Published in final edited form as:

J Behav Health Serv Res. 2014 April ; 41(2): 110–124. doi:10.1007/s11414-013-9366-7.

The Cost Savings of Expanding Medicaid Eligibility to Include Currently Uninsured Homeless Adults with Substance Use Disorders

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Abstract

Following the June 2012 Supreme Court ruling that states are no longer mandated to expand their Medicaid programs in 2014 as part of the Affordable Care Act, many states plan to opt out of the expansion, citing affordability as their primary concern. In response to this controversy, the present study evaluated the cost savings of expanding Medicaid coverage to include currently ineligible homeless adults with substance use disorders, a subset of the population that incurs some of the greatest societal costs and is disproportionately impacted by uninsurance. Using a time horizon of 7 years, separate analyses were conducted for state and federal governments, and then a final analysis evaluated the combined costs for the other two models. Results of the study demonstrate that, although the expansion will be associated with a net cost when combining state and federal expenses and savings, states will experience tremendous savings if they choose to participate.

Introduction

In 2012, the National Alliance to End Homelessness estimated that there were approximately 634,000 Americans experiencing homelessness each night, and that the national prevalence of homelessness was roughly 20 per 10,000 people.¹ Among individuals who are homeless, 40–60 % are believed to have a substance use disorder (SUD).^{2–4} Homeless adults with SUDs are significantly more likely to experience a number of comorbid health conditions, including psychiatric illness, human immunodeficiency virus (HIV), and other sexually transmitted infections (STIs), hepatitis and other liver diseases, bronchitis, pneumonia, and premature mortality.^{5–12} Given the frequent and lengthy medical treatment for their numerous health conditions, the significant amounts of time spent in jails and prisons, and the use of emergency shelters, this population incurs some of the highest costs to society.^{13–15}

An estimated 20–30 % of homeless adults are believed to lack any form of medical insurance, which is associated with a number of additional costs incurred by an already

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Conflicts of Interest Dr. Mojtabai has received consulting fees from Lundbeck Pharmaceuticals during the past 3 years

costly population.^{16,17} Specifically, individuals without insurance are more likely to delay seeking medical care because of an inability to pay, which often leads to minor medical problems escalating into more severe and expensive problems.¹⁸⁻²⁰ Another source of cost incurred by those who are uninsured is emergency department visits either for medical emergencies, which are more common among individuals with SUDs^{21,22} or for non-emergencies, because emergency departments cannot turn anyone away under the Emergency Medical Treatment and Active Labor Act (EMTALA) of 1986.²³ There is ample research documenting high rates of emergency department utilization among the homeless, for whom the emergency department is often the only source of care.²⁴⁻²⁸ Research has also demonstrated that, on average, homeless people who visit the emergency room spend more time in the emergency room per visit, incur higher total treatment costs, and are more likely to use ambulance services to get to the emergency room, contributing to the high costs associated with lack of insurance in this subset of the population.^{24,29,30} Finally, evidence has suggested that homeless individuals without any form of health insurance have a significantly lower likelihood of obtaining and maintaining permanent housing, which substantially increases the costs they incur to society.³¹

One of the major reasons for the high rates of uninsurance among homeless adults and the associated costs is that many individuals do not meet eligibility criteria for Medicaid coverage. Although most homeless individuals meet the income requirements necessary for eligibility, the federal government only mandates that states provide full benefits to the following groups of adults: (1) pregnant women whose incomes are at or below 133 % of the federal poverty level (FPL); (2) low-income Medicare beneficiaries; and (3) individuals who are aged, blind, or disabled and who are eligible for Supplemental Security Income (SSI).³² Many homeless adults with SUDs do not meet criteria for any of these groups, largely because an SUD is not considered a qualifying disability for coverage and many homeless individuals, particularly single men, do not have children.³³ As a result, despite having some of the greatest health care needs, many homeless adults with SUDs lack access to treatment.

