PPO/point-of-service</td>
</tr>
<tr>
<td>HMO/exclusive provider</td>
</tr>
</tbody>
</table>

**Sources:** See below.

**Note:** PPO is preferred provider organization; HMO is health maintenance organization.

a Coopers and Lybrand.
b Health Care Financing Administration. In HCFA and C&L parlance, “managed indemnity” is equivalent to “unmanaged” care. The APA and AMBHA studies assume some management effects.
c American Managed Behavioral Healthcare Association and National Association of State Mental Health Program Directors/Milliman and Robertson.
d American Academy of Actuaries.
e American Psychiatric Association/Milliman and Robertson.
f Not distinguished.
Oss's survey if the HMOs subcontracted to a managed behavioral health care firm. The 30 percent enrolled in PPOs and point-of-service plans plus the 20 percent in HMOs and exclusive provider plans are referred to as those in “heavily managed” plans. These enrollment patterns were assumed by all of the studies, except the AMBHA/ Milliman and Robertson study, and are in line with what is now observed in the marketplace. Given the rapid growth in the managed behavioral health care industry and in HMOs, projections based on current experience are quite uncertain.

It is important to note the sensitivity of the overall estimates to assumptions concerning enrollment patterns. The typical managed care assumptions used by the AAA and others suggest that managed care results in savings of 45 percent in claims costs relative to indemnity coverage. A twenty-percentage-point difference in assumptions about enrollment patterns (about two to three years’ growth in managed behavioral health care) would result in a 9 percent reduction in the overall premium cost.

The second set of assumptions made by the study authors relates to the effects of management on costs (Exhibit 3). The estimated savings range from big to very big. For example, a PPO/point-of-service form of management relative to unmanaged care was estimated to result in savings of 44 percent by Coopers and Lybrand and 64 percent by the AMBHA/ Milliman and Robertson study. In contrast, the APA/ Milliman and Robertson study assumed that overall utilization control would result in savings of 23-28 percent over unmanaged care.

The research literature on the impact of managed mental health care remains quite limited, making it perhaps surprising that the authors of these studies were willing to project such momentous savings from managed care. Price discounts often are negotiated by managed mental health care pro-

| Exhibit 3 |
| Managed Care Effects On Costs Of Mental Health Benefit |
| Coopers and Lybrand<sup>a</sup> |
| Limited management | -14% |
| Strong management | -24 |
| PPO | -44 |
| HMO | -70 |
| AMBHA/ Milliman and Robertson<sup>b</sup> |
| PPO/point-of-service | -64 |
| HMO | -78 |
| APA/ Milliman and Robertson |
| Utilization review/ medical necessity | -23 to -28 |

Source: Authors’ calculations.
Note: PPO is preferred provider organization; HMO is health maintenance organization.
<sup>a</sup> Relative to fee-for-service care.
<sup>b</sup> Relative to managed indemnity plan.
grams when these programs set up a “network” of providers, and this appears to be a reliable source of savings. Some large employers (such as Xerox, Sterling-Winthrop, Alcan Aluminum, and Conoco) have reported overall savings in plan costs for MH/SA care of about 40 percent over two years. In general, these firms had experienced high MH/SA costs prior to contracting with a managed behavioral health care vendor, and therefore the generalizability of these findings is suspect. It is doubtful that the effect would be as large if managed behavioral health care arrangements were extended to other insured populations. For example, evaluations of the Massachusetts Medicaid demonstrations and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) have suggested savings in the 15-30 percent range. Managed indemnity plans and managed behavioral health care companies use preadmission certification, but while some studies find savings, others do not. Much uncertainty remains as to the impact of management.

Costs of insuring the uninsured. A second source of differences in estimates relates to the projected costs of insuring persons who are uninsured. Part of the reason that estimates differ is because of the range of assumptions used about management of MH/SA care, which was discussed previously. In addition, study authors speculated about the need/demand of this currently uncovered group. Different data sources were used to make baseline estimates of current use, and different assumptions were made about how use would change after those persons obtained coverage.

Unlike the case of the estimates for private insurance, the study authors could not rely on a large body of data, such as insurance claims. Instead, estimators (except the CBO) used aggregate data from the National Health Accounts put together for the purpose of studying the impact of health care reform, or made assumptions about the need of the uninsured relative to the currently insured based on comparative epidemiological data. The health accounts attributed costs to various groups using reasonable assumptions, but there was potential for error. One example of error is the division of state mental health budget costs, which represent about one-third of all MH/SA spending in the country. How much of this goes to the uninsured, the “underinsured,” and Medicaid populations? Privately insured persons often are treated in the public system after limits on benefits are exceeded. Studies of Medicaid programs show that benefit limits can cause Medicaid patients to be referred to state hospitals and, more generally, that severely mentally ill Medicaid recipients move between care paid for by the state in state hospitals and care paid for by Medicaid in the private sector. The division of state funds among these three groups obviously affects the estimates of the costs of the uninsured.

