The Journal of Mental Health Policy and Economics
J Ment Health Policy Econ **6**, 173-179 (2003)

Impact of Federal Substance Abuse Block Grants on State Substance Abuse Spending: Literature and Data Review

Alexander Cowell,[1]* Dennis McCarty,[2] Albert Woodward[3]

[1]*Ph.D., Economist, Center for Interdisciplinary Substance Abuse Research, RTI International, Research Triangle Park, NC, USA*
[2]*Ph.D., Professor, Department of Public Health & Preventive Medicine, CB669, Oregon Health & Science University, Portland, OR, USA*
[3]*Ph.D., M.B.A., Office of Applied Studies, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services, Rockville, MD, USA*

Abstract

Background: The federal Substance Abuse Prevention and Treatment Block Grant (SAPTBG) was established by the U.S. Congress to assist the states in funding substance abuse treatment services. Although the SAPTBG represents about 40 percent of public funding for treatment, how this federal assistance affects state treatment spending is not well understood. Published research has examined this topic, drawing on an approach from public finance economics.
Aims of the Study: Based on a review of the literature and data, this paper suggests future avenues of research on the impact of the SAPTBG.
Methods: The study reviews the relevant public finance economics literature and the data used in published work on the SAPTBG**.**
Discussion: Current literature examines only the effect of the block grant on expenditures by state substance abuse agencies. Additional analysis is needed to examine the impact of the SAPTBG on all sources of state funding and expenditures for substance abuse treatment. Ideas for additional research are presented at the end of this paper.
Implications for Health Policies: The increasing interest of the U.S. Congress in evaluating the effectiveness of the many federal block grant programs requires that further analysis of the impact of the SAPTBG be undertaken. The analysis and approach in the literature is also instructive for other countries where a central government allocates health care resources to local authorities using a grant.

Received 17 July, 2003; accepted 2 December 2003

* **Correspondence to:** Albert Woodward, Ph.D., M.B.A., Office of Applied Studies, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services, Room 16-105, 5600 Fishers Lane, Rockville, MD 20857, USA
Tel.: +1-301-443 6255
Fax: +1-301-443 9847
E-mail: awoodwar@samhsa.gov
Source of Funding: Albert Woodward is an official of the U.S. Department of Health & Human Services (DHHS). Alex Cowell and Dennis McCarty, had an office contract with DHHS. This paper does not represent policy or the position of the Office of Applied Studies, the Substance Abuse and Mental Health Services Administration, or the U.S. Department of Health and Human Services, and no official endorsement by any of these organizations is intended or should be inferred.

Introduction

The federal Substance Abuse Prevention and Treatment Block Grant (SAPTBG), at $1.7 billion for fiscal year 2002, is about 40 percent of the total public financing of substance abuse prevention and treatment in the U.S.[1] Its impact on the provision of substance abuse treatment and prevention at the state and local levels is not well understood, however. In 1981 the U.S. Congress created a precursor grant to the SAPTBG to serve as the primary mechanism for providing federal support for substance abuse treatment and prevention services.[2] This program consolidated several categorical grants into a single block grant. It also limited the federal government's role in distributing funds to the states by mandating use of an allocation formula.[3] Congress's objective in limiting the role of the federal government was to give to state agencies administering the grants flexibility to meet state and local needs. Although formula grant allocation is a process used mainly by the U.S., similar programs exist in the United Nations (to tax members rather than allocate funds), Canada, Australia, and several European countries.[4]

States can use the SAPTBG funds to develop solutions to address those substance abuse issues they deem most important. Although states have considerable leeway in spending the funds on substance abuse prevention and treatment services, they must meet some important conditions to receive the funds. States and territories are required to submit an annual report and plan from the agency overseeing the funds (the single state agency or SSA) to the federal agency managing the SAPTBG, the Substance Abuse and Mental Health Services Administration (SAMHSA). These reports are submitted in standard application form and describe past year and out-year block grant spending. SAMHSA monitors the states' reports and sends audit teams to monitor states.[5] States must also meet a maintenance-of-effort provision intended to discourage them from substituting block grants for their own state funding. States are obligated to spend at least as much of their own funds in

a given year as the average expended in the two prior years.[6] The SAPTBG also requires that states use specified fractions of their block grant allocation to provide substance abuse treatment and primary prevention services to special populations, such as intravenous drug users and substance abusing women who are pregnant or have dependent children. States may apply for a waiver from some of these obligations.[5] To assist in monitoring and evaluating services funded by the SAPTBG, states and territories also receive specifically appropriated 'set aside' funding.[6]

Although there is great variation among the states in the portion of state-supported funding of substance abuse prevention and treatment services, the extent to which the SAPTBG affects this variation among states is not well known.[7,8] In this paper we review the literature examining the impact of the SAPTBG on state substance abuse spending and highlight some areas not addressed by the literature. We also review the quality of the state substance abuse spending data. In the discussion we combine the literature and data review and recommend directions for future research.

