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Socioeconomic Analysis of Addictions Treatment

Public health officials, clinicians, and researchers interested in substance abuse have ample grounds for pessimism. They see the escalation of drug-related violence, increased use of drugs and alcohol among young people, the spread of HIV among users, and statistics that show limited success for most intervention programs. Demands for an addictions treatment system producing better and more durable results have also escalated at a time when American health care is under siege, when public health and criminal justice perspectives compete for primacy, when government is striving to reduce expenditures, and when dollars for even the best of causes are often denied.

Some policymakers view addictions treatment as a cost "add-on"—a luxury—ineffective in comparison with other medical technologies and targeted at problems without real reparative potential. This view is evident in trends in third-party payer guidelines

toward lean service limits and higher copays and in the decisions of many providers to close facilities or shift to other care sectors.

When resources are scarce and when the "opportunity cost" of one action implies that certain other desirable social goals will go unattended, economic analysis can be a fair arbiter. "Bottom line"-style analysis ducks the moral debate between treatment advocates and opponents in favor of a rational harm reduction philosophy. Economic arguments lend power to treatment activists while providing political cover to conservative opponents who can support treatment for reasons of cost containment, not social justice. Health officials, especially those most discouraged by the current climate, would do well to understand and learn to communicate the policy relevance of a body of data showing that addictions treatment promotes economy, not waste, because its costs are more than offset by direct and indirect benefits to users, their families, and society at large.

Economic Research Methods

Several analytic tools can be used to evaluate the economic consequences of treatment and of failure to treat.

Cost-of-illness analyses help prioritize remedial efforts based on the relative economic impact of the illness. The economic importance of substance abuse in cost-of-illness terms is very clear. Researchers at University of California, San Francisco, estimate the cost of alcohol and drug addictions in the United States at \$166 billion¹ annually—undoubtedly an underestimate because the hidden nature of alcohol and drug abuse masks the actual numbers of abusers. As much as 15% of health care expenditures, plus large shares of social welfare and criminal justice expenditures, are directed at problems associated with alcohol and drug use, explicit or covert.

Cost-benefit analyses attempt to determine whether the expenditures on a treatment are greater or less than the benefits achieved by treatment. Here too, the data are clear. Cost-benefit analyses of alcohol and drug treatment conducted by Research Triangle Institute, California's Department of Health Services, RAND Corporation, and others show that treatment reduces the social costs of addiction by an amount that exceeds the cost of treatment—promoting better employee behavior,² lower predatory and property crime,³ reduced AIDS risk,⁴ and other positive outcomes.

Cost-offset analyses examine records of health care utilization before, during, and after treatment. Researchers estimate "averted cost," the anticipated reductions in future health care expenditures associated with current treatment. Because alcohol and drug use damages the health of users, because their ill health stimulates use of medical services, and because treatment of the addiction(s) ameliorates the related illnesses and encourages more appropriate use of medical services,^{5,6} cost-offset data are compelling advocates of addictions treatment.

Cost-effectiveness analyses compare two or more treatments by determining the cost of a given desirable outcome using each treatment, for example, \$100 spent on Treatment A to achieve one month of drug abstinence versus \$200 spent on Treatment B to achieve the same month of drug abstinence. Cost-effectiveness

studies have shown that methadone maintenance is an inexpensive way to reduce risk for HIV,⁴ that there are more efficient means than inpatient care to treat alcoholism,⁷ that outpatient detoxification is more cost-effective than residential treatment in most cases,⁸ and that a number of other low-intensity treatment options are attractive, cost-conscious clinical choices.⁹

Analyses of the cost of illnesses, of the benefits of providing treatment, and of the most economical treatment approaches are of particular relevance in an era in which costs are substantial, opportunity costs are large, and there are many competing calls on scarce resources.