One of the main provisions of the Affordable Care Act (ACA), signed into law by President Obama on 30 March 2010, was that states would be mandated to expand their Medicaid coverage to all individuals with annual incomes that fall at or below 133 % of the FPL, effective January 2014, irrespective of parental or disability status, or risk losing all Medicaid funds from the federal government. Currently, the federal government covers, on average, approximately 50 % of Medicaid expenditures for beneficiaries, with the remaining 50 % being funded by the states. Under the expansion, federal medical assistance percentages (FMAP) would be significantly higher for new enrollees, at 100 % between 2014 and 2016, 95 % in 2017, 94 % in 2018, 93 % in 2019, and 90 % in 2020 and beyond.^{34,35} Following this mandate, an estimated 15.1 million American adults would be newly eligible for full Medicaid benefits.³⁶ The expansion of Medicaid has particular relevance to homeless adults with SUDs, given their significant use of physical and mental health services, which often go uncompensated because of their inability to pay.

The Medicaid expansion mandate was met with much controversy, with states arguing that they would not be able to afford the costs associated with covering so many additional Medicaid enrollees. Twenty-six states filed petitions against the federal government, arguing that the ACA was unconstitutional. On 28 June 2012, the Supreme Court ruled that this Medicaid expansion mandate was unconstitutional, and while the federal government will provide funding to states that choose to expand their programs, those who choose not to participate will not be penalized.³⁷ As a result, the Congressional Budget Office estimates that the number of individuals newly eligible for Medicaid will be closer to 11 million following this ruling.³⁸ As of June 2013, at least 20 states reportedly plan to opt out of the

expansion.³⁹ The decision to opt out remains controversial, with some suggesting that the decision to participate will actually save the states money, and others remaining adamant that participation in the program is unaffordable.^{40,41}

In the midst of major changes in the American healthcare system, there is the potential for many more homeless adults with SUDs to obtain access to comprehensive treatment and ultimately incur fewer costs to society. Given that the proposed healthcare changes are also associated with increased expenses and much controversy, there is a great need to concurrently assess the costs and the savings of the proposed Medicaid expansion, especially among population groups who have traditionally relied on public services for their health needs and who would be most affected by the Medicaid expansion. The present study examined the cost savings of the provision of expanding Medicaid to one such group: currently ineligible homeless adults with SUDs. It was hypothesized that the Medicaid expansion would be associated with significant decreases in overall societal costs, particularly from the perspective of the state governments.

Method

Three different cost-savings analyses were conducted using decision tree models in TreeAge Pro 2013.⁴² A decision tree is a tool that can be used to compare expected costs of competing alternatives. Each decision tree includes: (1) a decision node, which precedes the competing alternatives and is represented by a square; (2) chance nodes, which precede each of the possible pathways in each alternative, and are represented by circles; and (3) terminal nodes, which come at the end of each pathway and are represented by triangles. A probability estimate is entered at each branch following a chance node, and a total cost is entered after each terminal node. Using these probability and cost values, the per-person cost of each of the competing alternatives is computed.⁴³

The decision tree used in all three models is displayed in Figure 1. As shown in the tree, the two alternatives that were compared in this analysis were status quo and Medicaid expansion. In the status quo scenario, one branch represented having Medicaid coverage and the other represented being uninsured. In both of these insurance categories, branches were added representing those who would or would not enter SUD treatment. Finally, for each of the treatment entry branches, further branches represent success in treatment, defined as abstinence for the entire year, and lack of success in treatment, defined as not being abstinent for the entire year. In the Medicaid expansion condition, additional branches were included to account for the fact that the new FMAP rates accompanying the ACA Medicaid expansion will apply only to newly eligible Medicaid enrollees, while the older FMAP rates apply to previously enrolled individuals. As is the case for the status quo, following each of these branches, additional branches were included to represent those who did and did not enter treatment. Finally, among those who entered treatment, additional branches were included to represent success and lack of success in treatment.