Background and Literature on Federal Substance Abuse Block Grants to States

In the U.S., the majority of health care is paid by health insurance, most of which is private.[9] Substance abuse treatment differs from the rest of health care by being financed largely by the public sector.[10] The SAPTBG, as noted, is about 40 percent of the total public financing for treatment of alcohol and other drug problems.

One key issue of interest to policy-makers is whether state and local governments spend their block grants as the U.S. Congress requires. To address this question we reviewed the literature using standard methods of meta-analysis and clinical research review. These principles have been incorporated into a number of review methodologies[11,12] and can be summarized as: specifying the research question(s), specifying the research area relevant to the question(s), identifying all relevant studies, reviewing and examining each study, and synthesizing the analyses of the studies.

Economic articles were identified from several standard data sources including the Journal of Economic Literature, JStor,[13] an electronic university library service called EBSCO, and public economics texts. Two sets of key words were used: first, those defining specific analyses on the relationship between central government grants and state, county, or local area expenditures, and second those words applying to more general concepts that were relevant in the area of public economics, such as the 'flypaper effect'. A variety of health care and health services literature databases were searched, including PubMed,[14] and the Electronic Reference Library of the U.S. Public Health Service Library. The key words used addressed issues relevant to mental health or substance abuse financing and economics. This search was purposely made broad so that no relevant articles would be missed. Also, researchers in the field were contacted to identify work that had not been published. Details of the search strategies, specific key words, and results can be obtained from the authors on request.

The broader literature examining the impact of other types of grants on state spending typically relies on the median voter model for a theoretical framework. In this model politicians make decisions to maximize the preferences of a median voter, a convenient representation of all voters, whose voting preference is at the midpoint of all voters.[15] The median voter's preferences are decisive in budgeting because the politician who represents these preferences exactly will always be voted into office. In the basic form of the model, the grant merely represents increased income to the state and will be distributed over all areas of state spending according to the desires of the median voter.

Applying the median voter theory to the substance abuse block grant in particular would mean that states view substance abuse block grants as representing an increase in the general pool of taxpayer funds, to be spent as the median voter wants. Therefore, the theory predicts that, given an extra dollar of substance abuse block grant funding, a state would not necessarily spend the dollar on substance abuse needs. Rather, the state would apportion the dollar to reflect the wishes of the median voter.[16]

There is no published evidence on whether states indeed perceive substance abuse block grant funds as representing general taxpayer funds. If states were to adhere to the conditions that restrict block grant spending, then the median voter theory is less applicable because these conditions are meant to encourage states to spend the funds on targeted areas. However, two institutional features allow states to treat block grant funds as being part of a general pool of taxpayer funds. First, although states are required to report their use of funds, the agency responsible for administering the block grant, SAMHSA, is not authorized to enforce the conditions or prosecute violations of the conditions. Rather, SAMHSA's mandate is simply to monitor the use of block grant funds. Second, as detailed below, monitoring of the funds is imperfect because states are able to disguise actual state spending in ways that would be difficult to detect by SAMHSA's monitoring efforts. To demonstrate that they meet maintenance-of-effort requirements, for example, some states may count Medicaid-funded services as state-funded services. Given the lack of enforcement of conditions and the imperfect monitoring, states likely understand that block grant funds are fungible, and thus the median voter model is likely applicable.

Four studies directly examine the association between the Substance Abuse Treatment and Prevention Block Grant and state substance abuse spending.* Contrary to the prediction of the median voter model, however, three of the four studies find evidence that the SAPTBG increases state spending on substance abuse. The literature has frequently termed such a finding a flypaper effect -government grants to the states tend to 'stick where they hit.'[16]

* Two other studies of federal behavioral block grants were not included because they did not deal with the substance abuse issues directly.[17,18]

The issue of the flypaper effect is central to the analysis of the effects of federal grants on state spending. In the broader public finance economics literature there is no consensus about whether flypaper effects are real, what causes them, and whether the published findings are valid. In addition to five comprehensive reviews that include discussion of flypaper effects,[19-23] the published research has: tested various explanations for flypaper effects,[24-29] focused on methodological problems leading to spuriuous flypaper effects,[30,31] and proposed theoretical explanations with little empirical testing.[32]

The first paper to examine the relationship between substance abuse block grants and state substance abuse spending, Jacobsen and McGuire,[33] claimed to have found evidence of the flypaper effect. The authors analyzed the impact of the SAPTBG on state substance abuse spending in the U.S. between fiscal years 1987 and 1992 using total expenditure data from 50 states. To counter potential bias from omitted state-level variables that may influence variations in state expenditures, state fixed effects were incorporated in the regression as a series of indicator variables, one indicator for each state. These fixed effects helped control for policies at the state level that explain variations in state spending but were not otherwise available in the data.