The health accounts method also has the potential for “double count-
ing.” This can happen because health accounts assign costs to different coverage groups according to revenue data at the facility level. Thus, the costs of treating insured persons beyond the MH/SA care limits specified in their insurance policy (for example, thirty inpatient days) are assigned to the uninsured (uncompensated care). This serves to understate the baseline costs of the insured and to overstate the baseline costs of the uninsured. Double counting occurs when the insurance impact projection is made (referred to as an induction factor by actuaries). This projection counts as new use by the insured population some of the old use that was previously assigned to the uninsured. In addition, the baseline utilization of the uninsured (which includes the costs of treating the insured) is increased to account for the new insurance coverage for the uninsured population. The result is that use beyond coverage limits by the insured population may be counted twice. A key point to emphasize is that in the mental health sector, uninsured persons often have access to a substantial amount of free care. This has implications for estimating the service utilization response to expanding coverage to the uninsured.

Most of the analyses in Exhibit 1 were based on assumptions about utilization response that depend on (1) comparisons of prevalence of illness data for insured and uninsured populations; and (2) educated guesses about how severely mentally ill persons would respond to expanded coverage. The estimates of the total costs of insuring the uninsured can be viewed as the product of the cost per user and the number of users after coverage is introduced. The development of cost estimates for expanding coverage to the uninsured requires estimating these components in two separate steps.

The AAA report offers the most detailed description of how estimates were made. The cost per user of MH/SA care was estimated by taking the aggregate distribution of diagnoses for all state mental hospital and Department of Veterans Affairs (VA) psychiatric hospital specialty psychiatric admissions in 1986 and estimating the costs for the same distribution of diagnoses using data from a large insurer. The diagnostic distribution of cases treated in state mental hospitals and VA psychiatric hospitals was viewed as representative of the diagnostic mix among uninsured psychiatric inpatients. The resulting expenditure estimates reflect the private insurance payments associated with a set of diagnoses that reflects the illnesses of uninsured inpatients. The purpose of performing this “matched” estimate was presumably to account for the different pattern of illness (generally more severe) found among uninsured users of public mental health services compared with the insured population. The diagnosis-specific private cost was then increased by a factor of 1.98. The reason given for this adjustment was to adjust for the greater severity of illness (within each diagnosis) of the currently uninsured compared with the currently insured. The 1.98 factor is
put forward without justification or reference to any data. We know of no data to help with making such a “severity adjustment,” but given that this is a within-diagnosis adjustment, the almost doubling of the cost of treating an uninsured patient compared with an insured patient seems very high. The effect of this assumption was to increase and probably overstate the cost of extending care to the uninsured.

To estimate the number of users of MH/SA care for the uninsured population as coverage is expanded, the AAA relied on prevalence data. It was assumed that the uninsured, once insured, would use MH/SA care at a rate that is 24 percent higher than that of the currently insured population. The 1.24 adjustment factor was used to account for the higher prevalence of MH/SA conditions in the uninsured population. To obtain the total cost per insured person, the two components are combined. That is, begin with the cost per insured person, multiply that number by 1.98 to account for higher costs per user, and then multiply that product by 1.24 to allow for a higher number of users. The net effect of these assumptions is a projection of very large increases in utilization by currently uninsured persons when coverage is extended to them. The AAA report concluded that the average costs of insuring the uninsured would be 245 percent (1.98 x 1.24) higher than the costs of covering the typical person who is currently insured.

Some of the assumptions in the AAA report (and in some of the other reports) could have been made more accurate if the authors had had the resources and time to consult some of the recent research literature, such as the National Comorbidity Survey (NCS) and the Patient Sample Survey from the Center for Mental Health Services (CMHS). Only the CBO analysis made use of these data sets. For example, data from the NCS show that the prevalence of mental illness is higher among the uninsured population: Approximately 23 percent of uninsured persons have a thirty-day psychiatric diagnosis, compared with about 17 percent of the insured population. It is well known, however, that there is a rather weak relation between diagnosis and utilization in mental health. The uninsured population is different from the insured population in other respects as well. The uninsured tend to be younger, suffer from fewer physical conditions, and are more likely to suffer from substance abuse conditions than the insured population. Use of these data can help to estimate (1) the portion of the uninsured who would use MH/SA services when coverage is extended to them, and (2) the cost of care per user to the insurance plan.