Probability estimates

The sources of data for the probability estimates in the decision tree are displayed in Table 1. The majority of probability estimates in both the status quo and Medicaid expansion conditions were obtained from the client data of the National Survey of Homeless Assistance Providers and Clients (NSHAPC), a nationally representative sample of recipients of homeless assistance services collected in 1996.⁴⁴ As shown in the table, of participants with a past-year SUD, 34 % had Medicaid coverage. Of those with Medicaid, 41 % entered SUD treatment during the past year, while 59 % did not receive treatment. Among participants without insurance, 27 % entered treatment in the past year, while 73 % did not receive any treatment. The probabilities of SUD treatment success and lack of

success were obtained from a publication by Schumacher and colleagues⁴⁵ and were estimated to be 32 and 68 %, respectively. For each of the three models, two scenarios were examined in the Medicaid expansion condition: (1) a standard scenario, which assumed that 57 % of newly eligible homeless adults with SUDs would enroll in the Medicaid program and (2) an enhanced scenario, which assumed that 75 % of this population would enroll. The estimates for the two enrollment scenarios were obtained from the Kaiser Commission on Medicaid and the Uninsured, which predicts that 57 % of newly eligible individuals will enroll unless an aggressive outreach and enrollment campaign takes place, in which case, enrollment may be as high as 75 %.⁴⁶ These probabilities are reflected in Table 1 and in the decision tree and are taken as the proportion of the 66 % of the original sample who are currently ineligible for Medicaid, while the value of 34 %, representing previously enrolled individuals, remains the same. Therefore, the probabilities of new Medicaid enrollment in the two scenarios are 0.57 of 66 or 38 % and 0.75 of 66 or 50 %, for the enhanced and standard enrollment scenarios, respectively.

Cost estimates

Table 2 displays the cost estimates that serve as inputs for the final costs calculated in each path of the decision tree. First, estimates of total medical expenditures for individuals covered by Medicaid and individuals who were uninsured were obtained. The term “Medicaid expenditures” is used to describe medical expenditures of individuals covered by Medicaid, and the term “health care expenditures” is used to describe medical expenditures of individuals without insurance. The health care expenditures for uninsured individuals encompass both uncompensated care costs and out-of-pocket payments, although it is likely that the majority of costs for the present sample are uncompensated. In the present study, the estimate for the annual Medicaid expenditures for a homeless individual with an SUD were obtained from a 2011 match of state Medicaid data and homelessness data, which reported that on average, homeless individuals with Medicaid coverage incurred approximately \$7,437 annually in Medicaid expenditures.⁴⁷ To account for the fact that individuals with SUDs have more health care expenditures than those who are treated, the total costs were weighted to reflect this difference. This was accomplished by taking the value of the mean Medicaid expenditures for a chronically homeless individual, reported to be \$7437,⁴⁷ and considering the fact that on average, individuals who are treated incur approximately 0.895 times as many medical expenditures as those who are not treated.⁴⁸ From these two numbers, an estimate of total Medicaid expenditures for individuals treated (0.41×0.27 or 0.13 of the sample) and individuals not treated (the remaining 0.87 of the sample) were calculated to be \$6,989 and \$7,809, respectively, after adjusting for inflation. The average health care expenditures for those without insurance were then calculated as being 35 % of the value of the total expenditures for those with Medicaid, consistent with a publication by Hadley and colleagues,⁴⁹ which reported that on average, those who are uninsured incur about 35 % as much expenditure as do those who have Medicaid. Next, the average societal costs associated with treated and untreated SUDs were comprised of the sum of average welfare payments, average SSI payments, average crime-related costs, and average theft losses, minus the average earnings in each of these conditions, as reported in a publication by Koenig and colleagues.⁴⁸ As shown in the bottom row of Table 2, the value of the total savings can be obtained by calculating the difference in costs between treated and untreated SUD, which totals \$20,644 for those with Medicaid and \$20,111 for those who are uninsured.

All of these monetary values were converted to 2013 dollars using the Consumer Price Index provided by the US Bureau of Labor Statistics.⁵⁰

Analyses

As the costs and savings to the state and federal governments will be dramatically different, separate analyses were used for each of these two perspectives. A third model was then used to calculate total costs, which was the sum of the costs and savings in the previous two models. Each of these models were evaluated during the seven-year period from 2014 to 2020, which represents the period in which the FMAP rate for new Medicaid enrollees will gradually decrease in the Medicaid Expansion conditions from 100 to 90 %, where it will remain following 2020. For each year included in the time horizon, the costs were changed to reflect the transfer in funds from the state to the federal governments. It was assumed that the events during each year in the time horizon were independent of all other years, so that the costs for each individual year were calculated separately and then all costs were added together. The societal costs associated with treated and untreated SUDs were included in the state-only model and the combined state and federal model, but not the federal-only model because state and local governments typically incur the majority of uncompensated care costs.^{49,51} All costs in each of the models were discounted at a rate of 3 % for each year after 2013, as recommended by Panel on Cost-effectiveness in Health and Medicine.⁵² Annual costs were then summed to obtain the final costs used in each of the three models.

