



PERFORMANCE AUDIT REPORT

Substance Abuse Programs: Evaluating Cost Savings Achieved Through Enhanced Access to State Substance Abuse Programs

**A Report to the Legislative Post Audit Committee
By the Legislative Division of Post Audit
State of Kansas
December 2015**

Legislative Division of Post Audit

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December 10, 2015

To: Members, Legislative Post Audit Committee

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This report contains the findings, conclusions, and recommendations from our completed performance audit, *Substance Abuse Programs: Evaluating Cost Savings Achieved Through Enhanced Access to State Substance Abuse Programs*. We would be happy to discuss the findings or any other items presented in this report with any legislative committees, individual legislators, or other state officials.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Frank'. The signature is fluid and cursive, with a large initial 'S' and 'F'.

Scott Frank
Legislative Post Auditor

This audit was conducted by Heidi Zimmerman, Daniel McCarville, Meghan Flanders, and Leyton Gunn. Justin Stowe was the audit manager. If you need any additional information about the audit's findings, please contact Heidi at the Division's offices.

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Substance Abuse Programs: Evaluating Cost Savings Achieved Through Enhanced Access to State Substance Abuse Programs

Studies have shown that substance abuse treatment can increase recipient productivity and income, and lower health care and criminal justice costs. The National Association of State Alcohol and Drug Abuse Directors reviewed 16 substance abuse treatment cost-benefit studies between 1992 and 2006. Those studies found that every \$1 spent on treatment returns an average \$6.35 through increased employment income and reduced health care and criminal justice system costs. A 2006 Virginia audit found that adverse effects of substance abuse cost state and local governments approximately \$613 million, especially in public safety areas. Based on a sample of 5,500 individuals, the audit also found that completing treatment resulted in a net cost reduction to state and local government of about \$6 million. The audit did not project savings statewide because it is impossible to know how many individuals actually needed treatment but did not seek it.

Kansas has a number of residents who need substance abuse treatment but have not received it. In Kansas, state-funded substance abuse treatment services are primarily the responsibility of the Behavioral Health Services commission within the Kansas Department for Aging and Disability Services (KDADS). The agency contracts with a managed care organization and licenses almost 300 providers to serve Kansans who need treatment. Eligibility for these services is limited to individuals whose income is below 200% of the federal poverty line. A 2006 Kansas Comprehensive Needs Assessment estimated that about 55,000 individuals needed and were eligible for substance abuse treatment but did not receive it. In addition to an unmet need for treatment, the study reported limited service availability in many areas and recommended places to add services based on need.

Legislators have raised concerns that Kansas' state-funded substance abuse programs may not meet all the treatment needs for state residents, which results in increased state criminal justice, health care, and other service costs.

This performance audit answers the following question:

1. Could the state achieve significant savings by improving access to substance abuse treatment programs?

A copy of the scope statement for this audit approved by the Legislative Post Audit Committee is included in *Appendix A* on page 17.

To answer the question, we interviewed treatment providers, collected data on substance abuse treatment, and developed a model to help estimate the effects of expanded treatment access in Kansas. We collected information from the Kansas Department for Aging and Disability Services on the number of individuals who received state-funded substance abuse treatment, their demographics, and the costs associated with their treatment. We also collected data from the Kansas Sentencing Commission on the number of felonies related to substance abuse committed in the state. Further, we interviewed state agency officials who administer treatment programs or other programs affected by substance abuse problems (e.g. the Department of Corrections) to understand how expanding substance abuse treatment would affect their programs. Finally, we created a simulation model to estimate how increased substance abuse treatment might increase state costs for treatment and decrease costs for other state-funded programs.

We did not perform any work on internal controls because such work was not necessary to answer the audit question.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Our audit findings are based on a number of estimates and assumptions. Although we think this information is adequate to broadly assess whether improving access to treatment could result in significant savings, it is not sufficient to provide precise estimates of state costs, savings, or the number of individuals who would seek substance abuse treatment if it were expanded.

Our findings begin on page 7 following a brief overview of state-funded substance abuse treatment in Kansas.