Estimates of both of these components cannot be adequately made from either aggregate National Health Accounts data or simple prevalence data. Answering the first question requires first estimating the impact of insurance on utilization, holding constant other factors, and then knowing the baseline probability of use for the currently uninsured population. The
NCS offers data from a sample of the U.S. population between the ages of fifteen and fifty-four that are relevant to these questions. Analysis of NCS data suggests that if coverage were extended to the currently uninsured population, their probability of using MH/SA care would be 0.5 percent higher than that for the currently insured population. This is because the uninsured are generally younger and somewhat healthier and because the higher prevalence of mental illness in this population is accounted for largely by substance abuse problems, for which treatment use rates are quite low, even among the insured.

One approach to estimating cost per user is to employ data from demand research. In the cost estimates of the Health Security Act, the assumptions about utilization growth ranged from 45 percent to about 100 percent above baseline costs per user. These assumptions are consistent with the view that there are significant barriers to treatment for persons who are indigent and mentally ill. There is clearly some truth to the view that not all persons who could benefit from treatment receive care. However, it is also clear that there is a large and active public MH/SA treatment system that provides access to care at no cost to many in this population.

For instance, according to the CMHS, in 1990 there were about as many “public” psychiatric beds (in state mental hospitals and VA psychiatric hospitals) offering free care as there were “private” psychiatric beds (49.4 versus 50 per 1,000). In addition, in about 740 freestanding outpatient psychiatric clinics and 1,249 mental health centers, 50 percent and 61 percent of their revenues, respectively, come in the form of direct payments from government for treating indigent mentally ill clients. These organizations treat about two million outpatient MH/SA cases a year. Thus, uninsured persons with MH/SA problems have access to a substantial amount of free care. Taking account of the availability of free care is very important when making projections of “new” use stemming from insurance coverage. Estimates from demand studies, which use differences in use between a no-insurance condition (assuming that persons pay for care themselves) and a full-insurance condition (assuming that care is paid for by insurance) to estimate the response of the uninsured, are likely to overestimate the increase in costs that is attributable to insurance coverage.

Other factors. There are several other areas in which uncertainty exists about the impact of insurance or in which misunderstandings have commonly occurred. The two most important areas are (1) the demand response of inpatient MH/SA care to changes in coverage, and (2) issues of “substitutability” or “offset.” There has been a great deal of research on the demand for ambulatory mental health care, which shows convincingly that ambulatory mental health services (mainly psychotherapy) are significantly more responsive to cost-sharing arrangements than ambulatory medical
services are. Far less is known about the demand response to insurance for inpatient MH/SA care. Most efforts aimed at projecting the costs of expanding insurance coverage assume that the demand response for inpatient MH/SA care is comparable to that for ambulatory care. Since inpatient care is costly and accounts for a large share of total expenditures in most health plans (60-75 percent), cost estimates are likely to be quite sensitive to assumptions made on this point. Use of the same demand response assumptions for ambulatory and inpatient care will tend to drive cost estimates up. Given the lack of evidence, this approach may be prudent.

Substitutability and so-called offset effects are controversial in discussions of the cost of MH/SA benefits. Advocates of expanded MH/SA benefits claim that increased coverage for MH/SA services will result in reductions in medical costs. Some insurance plan designers have advanced the notion that limits on psychotherapy (such as those found in the Health Security Act) can be relaxed in a cost-neutral fashion by allowing persons to “substitute” coverage for inpatient days, to expand the number of visits.

The notion that MH/SA problems affect the use of medical services is sensible. Estimates of the offset effect have varied dramatically: 5 percent to 80 percent of MH/SA treatment costs have been found to have been offset by reduced medical costs. There are enormous methodological difficulties associated with obtaining an unbiased estimate of the offset effect. Although there is ample reason to believe that the offset effect exists, great uncertainty remains about its magnitude. An important danger is that, given the range of findings reported in the literature, one can find support for assumptions that will generate almost any number between zero and the maximum premium from Exhibit 1.

If offset effects exist, then any offset from the present set of benefits will already have been built into current medical/surgical costs. The issue for health reform has to do with a “marginal” offset effect. If we increase coverage for psychotherapy above existing norms, will we get more offset? The (weak) existing evidence for offset effects has to do with initial treatments, not with marginal treatment. The estimates of health reform costs disregarded marginal offsets, which was probably the right thing to do.

Another form of substitutability concerns the expansion of outpatient benefits by trading in inpatient coverage when limits on psychotherapy visits exist (as they did in the Health Security Act). The AAA study offers an example of such an assessment in connection with the Health Security Act. A number of controversial policy issues are related to the use of such substitution provisions, such as the dilution of coverage for catastrophic costs that such a trade-off may induce. We limit our discussion here to issues concerning the estimation of coverage costs. The AAA, among others, claims that substitution provisions that call for either three or four
visits per inpatient day are cost-neutral, a claim that is unlikely to be correct. The reasons relate to the basic distribution of MH/SA service use. Based on data from the CMHS and MEDSTAT, roughly 0.2 percent of an insured population stays for more than thirty days of inpatient care, 0.16 percent stays between twenty and thirty days, and 0.45 percent uses more than twenty-five psychotherapy visits. Moreover, 84 percent of those exceeding the twenty-five-visit limit use no inpatient care. Thus, there are many more persons who are likely to trade in their hospital benefit than there are persons for whom savings may be realized. In addition, there is no evidence to suggest that improving the outpatient benefit in the context of indemnity insurance will result in reduced inpatient use. Evidence suggests that managed care leads to substitution between inpatient and outpatient care, but this is incorporated into the assumptions on the effect of managed care discussed earlier. The conclusion we reach from examining the data is that instituting substitution between psychotherapy benefits and inpatient care will drive up costs because one is, in effect, lifting a constraint on use for a relatively large number of persons while realizing offsetting savings from very few persons.