Following the main analyses, several one-way sensitivity analyses were conducted to take into account the possibility for variation among three estimates: (1) the probability of treatment entry if covered by Medicaid; (2) the probability of treatment entry if uninsured; and (3) the probability of success in treatment. A range of possible values was determined by calculating the standard deviation of each of these probability estimates, and examining the range representing three standard deviations above and below the probability estimate. A tornado diagram using TreeAge Pro 2013⁴² was used to examine all ranges simultaneously to assess the extent to which any of these variations affected the overall findings of the study.

Results

State costs

Table 3 displays the state costs for each branch of the decision tree. The total cost for Branch A, which represents individuals in the status quo condition with Medicaid who enter treatment and remain abstinent for the entire year, is associated with a cost of \$33,221/person over 7 years. Branch B represents individuals in the status quo condition with Medicaid who enter treatment but do not remain abstinent, which is associated with a total cost of \$159,293/person over 7 years. Branch C has the same total cost as Branch B, representing individuals in the status quo condition with Medicaid who never enter treatment. Branch D represents the total costs for those without insurance who enter treatment, which totals \$26,689/person. Branches E and F each have total costs of \$151,995/person and represent uninsured individuals in the status quo condition who enter treatment but do not remain abstinent and who never enter treatment, respectively.

In the Medicaid Expansion condition, costs for Branches G, H, and I are the same as the values for Branches A, B, and C and represent the costs for individuals with Medicaid who enter treatment and succeed, who enter treatment and do not succeed, and who do not enter treatment, respectively. Branch J represents individuals newly enrolled in Medicaid following the expansion and who enter treatment and succeed. For this branch, the total cost to state governments is \$13,098 per person because of the enhanced FMAP rates for new enrollees. The total costs of Branches K and L, which represent individuals who are newly enrolled in Medicaid and who enter treatment but do not remain abstinent and who do not enter treatment, respectively, totals \$136,810/person. Branch M represents individuals who

are uninsured and who enter treatment, which is associated with a cost of \$26,689. The cost of being uninsured and either entering treatment and not remaining abstinent or never entering treatment is \$151,995/person, as shown in Branches N and O.

Federal costs

In the status quo condition, as presented in Table 4, total federal costs for those with Medicaid who enter treatment are \$21,773/person, as shown in Branch A. Total costs for Branches B and C, representing those who enter treatment and do not succeed, and those who do not enter treatment, respectively, are \$24,237/person. The federal government does not incur any costs for individuals who are not covered by Medicaid, which are represented by Branches D, E, and F.

In the Medicaid Expansion condition, total costs for Branches G, H, and I are equivalent to costs for Branches A, B, and C, as the FMAP rate is the same as it would be in the status quo condition. The total cost for new enrollees who enter treatment and succeed is \$41,895/person, as shown in Branch J. Branches K and L, representing new enrollees who enter treatment and do not succeed and who do not enter treatment, respectively, have total costs of \$46,810/person. As in the status quo condition, there are no federal government costs for individuals who lack insurance, as shown in Branches M, N, and O.

Combined state and federal costs

As shown in Table 5, among those with Medicaid in the status quo condition, the total societal costs over the 7-year period are \$54,993/person for those who enter treatment and remain abstinent for a year, shown in Branch A. The cost of entering treatment but not remaining abstinent and the cost of not entering treatment, represented in Branches B and C, total \$183,620/person. As shown in Branch D, among those without insurance, total costs were \$26,689/person for those who enter treatment and remain abstinent for a year. Finally, as shown in Branches E and F, among uninsured individuals, the costs of entering but not completing treatment or not entering treatment are \$151,995/person.