Reducing Barriers to Treatment

The belief that access to addictions treatment leads to financially calamitous overuse of costly treatment is one of the most irrational responses to our current health care crisis. On the contrary, addictions treatment is low-cost—\$10–12 a day for outpatient care—and seriously underutilized: of the total costs borne by society, very little—10% of the costs of alcoholism, and 5% of the costs of drug abuse—is absorbed by treatment, a far smaller proportion than in any other area of mental health. Alcohol and drug treatment account for little more than one percent of total service costs in health maintenance organizations,¹⁰ and a similarly small fraction (1–4%) of expenditures by major health insurers. These numbers surprise no one in the field. The practical problem with alcoholics and addicts is never one of discouraging frivolous use of treatment, but rather of attracting them to treatment and keeping them there. New barriers to treatment, particularly closing of publicly funded outpatient drug-free and methadone maintenance programs in cities and high copayments for addiction treatment services, compound the problem of engaging users in treatment. The result is an increased drain on other medical services and on the welfare and criminal justice systems.

Making Treatment Policy Choices

Focused Treatment. Most economic evaluations of addictions treatment link favorable outcome more to a focus on reducing substance use and the likelihood of relapse than to the treatment's intensity per se. One cost-effectiveness study of 33 specific treatment modalities for alcoholism found strong evidence that highly restrictive, intensive, and costly treatment, such as Minnesota Model inpatient care, is not necessarily better treatment.⁹ Such approaches may in fact be less effective and far less cost-effective than more focused moti-

ational counseling, relapse prevention training, behavioral marital therapy, and other cognitive-behavioral techniques. In another study of the most frequently used regimen for alcohol and narcotics addicts, detoxification, outpatient detoxification appeared markedly more cost-effective for the 90% or so of patients without serious withdrawal histories than the more common round-the-clock inpatient observation.⁹ Cost-effectiveness analyses have demonstrated that partial or day-hospital treatment of problem drinking often promotes recovery at less cost than inpatient care⁷ and that even greater cost saving is possible with a family of highly focused techniques known generically as "brief interventions."¹¹ Thus, efforts to control addictions treatment costs by limiting reimbursements to inpatient services helps expand rather than contain overall treatment costs. These higher costs reduce access and diminish the benefits of treatment to the entire population that needs it.

Long-Term, Low-Intensity Treatment. In the case of serious narcotics addiction, clinical effectiveness is rarely associated with intense or intrusive treatment. Cost-benefit analyses have consistently found a positive relationship between time spent in treatment and benefits, with clinical effects growing in a linear fashion after a threshold of at least three months in treatment.³ Other studies show that while clinical gains erode when treatment is discontinued, ongoing treatment promotes reduction in a wide range of symptoms, which gradually decline over a course of multiple treatment episodes that some refer to as the "treatment career."¹² Recent moves to establish annual or lifetime service caps for addictions treatment, time-limited eligibility rules for publicly funded treatment, or guidelines for very brief regimens appear penny wise and pound foolish.

Exploiting Natural Capture Sites. Untreated alcohol and drug users fill 10 to 50% of hospital and emergency room beds, mostly for treatment of illnesses secondary to the addiction. Economic analysis of innovative programs that use case identification, brief intervention, and referral to more focused care as needed suggest we could reduce the use of hospital and emergency room services by this population and recoup the expenditures.¹³ Hospitals are a natural capture site for alcohol and drug problems. Controlled clinical trials of programs that first engage the medical patient in appraising the role of substance use in precipitating a health crisis and, second, provide a brief treatment intervention, have produced very encouraging findings in terms of both clinical efficacy and reduction in later health care utilization. Other natural capture sites include courthouses

and vocational rehabilitation programs. Stripping these environments—hospitals, courts, and job training programs—of all but the most basic activities appears prudent to fiscal conservatives, but organizing effective intervention services for people with drug and alcohol problems who are naturally concentrated and under a contingency if they fail to cooperate with treatment would be far less costly in the long run.