Overview of State-Funded Substance Abuse Treatment in Kansas

Substance Abuse Treatment in Kansas is Provided Through a Network of Treatment Providers

Substance abuse is a term most frequently used to refer to the abuse of, or addiction to, drugs or alcohol. Although alcohol is the most prevalent addiction, other drugs such as marijuana, methamphetamines, and cocaine are also common.

Substance abuse treatment can take several forms and is often based on the severity and length of an individual's addiction.

Some types of drug treatment include:

- Outpatient counseling where an individual meets with a counselor alone or in a group to discuss problematic behaviors and how to change them.
- Detoxification helps manage the symptoms of withdrawal and is typically followed up with other counseling services.
- Inpatient rehabilitation requires an individual to live at a facility for a set amount of time and typically involves detoxification, counseling, and medical services.

Kansas offers a number of state-funded programs that provide substance abuse treatment services to eligible individuals. An individual seeking substance abuse treatment through a state-funded program must first receive an assessment to determine the appropriate type of treatment. That assessment can be administered by a treatment provider or by a regional alcohol and drug assessment center. If the individual is eligible for public funding, the treatment provider requests approval from the appropriate managed care organization or state agency. After the service is provided, the provider then bills the appropriate entity.

State Funding for Substance Abuse Treatment is Overseen by a Number of State Agencies

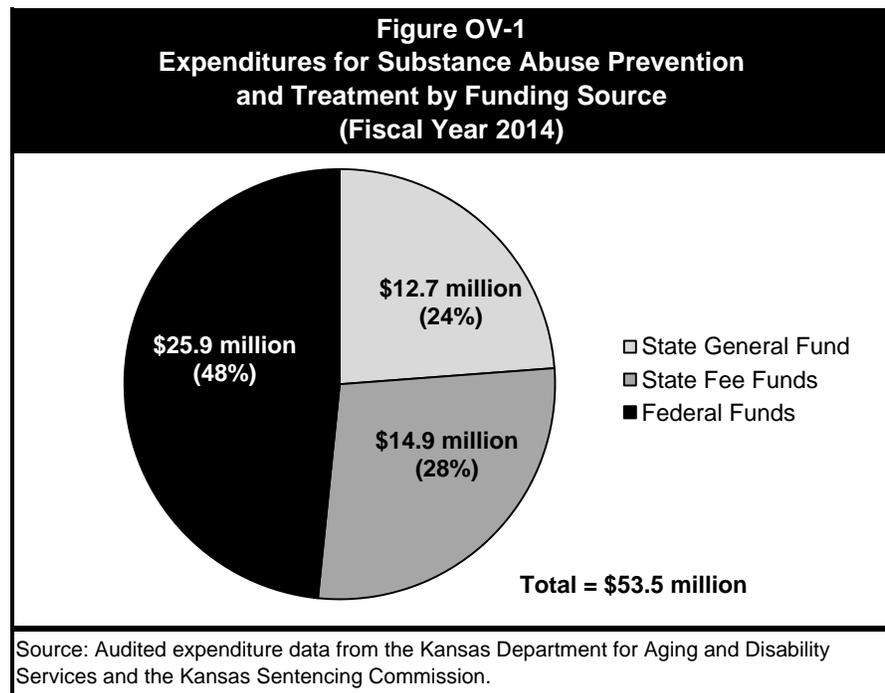
Individuals may seek treatment for substance abuse through several avenues. Those with private insurance can seek treatment through any provider an insurance company has approved. Additionally, any individual can seek assistance through programs such as Alcoholics Anonymous. However, individuals seeking state-funded treatment must first qualify for one of the state's programs. Eligibility for these programs is determined by staff at multiple state agencies who oversee the state's treatment programs.

- The Department of Health and Environment oversees the Medicaid program which pays for substance abuse treatment for those who qualify for Medicaid (primarily children, women, and individuals with disabilities).