Jacobsen and McGuire found that states generally spent block grant dollars as Congress intended.[33] Moreover, state expenditures on treatment programs increased roughly dollar for dollar with increases in the SAPTBG. The effect was particularly pronounced after 1989, when the federal government increased enforcement efforts.

Ma *et al.*[5] supported Jacobsen and McGuire's findings. The authors focused on the monitoring and enforcement efforts that SAMHSA undertook to ensure the SAPTBG was spent as intended. This article used more years of data (1984-94 versus 1987-92), and data were augmented with two variables designed to capture monitoring and enforcement: applications for waiver and receipt of technical assistance. Waivers allow states more freedom to spend funds as desired, and they are likely to be negatively associated with state substance abuse spending. Technical assistance could indicate increased enforcement and monitoring and may be positively associated with state substance abuse spending. Like Jacobsen and McGuire, Ma *et al.* found that the post-1989 effects, when enforcement was enhanced, were significant in the model. The variables designed to capture increased monitoring and enforcement variables were not statistically significant.

Neither Jacobsen and McGuire nor Ma *et al.* addressed a potential aspect of mis-specification in the equations. Both studies assumed that if the estimated effect of the block grant on state spending was greater than the estimated effect of personal income on state spending then this was evidence of the flypaper effect. It was then reasoned that the difference between the block grant effect and the personal income effect is the magnitude of the flypaper effect. However, Fisher shows this reasoning is incorrect. Deriving the empirical flypaper effect from theory, Fisher shows that the empirical specification should also include the per capita share of taxes.[16] Failing to account for the per capita share of taxes would cause bias, and the direction of the bias would be unclear. Fisher presents evidence from 11 published papers comparing the estimated flypaper effects with those that would have been predicted by theory, given the estimated marginal income effect in the paper. (None of the papers directly addresses the relationship between the substance abuse block grant and state spending). Fisher finds that, typically, the estimated effects of lump sum aid on government expenditures are greater than predicted by theory. Given Fisher's critique, it is debatable whether Jacobsen and McGuire and Ma *et al.* actually found a flypaper effect. Therefore it is unclear that there is a positive association between the substance abuse block grant and state substance abuse spending.

Other potential sources of specification bias should be considered and addressed when examining the influence of block grants on state spending. These include: accounting for the influence of neighboring states or states with similar characteristics;[34] properly specifying the production function or cost function of public goods;[35,36] and specifying the functional form of the model.[29,30]

One potential source of bias, omitted variable bias, is addressed in the third of four articles on the relation between state substance abuse spending and the SAPTBG. Using state expenditure data from the same source as Jacobsen and McGuire and Ma *et al.*, Gamkhar and Sim[37] noted that the SAPTBG funds allocated in a particular fiscal year are typically available for use by states for two fiscal years, so states have some flexibility when they use their block grant funds. Failing to include these lags could give a biased estimated of the effect of the substance abuse block grant. Gamkhar and Sim introduced lagged terms in their version of the Jacobsen and McGuire model and considered the effect of both the current year and previous year block grants. In contrast to the findings of Jacobsen and McGuire[33] and Ma *et al.*[5], Gamkhar and Sim found that current period substance abuse block grant funding has no statistically significant effect on state or local substance abuse spending either before or after 1989. Current period block grant funding, however, had a positive effect on state expenditure in the following period.

Including lags in the specification can result in serial autocorrelation and heteroscedasticity.*[38] Both autocorrelation and heteroscedasticity lead to incorrect standard errors, which in turn can lead to incorrect inferences about the significance of the effect of the SAPTBG on state spending. Gamkhar and Sim[37] tested and corrected for these and found statistically significant differences. When Gamkhar and Sim estimated a specification that did not include a lagged block grant variable or a correction for autocorrelation and heteroscedasticity, Jacobsen and McGuire's general findings were corroborated. However, when the lagged variable is included in the model and the necessary econometric corrections are made, the authors contradicted Jacobsen and

* Autocorrelation is the correlation between unobserved components in the error term over time, and heteroscedasticity occurs when the error terms do not have constant variance across observations.