In the Medicaid Expansion condition, regardless of the FMAP rate, having Medicaid coverage and remaining abstinent following treatment is associated with a total cost of \$54,993/person, as shown in Branches G and J. Additionally, having Medicaid and either entering treatment but not remaining abstinent or not entering treatment is associated with a total cost of \$183,620/person, represented in Branches H and I as well as in Branches K and L. Among those without insurance, entering treatment and remaining abstinent is associated with a total cost of \$26,689/person, as shown in Branch M. Finally, Branches N and O represent individuals without insurance who enter treatment but do not remain abstinent or who never enter treatment, and the total costs for these branches are \$151,995/person.

Decision models and sensitivity analyses

Table 6 displays the results of each of the six decision models, as well as the largest range of possible estimates generated from the sensitivity analyses. As shown in the table, in the standard enrollment scenario, states will save an average of \$7,824 (range, \$7,054–8,594) per person over seven years. In the enhanced scenario, state savings will be higher with an average savings of \$10,295 (range, \$9,281–11,308) per person during the study time period. The annual per person savings for states were between \$1,118 (range, \$1,008–1,228) to \$1,471 (range, \$1,326–1,615), depending on enrollment.

With regard to federal government costs, Table 6 demonstrates that in the standard enrollment scenario, the federal government spends an additional \$17,543 (range, \$17,451–17,635)/person over 7 years. In the enhanced scenario, the federal government spends an

additional \$23,083 (range, \$22,962–23,204)/person over 7 years. The annual per person costs for the federal government will be between \$2,506 (range, \$2,493–2,519) and \$3,298 (range, \$3,280–3,315) depending on enrollment.

Finally, when looking at the combined state and federal costs, if the standard enrollment scenario is achieved, the Medicaid expansion will be associated with an additional cost of \$9,719 (range, \$8,857–10,581)/person over 7 years. If the enhanced scenario is achieved, it will result in an additional cost of \$12,788 (range, \$11,654–13,922)/person over 7 years. The annual per person total costs will be \$1,388 (range, \$1,265–1,511) and \$1,827 (range, \$1,665–1,989) for the standard and enhanced scenarios, respectively.

In total, as presented in Table 6, for every additional dollar the federal government spends, states who participate in the expansion will save approximately \$0.45. Additionally, both the costs to the federal government and the savings to the state governments will increase by a factor of 1.32 in the enhanced scenario compared with the standard scenario.

Discussion

The study sought to quantify the costs and savings associated with expanding Medicaid eligibility to cover currently uninsured homeless adults with SUDs. Results suggest that the expansion will be highly cost saving to states, with savings of \$7,824 to \$10,295/person over 7 years, depending on enrollment. However, it will also be associated with added expenses to the federal government with costs of \$17,543 to \$23,083/person over 7 years. In total, when taking into account both state and federal spending, the expansion will be associated with an overall financial cost of \$9,719 to \$12,788/person over 7 years, or approximately \$1,388 to \$1,827 per person per year. As demonstrated in the ranges produced by the sensitivity analyses, the overall findings did not change when varying each of the probability estimates by three standard deviations in either direction. The study hypothesis was partially supported in that the expansion will be associated with large savings when considering the perspective of state governments, but will be associated with an overall net cost when factoring in both the state and federal governments.

The finding that the expansion will be particularly cost saving to states is consistent with other reports examining the financial impact of the Medicaid expansion, which repeatedly document the large savings states will experience because of the significantly higher FMAP rate for new enrollees.^{41,53} Hadley and colleagues⁴⁹ reported that, on average, each person who is uninsured incurs roughly \$1,103 in uncompensated care costs during a given year. While it is anticipated that individuals with Medicaid coverage will incur higher expenditures compared with those who are uninsured, decreases in uncompensated care costs, which are largely funded by states, offset much of these additional costs. Furthermore, because of the higher FMAP rates for new enrollees in states which choose to participate in the expansion, the federal government will fund nearly all of the additional Medicaid expenditures so states will actually have fewer additional expenses as a greater number of people enroll in the program.^{34,54} Despite the overwhelming benefits to states demonstrated in past research as well as in the current study, representatives from many states have repeatedly voiced their opposition to this expansion and as a result, a significant number of states plan to opt out.³⁹ Therefore, efforts should concentrate on ensuring that states have accurate information before they choose whether or not to opt out of the expansion.