- The Department for Aging and Disability Services (KDADS) oversees both state and federal monies (Substance Abuse Prevention and Treatment Block Grant) used to pay for treatment for individuals who do not qualify for Medicaid, do not have insurance, and have an income less than 200% of the federal poverty level. KDADS also oversees a state-funded treatment program for individuals who have been convicted of a third or subsequent DUI.
- The Kansas Sentencing Commission oversees the state-funded treatment program for individuals who have been convicted of certain drug possession crimes (this program is more commonly known as Senate Bill 123).
- The Department of Corrections oversees state-funded treatment programs for certain prisoners, probationers, and parolees.

In Fiscal Year 2014, the State Spent About \$28 Million to Provide Substance Abuse Prevention and Treatment Programs to About 23,000 Individuals

In Kansas, substance abuse treatment and prevention programs are funded through a combination of state general fund allocations, fee funds, and federal funds. **Figure OV-1** summarizes these funding sources. As the figure shows, in fiscal year 2014, \$12.7 million of the state’s total expenditures for substance abuse treatment and prevention came from the state general fund. The remaining \$14.9 million in state funding came from various fee funds which are mainly overseen by the Department of Corrections, KDADS, and the Kansas Sentencing Commission. Further, the federal government provided an additional \$25.9 million in funding for substance abuse prevention and treatment largely through the Substance Abuse Prevention and Treatment Block Grant and Medicaid.



In fiscal year 2014, state-funded substance abuse programs provided assessments and treatment for an estimated 23,000 individuals. Approximately 60% of those individuals received services through KDADS administered programs, 30% through Medicaid, and the remainder through Senate Bill 123 and correctional programs.

Question 1: Could the State Achieve Significant Savings by Improving Access to Substance Abuse Treatment Programs?

Although substance abuse can result in substantial criminal justice and social service costs, expanding treatment is unlikely to achieve significant savings (p. 7). We estimated an additional 4,500 to 7,000 individuals are eligible for state-funded treatment and likely to seek it (p. 7). The state would spend between \$7 million and \$11 million to assess and treat those individuals during a three-year period (p. 10). However, we estimated the state would only reduce spending on other services by \$1 million to \$7 million for those individuals, which would not offset the cost of their treatment (p. 11). Our results are significantly different from other studies which found greater savings related to providing substance abuse treatment (p. 14).

Although Substance Abuse Can Result in Substantial Criminal Justice and Social Service Costs, Expanding Treatment is Unlikely to Achieve Significant Savings

To answer this audit question we estimated the amount the state would spend to provide substance abuse treatment to more people and then compared that to the amount the state might save through reduced criminal justice and social service costs. We collected admissions and treatment cost data and interviewed agency officials, treatment providers, and other stakeholders. Based on that information we created a simulation model to help us predict the number of individuals who might avoid various state services if they received treatment. **Appendix B** provides more detailed information about our model design and assumptions. Based on our work, we concluded that:

- An additional 4,500 to 7,000 individuals are eligible for state-funded treatment and likely to seek it. (page 7)
- The state would spend \$7 million to \$11 million to assess and treat those individuals over a three-year period. (page 10)
- The state would only reduce spending on other services by \$1 million to \$7 million, which would not offset the cost of treatment. (page 11)

We Estimated an Additional 4,500 to 7,000 Individuals are Eligible for State-Funded Treatment and Likely to Seek It

In 2013, a national survey conducted by the federal Substance Abuse and Mental Health Services Administration (SAMHSA) found that about 9% of all Americans over the age of 12 (about 23 million people) needed treatment for a substance abuse problem. About two-thirds had problems related to alcohol use and the other one-third to either drug use or both drugs and alcohol.

A 2006 needs assessment found that approximately 55,000 Kansas likely needed, but had not received, state-funded substance abuse treatment. In 2005, the Kansas Department of

Social and Rehabilitation Services (now the Department for Children and Families) contracted with a private company to conduct this evaluation. The study projected substance abuse treatment needs based on survey data that analyzed the substance abuse patterns of young adults. Although the study is now nearly a decade old, it is still the most recent study the state has conducted assessing the treatment needs of Kansans.