McGuire.[33] The issue is by no means resolved: Ma *et al.*[5] performed several tests of robustness on the regression analysis, addressing serial correlation (the lagged variable introduced by Gamkhar and Sim) in particular. They concluded that serial correlation is unimportant.

Gamkhar and Sim[37] argued that increased federal oversight of state compliance with the block grant restrictions since 1989 did not result in increased state and local government expenditure on substance abuse services. The empirical findings tentatively suggested that SAPTBG from 1989 onward was smaller than its impact before 1989. The authors also concluded that block grants might not be the appropriate policy instrument, whereas other types of funding (such as categorical matching grants) would be better suited for meeting federal objectives.

Although the fourth study that examined the impact of the SAPTBG does not address flypaper effects directly, it found that state substance abuse spending is positively associated with substance abuse block grants. Huber *et al.*[39] examined changes in federal and state alcohol and drug funding at specialty alcohol treatment facilities between 1979 and 1989. The authors considered changes that resulted from the spread of private insurance coverage and the consolidation of federal funding into block grants. They found for every $1.00 increase in state SAPTBG funding, the state-administered spending on alcoholism treatment increased by $0.80.

One important econometric issue in examining the impact of the SAPTBG in state behavior is that the SAPTBG and state spending could be jointly determined, and thus the estimated effect of the SAPTBG on state spending would be subject to endogeneity bias. The SAPTBG and state spending would be jointly determined if states can influence their allocation of the SAPTBG. Despite the potential importance of this issue, none of the four articles examining the effect of the SAPTBG on state spending addressed it.

While there are clear avenues for states to influence the funds they receive in areas other than substance abuse (such as federal highway funding),[8,40,41] the avenues by which states could potentially influence SAPTBG funding are not as obvious. For example, Knight[8] noted that the federal highway funding allotment to a particular state is determined in part by the relative political influence of that state's representative(s) on the congressional committee deciding on the allocation. Indeed, congressional influence on block grants in general has existed throughout the history of Congress.[42]

In contrast to federal highway funding, the SAPTBG is largely determined by formula, and therefore the role of states' representatives' political influence – and in turn the potential for endogeneity bias – is less clear. Up until 2000 representatives could influence the amount of funding their state would receive by influencing US congressional committee decisions on two provisions that over-ride the formula, a 'hold harmless' provision and a small state minimum provision. A hold harmless provision ensures that in any one year no state receives less than it did in the previous year; a small state minimum provision ensures states with low populations receive a minimum amount of funding. The congressional committee would largely determine the content of the hold harmless and small state provisions on an annual basis. The appropriations committees in the U.S. House of Representatives have used these provisions to virtually negate the formula distribution in allocating funds to states. Before 2000 these two provisions were applied in all years but one in the 1990s and effectively helped reduce the role of the formula in determining the SAPTBG allocation to secondary importance. However, in 2000 these two provisions became part of legislation that required the provisions to be changed only by congressional authorization, virtually eliminating the influence that the congressional committees had.[43] Thus whether endogeneity is present in examining the relationship between the SAPTBG and state substance abuse spending may depend on the years of data used. If researchers were to use data up to 2000, endogeneity in the SAPT block grant could be apparent, working through hold harmless and small-state minimum provisions. The legislation in 2000 limits the potential role of endogeneity when using data from 2000 onward.[41]

Review of Data Used to Study Impact of the Substance Abuse Block Grant

Having reviewed the literature on the impact of the SAPTBG on state spending to guide future research in this area, it is also necessary to review the data available. The four studies that examine the link between the SAPTBG and substance abuse spending by states combined data from two separate sources. Data on the SAPTBG allocation to states come directly from the source of the allocation, SAMHSA. Data on state substance spending, however, come from a survey of states and are subject to error. Despite this potential drawback, the adequacy of these data for studying the impact of the SAPT block grant has never been systematically examined. The limitations of using these state-spending data are presented in this section.

Data on state expenditures were collected and reported in the State Alcohol and Drug Abuse Profile (SADAP), via an annual survey conducted by the National Association of State Alcohol and Drug Abuse Directors (NASADAD), a private, not-for-profit organization with the goal of fostering and supporting the development of alcohol and other drug abuse prevention and treatment programs in individual states. State alcohol and drug abuse directors voluntarily provide expenditure data in response to the survey. In addition to total spending on state substance abuse, the SADAP reports information on state expenditures in six funding categories: (i) State Alcohol & Other Drug Agency (the Single State Agency or SSA), (ii) Other State Agency, (iii) SAPT Block Grant, (iv) Other Federal Government, (v) County or Local Agencies, and (vi) Other Sources (such as reimbursements from private health insurance, client fees, and court fines). At the time of writing, data were available for the years 1985 to 1998; subsequent data have not been collected by the authors.