Lessons

Estimating the costs of any major change in insurance coverage is difficult, and all of those attempting the task know that they are certain to be incorrect. Managed care, itself an imprecise term, and the diversity of practices in the managed care industry make estimating cost changes even more difficult. By nature, estimating the costs of a mental health benefit is no different than estimating overall health insurance costs. However, recognizing that a major share of expenditures in mental health consists of direct payments to providers to make free care available to low-income persons with MH/SA problems is central to making sensible estimates.

Use of data sources. An important lesson that emerges from our review of estimation efforts is that using aggregate National Health Accounts data to make estimates for mental health, in which there is a substantial amount of spillover between the privately insured sectors and the public sector, is problematic. The National Health Accounts data are appealing because the numbers add up cleanly and classifications of expenditures appear to be well defined. Unfortunately, the reality is messier, and making estimates requires contending with the complexity.

Two implications emerge from this discussion. The first is that research on the effects of specific forms of managed behavioral health care will be of great value in making cost estimates in the future. The second is that it is important to understand the full implications of shifting boundaries be-
between the public and privately insured mental health care systems. This will allow policymakers to separate cost shifts from new use.

**Standards of evidence.** A second lesson involves the standards of evidence. In a number of areas, data and empirical analyses were available on which to base assumptions for making projections. Too often, however, assumptions were made that were at variance with the available research and data. Perhaps the most startling and important example was the use of a 1.98 adjustment for the cost per uninsured MH/SA care user after having accounted for diagnostic mix. The 1.98 figure is clearly at odds with virtually every empirical distribution of MH/SA spending reported in either the professional or the trade literature. It is striking that virtually no research studies are cited in support of key assumptions in any of the major reports making cost projections for MH/SA coverage.

The final lesson concerns the assumptions one makes in the face of great uncertainty. Guardians of the U.S. Treasury will always want to err on the side of overestimating costs. Advocates will seek “hidden savings” that will reduce the net costs of an insurance benefit. Yet in the evaluation of major social policies such as state MH/SA mandates, health care reform, and Medicaid expansions, mistakes in the direction of either “underinsurance” or “overinsurance” can be equally costly to society. At the very least, this calls for making assumptions explicit so that they can be reviewed, and employing sensitivity analyses to test the consequences of key assumptions where uncertainty is great.

The authors are grateful to Shaman Stevens, Mike O’Grady, and three anonymous referees for helpful comments on this paper. Financial support for this work came from The Robert Wood Johnson Foundation (Grant no. 24066) and the National Institute of Mental Health (Grant no. K05-MH00832).

**NOTES**

2. Ibid., for a summary of the MH/SA benefit design,
3. The estimates by the various groups are not entirely independent, because some of the same persons were involved in making estimates for more than one study. For example, HCFA staff and several of their consultants helped to produce the American Academy of Actuaries (AAA) estimates. The Coopers and Lybrand estimates were produced by the chairman of the AAA committee, who was a consultant to HCFA and the American Psychiatric Association. The Milliman and Robertson estimates were produced by the same lead actuary under contracts to two separate organizations.
4. For some studies, the unmanaged indemnity plan estimate serves as the estimate reported as “insured fee-for-service.” In others, adjustments are made to the unmanaged indemnity plan estimate to arrive at the number in the third row of Exhibit 1.
enrolled in an employee assistance program run by a managed mental health care organization. These persons have their health insurance separately, however, and this is the count that is relevant here.

6. About half of these involve some risk-based contracting. See R.G. Frank, T.G. McGuire, and J.P. Newhouse, "Risk Contracts in Managed Mental Health Care," Health Affairs (Fall 1995): 50-64.


12. The Milliman and Robertson estimates seem to follow a similar approach to that taken by the AAA. The HCFA estimates assume a 45 percent increase based on the ratio of the highest-cost public systems to the mean public system cost. The rationale for choosing this ratio is not presented.


14. This is a very conservative view of the amount of free care since a significant amount of the services offered by general hospital psychiatric units is free (about 16 percent of revenues consist of direct payments from state and local governments).