Although many people may need substance abuse treatment, the number of individuals who will actually seek out and receive it is limited by several factors. It is important to keep in mind that the number of people who will seek and receive treatment is significantly less than the number who may need it. We identified a number of reasons why this is the case, including:

- **Research indicates the overwhelming majority of individuals who need substance abuse treatment will not seek it.** A 2013 national survey on drug use conducted by SAMHSA found that 85% of the 23 million Americans who likely needed treatment had not sought it because they did not think they needed it. Further, of the nearly one million individuals who reported that they thought they needed treatment, but had not received it, only 35% actually sought it (about 316,000 people or about 2% of those that needed treatment but did not receive it).
- **Providers told us they cannot treat everyone who needs treatment because of a lack of funding and qualified counselors.** Some providers told us that the Substance Abuse Prevention and Treatment Block Grant, which pays for treatment for individuals who make less than 200% of the federal poverty level but do not qualify for Medicaid, is often insufficient to provide treatment to everyone who seeks treatment under that program. This results in fewer people who receive services and longer wait lists. Further, some providers told us they have difficulty hiring qualified counselors due to state licensing requirements and because of the difficulties involved in attracting staff to western Kansas. Both of these factors reduce the number of patients providers can serve each year.
- **Those who seek treatment still may encounter a number of obstacles.** Treatment providers told us a lack of transportation and child care can make it difficult for some individuals to receive adequate treatment. Additionally, many individuals are in need of more services than just substance abuse treatment (for example, mental health services). Some providers told us that coordinating multiple services is difficult and some individuals simply stop trying to obtain them.

We estimated an additional 4,500 to 7,000 Kansans are eligible for state-funded treatment and likely to seek it. As noted earlier, most individuals who may need treatment will not seek it. Consequently, our estimate was limited to individuals who we estimated would seek treatment voluntarily (through state-funded programs like Medicaid and Substance Abuse Prevention and

Treatment Block Grant) and those who are required to participate to avoid prison (through Senate Bill 123 or the state's DUI program). In both cases, our analysis focused on either expanding current services or expanding program eligibility through increased substance abuse treatment funding. We did not include those who might seek treatment through programs that do not receive state funding such as Alcoholics Anonymous or religious programs. To compile our estimates:

- We interviewed staff at six treatment providers of various sizes, located all over the state. We reviewed documentation such as wait lists and call logs to estimate the possible demand for services. We also asked providers to estimate the number of additional individuals they thought they could serve if more funding were available.
- We interviewed officials at the Kansas Sentencing Commission and the Department of Corrections to understand what treatment services are currently offered to prisoners and other felons. We then used current data on the number of individuals who commit various types of crimes to estimate how many individuals would likely qualify if the eligibility of those programs were expanded.

Based on this cumulative information, we developed a statewide estimate of how many individuals might actually seek state-funded substance abuse treatment services if more services were available.

The state has a limited number of options for expanding treatment eligibility and access for individuals who need and would seek it. Based on the work described above, we estimated that an additional 4,500 to 7,000 people might need and would seek treatment. We identified two primary ways in which the state could serve these individuals.

- **The state could expand eligibility for some existing programs to treat a wider range of people.** Currently, the state provides treatment to those who have been convicted of certain types of crimes such as possession of a controlled substance or a third conviction for driving under the influence (DUI). The state also provides substance abuse treatment to a small number of prisoners. If the state expanded the eligibility of these programs to include more prisoners or to cover other types of crimes (for example, second DUI) it could make an additional 3,500 individuals eligible for state-funded treatment.
- **The state could supplement block grant funding to expand access for those who qualify.** Providers told us those who qualify under the Substance Abuse Prevention and Treatment Block Grant (those without insurance, who do not qualify for Medicaid, and make less than 200% of the federal poverty level) often have to wait several weeks before they are admitted to treatment. Some providers told us about 30% of individuals who are placed on wait lists give up and do not receive treatment. As a result, shorter wait

lists likely would result in those individuals receiving the treatment they initially sought.

Our work focused on expanding eligibility or access to existing state programs, but did not explore options for creating new programs. That is because it was not feasible to predict the effect of new programs on state service costs given the available data.