There are a number of limitations apparent in the SADAP. First, the SADAP does not provide instructions to states on how to categorize funds. Thus there are likely inconsistencies across states in this categorization and potential inconsistencies over time. Of the six categories of funding, expenditures funded by the single state agency (SSA) are likely to contain the most accurate data because the state authorities typically use internal records to respond to the survey. A second limitation is that the data reported by a state are likely to have two major omissions: (i) funds paid to providers not using SAPT block grant funds and (ii) any state substance abuse spending that the authority does not manage directly (such as spending by criminal justice programs and school prevention services). Because of these omissions the SADAP is likely to underestimate the total expenditure of state funds.

To solicit the opinion of SADAP survey respondents on the quality of the survey data, the authors surveyed selected states in a two-step process.* First, we conducted telephone interviews with state agency staff in three states: Colorado, Illinois, and Texas. The purpose of this first step was to understand from a state perspective what issues were involved in reporting information to the SADAP. The agency staff were asked whether the data that were reported to the SADAP were of reliable quality. Respondents unanimously believed that the data from their states were accurate because the information comes from the state accounting and budget systems.

In a second step, additional states were surveyed to confirm and extend the findings obtained in the initial interviews and to improve the generalization of the findings. E-mail responses were received from nine states: Connecticut, Hawaii, Iowa, Kentucky, Missouri, North Carolina, Oregon, Vermont, and Washington. Responses from this sample found no evidence of substantive and consistent error in the SADAP reports. Most states used centralized state information systems to generate the numbers reported in SADAP. Identified errors in categorizing sources of funding for expenditures tended to be minor or offsetting.† The survey identified two major limitations in the SADAP, however. The first was that not all states include Medicaid expenditures in their reported expenditures to SADAP, and the SADAP does not indicate whether a state includes Medicaid expenditure in its data. Because the Medicaid program is one of the largest sources of funding for substance abuse treatment in the United States, the extent to which it is included in the data is potentially a major source of measurement error. The second major limitation is that the states acknowledged that the SADAP does not incorporate all expenditures for alcohol and drug prevention and treatment in the state and is usually limited to funds controlled directly or indirectly by the state alcohol and drug authority.

Discussion

In this section, we suggest future directions for research based on the findings. The literature review indicated that, although there is debate regarding whether there are flypaper effects, it is clear that the SAPTBG is not associated with reductions in state substance abuse spending. The data review concluded that caution should be taken in using the available data on state substance abuse expenditures. The categorization of SADAP spending into six sources of funding may seem to offer an opportunity for more detailed analyses that examine the impact of block grants on spending from particular sources. However, without additional information on how each state categorizes expenditures, the variation across states in categorizing the data into the sources renders the data by expenditure category unreliable. One critical problem with the total expenditure data is that states vary to the extent that they include expenditures from Medicaid in the data, and there is no way of knowing from the data whether states have included Medicaid. This problem may cause considerable measurement bias in estimates.

An advantage of block grant funding is that states have the flexibility to apply the SAPTBG funds in a manner suited to deal with their individual state needs. Substance abuse problems differ in character and intensity among the states, and there are differences across the states in the socioeconomic characteristics of the population. States also vary in the way they organize and manage the delivery of services and providers. The block grant permits the development of solutions that conform to these unique characteristics. Although states have leeway in how they use their block grant funds, they are required to maintain their level of effort and to provide services for targeted populations.

Although legislation requires maintenance-of-effort, further research is needed to uncover whether these legislated provisions are actually followed. Preliminary evidence suggests the provisions are not enforced. The administrating body, SAMHSA, is required to investigate ''not less than ten states each year to evaluate compliance with block grant requirements''.[44] However, SAMHSA does not have real regulatory powers to enforce individual state spending. Rather, the role of SAMHSA is to monitor states' performance. Despite the fact that there is fairly weak regulatory enforcement, the literature to date finds that the SAPTBG is either associated with a zero or positive increase in state substance abuse spending; thus, states do not appear to substitute SAPTBG funds for their own funds.

A second direction for future research is to investigate why states are seemingly compliant with the block grant provisions, given that SAMHSA has no enforcement power over state spending. We speculate that states may be able to

* Although the states were not selected from a statistically drawn sample, they were chosen to represent diverse geography and size. The results are not nationally generalizable but are indicative of differences among states.