The fact that the federal costs still exceed the federal savings, making the overall expansion associated with a net cost, is a potential source of a concern for many policymakers who cite the already struggling economy as a source of hesitation. The primary question then is whether the provision of health care for this population justifies spending an additional

\$1,388 to \$1,827/person each year. In making this decision, it is helpful to consider some of the nonfinancial benefits of Medicaid expansion programs. For example, Sommers and colleagues⁵⁵ evaluated the impact of Medicaid expansion in states that have implemented similar programs since 2000 and found that, in comparison to residents in states without expansion programs, residents in these states experienced significant decreases in all-cause mortality, reductions in delayed care resulting from high costs, and improvement in self-reported health status. Therefore, while it is difficult to answer this question empirically, there are clear nonfinancial benefits to participation in the expansion that decision makers should take into consideration.

One of the major limitations of this study is that the parameter estimates largely relied on results of other studies, many of which do not necessarily generalize to the population of interest. Specifically, all of the estimates relating to the costs and savings from SUD treatment were obtained from a source that focused on SUDs in the general population, rather than specifically looking at individuals who were homeless.²⁸ Furthermore, while the estimates of annual Medicaid expenditures were obtained from a sample of chronically homeless adults, they were not based on a national sample but instead focused only on homeless individuals in Connecticut, which may not necessarily generalize to the national homeless population. Additionally, nearly all of the probability estimates came from the NSHAPC data, which was collected in 1996 and therefore may not be generalizable to trends that will occur between 2014 and 2020. The standard and enhanced enrollment scenarios were also obtained from a publication that estimated uptake among the general uninsured population⁴⁶ and it is possible that overall enrollment will not be comparable in this population. Efforts were made to select the best possible cost and probability estimates, but the many challenges associated with researching samples of homeless adults with SUDs⁵⁶⁻⁵⁸ made it nearly impossible to obtain estimates that are specific to this population. However, the fact that the overall findings did not differ substantially even when varying the probability estimates in the sensitivity analyses provides support for the conclusions drawn from the present study.

Another limitation is that it was not possible to obtain a value of the costs of targeted and aggressive outreach efforts associated with the enhanced enrollment scenario. Although it is unlikely that these costs would be substantial relative to the other costs in the models, it is worth acknowledging that this cost was not included in the enhanced enrollment scenario analyses.

Implications for Behavioral Health

The homeless population has grown significantly during the past decade and continues to drain the resources of state and federal governments, treatment providers, and the general public.^{59,60} Ample research exists demonstrating that having an SUD is one of the greatest predictors of becoming homeless or of returning to homelessness among those who were able to obtain housing.⁶¹⁻⁶⁴ However, despite these public health concerns, a substantial portion of homeless adults with SUDs are not enrolled in a treatment program and consequently this population incurs significant societal costs.^{2,65} Given that a significant portion of homeless adults with SUDs lacks health insurance, many of these costs come in the form of uncompensated medical care, which are ultimately absorbed by state and local governments or health care providers.⁶⁶ There is, therefore, an important need for effective policy aimed at decreasing the level of unmet need for SUD treatment, particularly among one of the most resource-consuming subpopulations, and findings from this study provide support for one such policy for lawmakers at the state level.

Results of this study provide insight on the affordability of the expansion, which comes in sharp contrast to the reports of state governors who plan to opt-out due to reported inability

to afford the additional expenses. Therefore, efforts should be made to disseminate these findings to researchers, policymakers, treatment providers, and the general public to increase the likelihood that homeless adults with SUDs will have access to this important coverage to maximize the likelihood that they enter treatment. Dissemination efforts can include partnerships with community organizations that specifically address health needs of individuals experiencing homelessness, collaborations with advocacy organizations in the development of policy briefs, and direct communication to the public through media outlets. Oftentimes, in the case of highly controversial issues, individuals hear only one side of an argument. The public reaction to the ACA is a strong example of this phenomenon. Therefore, ensuring that the public will be able to make informed decisions that take into account all sides of the argument is crucial.