The State Would Spend Between \$7 Million and \$11 Million to Assess and Treat Those Individuals During a Three-Year Period

Expanding substance abuse treatment will cost the state additional money. However, the cost to provide treatment to a greater number of people is likely to be offset by a reduction in the usage of a variety of state-funded systems such as foster care, state hospitals, and the criminal justice system. To estimate the treatment cost portion of this analysis, we took a number of steps, including:

- We estimated how many individuals would qualify for substance abuse treatment through Medicaid, the Substance Abuse Prevention and Treatment Block Grant, and other state-funded programs if eligibility requirements and access to those programs were expanded. These estimates were based on information gathered from treatment providers, interviews with agency officials, and analysis of criminal conviction data.
- We then estimated how often individuals might go through treatment in a three-year period. Providers told us that it is not unusual for individuals to go through treatment multiple times. We used a three-year cost estimate because costs incurred and savings achieved through expanded substance abuse treatment often occur during a period of several years. We limited our analysis to three-years because the data used in our projections were less reliable beyond that time period. Those estimates were developed through a simulation model that considered factors such as recidivism rates and state hospital admissions.
- We determined the average assessment and treatment costs for individuals receiving substance abuse treatment through state-funded programs. Those estimates were developed using cost data provided by KDADS and the Sentencing Commission. Our cost estimates are based on historic expenditure data because most providers told us they would be able to serve the individuals included in our estimates within the existing infrastructure.
- We then estimated the cost of expanding treatment by multiplying the average cost of treatment by the number of times those individuals went to treatment based on our model.

Figure 1-1 summarizes the increased cost to assess and treat individuals who would seek treatment. As the figure shows, the state's additional cost for treatment is an estimated \$7 million to \$11 million during a three-year period. However, total treatment costs are estimated a little higher—\$8 million to \$12 million

during that same time period. That is because the federal government pays about 55% of the costs for individuals on Medicaid, which would result in about \$1 million in additional federal funding.

Figure 1-1
Estimated Number of People Served and State Costs Incurred Through Expanded Substance Abuse Treatment in Kansas

Program	Est. People Served		Est. Cost	
	Minimum	Maximum	Minimum	Maximum
Medicaid	800	1,100	\$500,000	\$600,000
Substance Abuse Prevention and Treatment Block Grant (a)	200	2,400	\$250,000	\$3.3 million
Senate Bill 123	700	700	\$3 million	\$3 million
Other State-Funded Programs: <i>DUI, Correctional Program</i>	2,800	2,800	\$3.5 million	\$3.5 million
Total (b)	4,500	7,000	\$ 7 million	\$11 million

(a) These individuals meet the eligibility requirements under the federal SAPT block grant. However, officials at the Substance Abuse and Mental Health Services Administration told us these individuals would likely have to be funded with state dollars (rather than federal) because the state would not receive additional SAPT block grant dollars simply because it spent more.

(b) Due to rounding these numbers may not add up. Further, the total represents only state costs (the federal government pays for 55% of Medicaid costs). Total costs are \$8 million to \$12 million.

Source: LPA analysis of audited data from six treatment providers and various state agencies.

We Estimated the State Would Reduce Spending On Other Services by \$1 Million to \$7 Million for Those Individuals, Which Would Not Offset the Cost of Their Treatment

The purpose of this audit was to determine if additional state-spending on substance abuse might pay for itself through offsetting savings in other areas. Many studies have found that the savings achieved through the reduced need in government services such as foster care, state hospital admissions, and prison will more than pay for the cost of treatment. We collected data and developed a simulation model to estimate the savings the state might realize.

We interviewed treatment providers, reviewed academic studies, and created a simulation model to determine whether increased substance abuse treatment would reduce costs for other state services. To estimate the effect of increased substance abuse treatment on other state services, we took several steps:

- We first identified which state services were most likely to be affected by a reduction in the number of individuals with a substance abuse problem. We interviewed various stakeholders (e.g. agency officials and treatment providers) and reviewed other audits and studies to determine which services we should include.
- We then determined the probability of how often those state services would be used for individuals who received treatment and those that did not. To determine these probabilities, we interviewed treatment

providers, reviewed studies, and analyzed various data sources such as state hospital and foster care admissions.