† There was a misclassification of funds on SADAP in two states, but correction simply moved the dollars from one category to another and did not change the overall total. Three states reported changes in expenditures following the submission of the SADAP report. Overall, the changes were relatively minor (less than 0.5 percent) and the data appear to be generally accurate.

maintain their substance abuse efforts in times of fiscal crises by reducing substance abuse spending in the myriad avenues other than the SSA spending that is counted for meeting maintenance-of-effort compliance. For example, to meet maintenance-of-effort demands, states could reduce state substance abuse spending in the education budget but fund similar activities through the SSA. Similarly, if a state is able to track Medicaid substance abuse spending, it may be able to report Medicaid funds under the SSA spending, thereby complying with the maintenance-of-effort requirement. Currently, however, the available data cannot be used to investigate whether such accounting practices occur.

As suggested in the data review, to fully understand the impact of the SAPTBG will require not only more accurate data on current SSA spending, but also an integrated data source incorporating the various sources of substance abuse treatment and prevention funding. No such integrated data source exists. A potential data source for years prior to 1998 is the Uniform Facility Data Set (UFDS), a census of treatment providers with data on revenues by funding source. However, these data have two limitations that make them unsuitable for policy analysis. First, revenue data are not available from 1998 onwards. Second, the revenue information is largely inaccurate and is missing for many facilities.[45]

Any integrated data system measuring the funding of substance abuse services should include Medicaid. Of the relevant programs that states fund, Medicaid is perhaps the largest. Because states receive matching federal funds for this program, Medicaid is a crucial part of most states' substance abuse treatment funding. If a state chooses to increase Medicaid funds for substance abuse treatment, it will receive an increase in the federal matching funds. The state can maintain its level of SSA funding to comply with the SAPT block grant requirements but use Medicaid funding to actually increase its substance abuse treatment spending. States have designed a variety of strategies to maximize Medicaid matching, which can be used for various health efforts in the states.[46]

Gathering and integrating data on substance abuse funding from a variety of agencies is problematic. Despite the importance of the program, data on Medicaid spending on substance abuse treatment may be the most difficult to obtain for several reasons. First, even for those states that have good databases tracking cases by diagnosis and procedure, many of the cases are diagnosed under mental illness categories, because of provider practices, co-occurring disorders, or Medicaid coverage and reimbursement restrictions. Moreover, most states do not collect diagnostic data to track substance abuse disorders, especially since the advent of managed care.

Given that gathering more accurate, detailed data on state substance abuse spending would be expensive, one way of addressing research questions at hand is to use case studies. Case studies would allow researchers to examine how substance abuse spending decisions are shaped in individual states by their different needs and sociopolitical factors and would provide a sense of what other sources of funding are used by states to prevent and treat substance abuse problems. This type of analysis would require interviewing state substance abuse agency officials and state legislatures to determine how state funding is determined and the effect of the SAPTBG on state funding. Perhaps the greatest challenge of the case study approach is to ensure the results are generalizable to other states.

Other avenues of research could examine the impact of the SAPTBG on a broader set of outcomes other than state spending on substance abuse. Because the purpose of the SAPTBG is to influence treatment, prevention and individual substance abuse outcomes, it may be fruitful to examine whether treatment activities within a state are influenced by the SAPTBG. Such analyses remain unexplored in the published literature. The main data source of information on the numbers of treatment admissions, their characteristics, and treatment services delivered in the United States is the Treatment Episode Data Set (TEDS), published by SAMHSA.*

The importance of understanding the impact of the SAPT block grant on state spending and on state treatment patterns must not be underestimated. The Congress has expressed its keen interest in evaluating the impact of federal programs on the states by passing the Government Performance and Results Act (GPRA, Public Law No: 103-62). The Office of Management and Budget has developed a tool to provide such an evaluation. The Program Assessment Rating Tool (PART) is a series of questions designed to provide a consistent method of evaluating federal programs.† The purpose is to assess how well federal programs accomplish what they purport to accomplish.

The SAPTBG is one of many federal programs evaluated under the PART. A meaningful evaluation under the PART is difficult because of the problems in the data described in this paper. Evaluation of the SAPTBG program should focus on the impact of state spending behavior, which must include other state funding sources for substance abuse services other than those of the SSA. Such evaluation may serve as a guide to the future distribution of program resources among competing demands. That is, the SAPTBG might be allocated on the basis of the amount states are spending on their own. This approach would, however, require a major change in the formula used for allocation.