Conclusions

Economic research is an effective tool for influencing policy decisions because its results are typically expressed in dollars of averted future costs, a term which precisely matches those of the current public debate. Yet institutions such as the Congressional Budget Office balk at “scoring” cost-benefit and cost-offset estimates—“scoring” is CBO parlance for including an element in budget projections—because they have frequently been blamed for naive cost projections of expensive public spending programs and are intent on avoiding new underestimates of cost and overestimates of the benefits of current policy. Consequently, the Budget Office’s numbers show that addictions treatment represents a loss amounting to \$7 billion annually,¹⁴ while economic analyses indicate that addiction treatment costs will be rapidly recouped from lower spending on health care, criminal justice, and welfare services.

Marshaling economic data with sufficient critical clarity and conviction to influence budget projections is one of the most important steps we must take on the path to a rational addictions treatment policy. Economic analyses will be increasingly useful as the policy debate shifts to the local level, where policy is more experimental and policymakers are less polarized. No challenge to American public health officials is more pointed than the need to transform economic analyses into concrete recommendations if we hope to achieve a truly rational addictions treatment policy and a truly efficient health care system in the next century.

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References

1. Rice DP. In Horgan C, Marsden ME, Larson MJ, Elliott EA. Substance abuse: The nation's number one health problem, Key indicators for policy. Princeton NJ: Robert Wood Johnson Foundation, 1994.
2. Groeneveld J, Shain M, Brayshaw D, Keaney J, Laird L. Cost effectiveness of EAP: Testing assumptions. *Employee Assistance Quart.* 1985;1:75-81.
3. Hubbard RL, Marsden ME, Rachal JV, Harwood HJ, Cavanaugh ER, Ginzburg HM. Drug abuse treatment: A national study of effectiveness. Chapel Hill, NC: University of North Carolina Press, 1989.
4. Ball JC, Lange WR, Myers CP, Friedman SR. Reducing the risk of AIDS through methadone maintenance treatment. *Journal of Health Soc Behav* 1988;29:214-226.
5. Holder HD. Alcoholism treatment and potential health care cost savings. *Med Care* 1987;25:52-71.
6. Spear SF, Mason M. Impact of chemical dependency on family health status. *Int J Addict* 1991;26:179-187.
7. McCrady B, Longabaugh R, Fink E, Stout R, Beattie M, Ruggieri-Athelet A. Cost-effectiveness of alcoholism treatment in partial hospital versus inpatient settings after brief inpatient treatment: 12-month outcomes. *J Consult Clin Psychol* 1986; 54:708-713.
8. Hayashida M, Alterman AI, McLellan AT, O'Brien CP, Purtill JJ, Volpicelli JR, Raphaelson AH, Hall CP. Comparative effectiveness and costs of inpatient and outpatient detoxification of patients with mild-to-moderate alcohol withdrawal syndrome. *N Engl J Med* 1989;320:358-365.
9. Holder H, Longabaugh R, Miller WR, Rubonis AV. The cost effectiveness of treatment for alcoholism: A first approximation. *J Stud Alcohol* 1991;52:517-540.
10. O'Neill D. The costs of addictions treatment. *Employee Assistance Program J* 1990;15:6-26.
11. Babor TF. Avoiding the horrid and beastly sin of drunkenness: Does dissuasion make a difference? *J Consult Clin Psychol* 1994;62:1127-1140.
12. Hser Y-I, Anglin MD, Chou C-P. Evaluation of drug abuse treatment: A repeated measures design assessing methadone maintenance. *Evaluation Review* 1988;12:547-570.
13. Kristenson H, Ohlin H, Hulter-Nosslin H, Trelle E, Hood B. Identification and intervention of heavy drinking in middle-aged men: Results and follow-up of 24-60 months of long-term study with randomized controls. *Alcoholism* 1983;7:203-209.
14. Harwood HJ, Thomsom M, Nesmith T. Healthcare reform and substance abuse treatment: The cost of financing under alternative approaches. Fairfax VA: Lewin-VHI, 1994.