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Figure 1.
Decision tree

Table 1

Probability estimates and their sources

Branch	Probability	Source
Status Quo–Medicaid covered	.34	NSHAPC client dataset ⁴⁴
Status Quo–uninsured	.66	NSHAPC client dataset ⁴⁴
Expansion–previously covered	.34	NSHAPC client dataset ⁴⁴
Expansion–newly covered	.38, .50	Holahan and Headen ⁴⁶
Expansion–uninsured	.16, .28	Holahan and Headen ⁴⁶
Treatment entry–Medicaid covered	.41	NSHAPC client dataset ⁴⁴
No treatment entry–Medicaid covered	.59	NSHAPC client dataset ⁴⁴
Treatment entry–uninsured	.27	NSHAPC client dataset ⁴⁴
No treatment entry–uninsured	.73	NSHAPC client dataset ⁴⁴
Success at 12-month follow-up	.32	Schumacher et al. ⁴⁵
No success at 12-month follow-up	.68	Schumacher et al. ⁴⁵

Table 2

Input costs adjusted to 2013 dollars

	Value	Converted to 2013 Dollars	Source
Medical costs			
Annual Medicaid expenditures if covered by Medicaid	Total, \$7,437 in 2011 dollars	Total, \$7,702; if receiving SUD treatment, \$6,989 and if no SUD treatment, \$7,809	Corporation for Supportive Housing and Partnership for Strong Communities ⁴⁷
Annual health care expenditures if uninsured	Total, $0.35 \times \$7,437 = \$2,603$ in 2011 dollars	Total, $0.35 \times \$7,702 = \$2,521$; if receiving SUD treatment, \$2,446 and if no SUD treatment, \$2,733	Hadley et al. ⁴⁹
Societal costs			
Annual costs if treated	Average earnings, -\$4,266 in 1994 dollars; average welfare payments, \$732 in 1994 dollars; average SSI payments, \$582 in 1994 dollars; average crime-related costs, \$2,851 in 1994 dollars; average theft losses, \$1,270 in 1994 dollars; and total, \$1,169 in 1994 dollars	Average earnings, -\$6,705; average welfare payments, \$1,151; average SSI payments, \$915; average crime-related costs, \$4,481; average theft losses, \$1,996; and total, \$1,838	Koenig et al. ⁴⁸
Annual costs if not treated	Average earnings, -\$3,915 in 1994 dollars; average welfare payments: \$724 in 1994 dollars; average SSI payments, \$587 in 1994 dollars; average crime-related costs, \$11,462 in 1994 dollars; average theft losses, \$4,924 in 1994 dollars; and total, \$13,782 in 1994 dollars	Average earnings, -\$6,154; average welfare payments, \$1,138; average SSI payments, \$923; average crime-related costs, \$18,016; average theft losses, \$7,740; and total, \$21,662	Koenig et al. ⁴⁸
Total Savings	If covered by Medicaid, $(\$7,809 - \$6,989) + (\$21,662 - \$1,838) = \$20,644$. If uninsured, $(\$2,733 - \$2,446) + (\$21,662 - \$1,838) = \$20,111$		

Table 3

State costs from 2014 to 2020

Branch	2014	2015	2016	2017	2018	2019	2020	Total
A	\$5,177	\$5,026	\$4,880	\$4,738	\$4,600	\$4,466	\$4,335	\$33,221
B	\$24,823	\$24,100	\$23,398	\$22,716	\$22,055	\$21,412	\$20,789	\$159,293
C	\$24,823	\$24,100	\$23,398	\$22,716	\$22,055	\$21,412	\$20,789	\$159,293
D	\$4,159	\$4,038	\$3,920	\$3,806	\$3,695	\$3,588	\$3,483	\$26,689
E	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995
F	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995
G	\$5,177	\$5,026	\$4,880	\$4,738	\$4,600	\$4,466	\$4,335	\$33,221
H	\$24,823	\$24,100	\$23,398	\$22,716	\$22,055	\$21,412	\$20,789	\$159,293
I	\$24,823	\$24,100	\$23,398	\$22,716	\$22,055	\$21,412	\$20,789	\$159,293
J	\$1,784	\$1,732	\$1,682	\$1,943	\$1,947	\$1,949	\$2,062	\$13,098
K	\$21,032	\$20,419	\$19,825	\$19,594	\$19,091	\$18,600	\$18,249	\$136,810
L	\$21,032	\$20,419	\$19,825	\$19,594	\$19,091	\$18,600	\$18,249	\$136,810
M	\$4,159	\$4,038	\$3,920	\$3,806	\$3,695	\$3,588	\$3,483	\$26,689
N	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995
O	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995