On a final note, funding levels among the different state agencies are subject to fluctuation; only the SSA funding is subject to maintenance of effort. During an economic downturn, most states lower spending for substance abuse treatment. Even if state expenditures for the SSAs are sustained in order to comply with the SAPTBG maintenance of effort provision, funding for other agencies could be adversely affected.

* For more detailed information on TEDS, see http://www.samhsa.gov/oas/dasis.htm.

† For information on PART, see the web site of the Office of Management and Budget: http://www.whitehouse.gov/omb/budintegration/part_assessing2004.html.

Acknowledgments

We would like to acknowledge the research assistance from Keith Davis, Debanjali Mitra, and Shu Wen Ng as well as helpful comments from Donald Goldstone, Samuel Korper, Ira Raskin, and, especially, Thomas McGuire, without whose work this paper would not have been written.

References

1. Mark TL, Coffey RM, King E, Harwood H, McKusick D, Genuardi J, Buck JA. Spending on Mental Health and Substance Abuse Treatment, 1987-1997. *Health Aff* 2000; **19**: 108-120.
2. ADAMHA Reorganization Act, Legislative History, Senate Report No. 102-131, pages 4-5.
3. Burnam MA, Reuter P, Adams JL, Palmer AR, Model KE, Rolph JE, Heilbrunn JZ, McCaffrey DF, Wenzel SL, Kessler RC. *Review and Evaluation of the Substance Abuse and Mental Health Services Block Grant Allotment Formula*. Santa Monica: RAND, 1997.
4. National Research Council. *Statistical Issues in Allocating Funds by Formula. Panel on Formula Allocations*. Louis TA, Jabine TB, Gerstein MA, Editors. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press, 2003.
5. Ma CA, McGuire TG, Weng Y. 2002. Monitoring and Enforcement in Federal Alcohol and Drug Abuse Block Grants. In *The Economics of Health Care in Asia-Pacific Countries*. Taiwan: Institute of Economics, Academia Sinica, 257-270.
6. ADAMHA Reorganization Act, P.L. 102-321, Sections 201 and 202, July 10, 1992.
7. Jabine TB, Louis TA, Schirm AL, editors. *Choosing the Right Formula: Initial Report*. The Committee on National Statistics, Division of Behavioral and Social Sciences and Education, National Research Council. Washington, DC: National Academy Press, 2001.
8. Knight B. Endogenous Federal Grants and Crowd-out of State Government Spending: Theory and Evidence from the Federal Highway Aid Program. *Am Econ Rev* 2002; **92**: 71-92.
9. Levit K, Smith C, Cowan C, Lazenby H, Sensenig A, Catlin A. Trends in U.S. Health Care Spending, 2001. *Health Aff* 2003; **22**: 154-164.
10. Frank R, McGuire T, Regier D, Manderscheid R, Woodward A. Paying for Mental Health and Substance Abuse Care. *Health Aff* 1994; **13**: 337-342.
11. Cordray DS. Strengthening Causal Interpretations of Nonexperimental Data: The Role of Meta-Analysis. In *Research Methodology: Strengthen Causal Interpretations of Nonexperimental Data Conference Proceedings* (DHHS Publication No. (PHS) 90-3454). Edited by L Sechrest, E Perrin, J Bunker. Rockville, MD: Agency for Health Care Policy and Research, 1990.
12. Clarke M, Oxman AD, editors. *Cochrane Reviewers' Handbook 4.2.0* [updated March 2003]. http://www.cochrane.dk/cochrane/handbook/handbook.htm (accessed 30 April 2003).
13. Journal Storage - The Scholarly Journal Archive http://www.jstor.org.
14. http://www.ncbi.nlm.nih.gov/entrez/query.fcg.
15. Stiglitz, JE. *Economics of the Public Sector*. Second Edition. New York: W.W. Norton & Company, 1988.
16. Fisher RC. Income and Grant Effects on Local Expenditure: The Flypaper Effect and Other Difficulties. *Urban Econ* 1982; **12**: 324-345.
17. Chesney JD. Intergovernmental Politics in the Allocation of Block Grant Funds for Substance Abuse in Michigan. *The Journal of Federalism* 1994; **24:** 39-46.
18. Lynch FL. The Effects of State Intergovernmental Transfers on Local Public Mental Health Services. *Adm Policy Ment Health* 1997; **24**(4): 279-299.
19. Grossman PJ. The Impact of Federal and State Grants on Local Government Spending: A Test of the Fiscal Illusion Hypothesis. *Public Finan Q* 1990; **18**: 313-327.
20. Gramlich EM. 1977. Intergovernmental Grants: A Review of the Empirical Literature. In *The Political Economy of Fiscal Federalism*. Lexington: D.C. Heath, 219-240.
21. Hines JR, Thaler RH. Anomalies: The Flypaper Effect. *Econ Perspect* 1995; **9**:217-226.
22. Duncombe WD. Public Expenditure Research: What Have We Learned? *Public Budgeting & Finance* 1996; **Summer**: 26-58.
23. Bailey SJ, Connolly S. The Flypaper Effect: Identifying Areas for Further Research. *Public Choice* 1998; **95**:335-361.
24. Hewitt D. Fiscal Illusion from Grants and the Level of State and Federal Expenditures. *National Tax Journal* 1986; **39**: 471-483.
25. Oates W. Lump-Sum Intergovernmental Grants Have Price Effects. In *Fiscal Federalism and Grants-in-Aid*. Washington, D.C: Urban Institute, 1979, 23-30.
26. Wyckoff PG. A Bureaucratic Theory of Flypaper Effects. *Journal of Urban Economics* 1988; **23**: 115-129.
27. Zampelli E. Resource Fungibility, The Flypaper Effect, and The Expenditure Impact of Grants-In-Aid. *Rev Econ Stat* 1986; **68**: 33-40.
28. Ladd HF. State Responses to the TRA86 Revenue Windfalls: A New Test of the Flypaper Effect. *Policy Anal and Manage* 1993; **12**: 82-103.
29. Gamkhar S, Oates W. Asymmetries in the Response to Increases and Decreases in Intergovernmental Grants: Some Empirical Findings. *Natl Tax J* 1996; **49**: 502-512.
30. Becker E. The Illusion of Fiscal Illusion: Unsticking the Flypaper Effect. *Public Choice* 1996; **86**: 85-102.
31. Megdal SB. The Flypaper Effect Revisited: An Econometric Explanation. *Rev Econ Stat* 1987; **69**: 347-351.
32. Wyckoff PG. The Simple Analytics of Slack-Maximizing Bureaucracy. *Public Choice* 1990; **67**: 35-47.
33. Jacobsen, K, McGuire TG. Federal Block Grants and State Spending: The Alcohol, Drug Abuse and Mental Health Block Grant and State Agency Behavior. *J Health Polit Policy Law* 1996; **21**: 753-770.
34. Case AC, Rosen HS, Hines JR. Budget Spillovers and Fiscal Policy Interdependence. *Public Econ* 1993; **52**: 285-307.
35. Duncombe WD. Demand for Local Public Services Revisited: The Case of Fire Protection. *Public Finan Q* 1991; **19**: 412-436.
36. Schwab R, Zampelli EM. Disentangling the Demand Function from the Production Function for Local Public Services. *Public Econ* 1987; **33**: 245-260.
37. Gamkhar S, Sim S-C. The Impact of Federal Alcohol and Drug Abuse Block Grants on State and Local Government Substance Abuse Program Expenditure: The Role of Federal Oversight. *J Health Polit Policy Law* 2001; 26(6):1261-1290.
38. Greene WH. *Econometric Analysis*. Second Edition. New York: MacMillan, 1993.
39. Huber JH, Pope GC, Dayhoff DA. National and State Spending on Specialty Alcoholism Treatment: 1979 and 1989. *Am J Public Health* 1994; **84**: 1662-1666.
40. Gamkhar S. Is the Response of State and Local Highway Spending Symmetric to Increases and Decreases in Federal Highway Grants? *Public Finance Review* 2000; **28**: 3-25.
41. Meyers HG. Displacement Effects of Federal Highway Grants. *Natl Tax J* 1987; **40**: 221-235.
42. Melnick D. The Legislative Process and the Use of Indicators in Formula Allocations. *J Off Stat* 2002. **18**: 353-369.
43. Children's Health Act of 2000. P.L. 106-310, Section 3304, October 17, 2000.
44. ADAMHA Reorganization Act, Legislative History, House Conference Report No. 102-546, p. 136.
45. Schneider Institute for Health Policy, Brandeis University. *Testing Reliability – Comparisons of Responses to Two National Substance Abuse Treatment Facility Surveys: ADSS and UFDS*. Developed for the Substance Abuse and Mental Health Services Administration (SAMHSA), Office of Applied Studies (OAS), by the Schneider Institute for Health Policy, Brandeis University under Contract No. 283-92-8331. December 21, 2000.
46. Coughlin TA, Zuckerman S. *States' Use of Medicaid Maximization Strategies to Tap Federal Revenues: Program Implications and Consequences*. Discussion Paper as part of Assessing the New Federalism. Washington, DC: Urban Institute, 2002.