Table 4

Federal costs from 2014 to 2020

Branch	2014	2015	2016	2017	2018	2019	2020	Total
A	\$3,393	\$3,294	\$3,198	\$3,105	\$3,015	\$2,927	\$2,841	\$21,773
B	\$3,791	\$3,680	\$3,573	\$3,469	\$3,368	\$3,270	\$3,175	\$24,327
C	\$3,791	\$3,680	\$3,573	\$3,469	\$3,368	\$3,270	\$3,175	\$24,327
D	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
F	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G	\$3,393	\$3,294	\$3,198	\$3,105	\$3,015	\$2,927	\$2,841	\$21,773
H	\$3,791	\$3,680	\$3,573	\$3,469	\$3,368	\$3,270	\$3,175	\$24,327
I	\$3,791	\$3,680	\$3,573	\$3,469	\$3,368	\$3,270	\$3,175	\$24,327
J	\$6,786	\$6,588	\$6,396	\$5,899	\$5,667	\$5,444	\$5,115	\$41,895
K	\$7,582	\$7,361	\$7,147	\$6,592	\$6,332	\$6,082	\$5,715	\$46,810
L	\$7,582	\$7,361	\$7,147	\$6,592	\$6,332	\$6,082	\$5,715	\$46,810
M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
N	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Table 5

Combined state and federal costs from 2014 to 2020

Branch	2014	2015	2016	2017	2018	2019	2020	Total
A	\$8,570	\$8,320	\$8,078	\$7,842	\$7,614	\$7,392	\$7,177	\$54,993
B	\$28,614	\$27,780	\$26,971	\$26,186	\$25,423	\$24,683	\$23,964	\$183,620
C	\$28,614	\$27,780	\$26,971	\$26,186	\$25,423	\$24,683	\$23,964	\$183,620
D	\$4,159	\$4,038	\$3,920	\$3,806	\$3,695	\$3,588	\$3,483	\$26,689
E	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995
F	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995
G	\$8,570	\$8,320	\$8,078	\$7,842	\$7,614	\$7,392	\$7,177	\$54,993
H	\$28,614	\$27,780	\$26,971	\$26,186	\$25,423	\$24,683	\$23,964	\$183,620
I	\$28,614	\$27,780	\$26,971	\$26,186	\$25,423	\$24,683	\$23,964	\$183,620
J	\$8,570	\$8,320	\$8,078	\$7,842	\$7,614	\$7,392	\$7,177	\$54,993
K	\$28,614	\$27,780	\$26,971	\$26,186	\$25,423	\$24,683	\$23,964	\$183,620
L	\$28,614	\$27,780	\$26,971	\$26,186	\$25,423	\$24,683	\$23,964	\$183,620
M	\$4,159	\$4,038	\$3,920	\$3,806	\$3,695	\$3,588	\$3,483	\$26,689
N	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995
O	\$23,686	\$22,996	\$22,326	\$21,676	\$21,044	\$20,431	\$19,836	\$151,995

Table 6

Summary of costs and savings from all three models

	Per person costs over 7 years	Per person costs per year
State		
57 % enrollment (range)	Savings of \$7,824 (\$7,054–8,594)	Savings of \$1,118 (\$1,008–1,228)
75 % enrollment (range)	Savings of \$10,295 (\$9,281–11,308)	Savings of \$1,471 (\$1,326–1,615)
Federal		
57 % enrollment (range)	Cost of \$17,543 (\$17,451–17,635)	Cost of \$2,506 (\$2,493–2,519)
75 % enrollment (range)	Cost of \$23,083 (\$22,962–23,204)	Cost of \$3,298 (\$3,280–3,315)
Combined		
57 % enrollment (range)	Cost of \$9,719 (\$8,857–10,581)	Cost of \$1,388 (\$1,265–1,511)
75 % enrollment (range)	Cost of \$12,788 (\$11,654–13,922)	Cost of \$1,827 (\$1,665–1,989)
Ratios		
Enhanced/standard	\$1.32:1.00	
State savings/federal costs	\$0.45:1.00	