- Next, we estimated how much state services could be reduced as a result of increased substance abuse treatment. To do this, we created a simulation model that applied different probabilities of using different state services based on whether an individual had received treatment.
- Finally, we estimated the cost reduction achieved because of treatment. To develop these estimates, we interviewed agency officials and evaluated agency expenditure data to determine how reduced service usage might lower their program costs. Those agencies included the Department of Corrections, Kansas Department for Aging and Disability Services, the Department for Children and Families, and the Kansas Highway Patrol.

We estimated the state would reduce spending on other services by \$1 million to \$7 million by expanding substance abuse treatment. In conducting our work, we made a number of observations about the effect of expanding substance abuse treatment in Kansas.

- **Treatment could reduce the number of individuals who are convicted of committing felonies, the number of children placed into foster care, and the number of admissions to state hospitals.** For example, using our model we estimated that if treatment was provided to an additional 4,500 to 7,000 individuals, 10 to 120 fewer people may go to prison. When fewer people go to prison the state sees at least some savings in prison costs. **Figure 1-2**, on page 13, summarizes the savings related to expanded substance abuse treatment. As **Figure 1-2** shows, we estimated savings related to prison costs could range from \$350,000 to \$5 million.
- **The estimated savings for some services was less than might be expected because the reduced need for these services was unlikely to affect fixed costs.** For example, we estimated savings related to reducing the number of people on probation ranged from no savings to only about \$120,000 in savings. This is because the number of individuals our model estimated might avoid probation was only 10 to 320 individuals, who would presumably be scattered throughout the state. As a result, it would only be possible to eliminate up to about two FTE staff who currently serve probationers.
- **Additionally, we did not identify any savings for some other services because the impact of treatment was unlikely to reduce their costs at all.** For example, we did not attribute any savings to the Kansas Highway Patrol (KHP) because the small reduction in arrests involving KHP was not enough to significantly reduce the responsibilities of a typical trooper. As a result, it did not appear KHP would be able to reduce any of its staff as a result of fewer drug arrests.

**Figure 1-2
Estimated Number of People Affected and Savings Related to
Expanded Substance Abuse Treatment in Kansas**

Area	Est. People Affected		Est. Savings		Explanation
	Minimum	Maximum	Minimum	Maximum	
Prison	10	120	\$350,000	\$5 million	Because of prison overcrowding, approximately 105 inmates are housed in county jails rather than in state prisons. The state pays the counties \$40 a day to house those inmates. For those inmates who are housed in state prisons, the state would save about \$3,000 in food, clothes, and other miscellaneous costs for each inmate. The state likely would not achieve staff or other facility savings because of the small number of inmates affected.
Medicaid	800	1,100	\$500,000	\$1 million	We estimated the state could potentially save up to \$900 per Medicaid recipient. These savings are the result of fewer emergency room visits, reduced pharmaceutical costs, and better overall health. Due to the complexities of KanCare we cannot say with certainty that the state would achieve these savings. However, agency officials with detailed knowledge of KanCare told us they expected the state would achieve savings if substance abuse treatment access was expanded to more individuals.
Foster Care	15	35	\$150,000	\$500,000	The Department of Children and Families pays its foster care contractor a monthly flat fee for every child in foster care. We estimated \$11,700 in savings for each individual affected based on the average monthly foster care rate multiplied by the number of months a child typically remains in foster care (about eight months).
Probation	10	320	\$0	\$120,000	Most of the courts' costs to provide supervision for those on probation is related to staff. As such, we estimated the courts could reduce 1 FTE staff person (at a cost of about \$60,000) for every 125 individuals who do not receive probation.
Courts, Highway Patrol, State Hospitals	0	0	No Savings Identified		In most cases, the number of individuals reduced are not enough to affect fixed costs in these areas. For example, we did not attribute any savings to the Kansas Highway Patrol because the small reduction in arrests involving the Highway Patrol was not enough to significantly reduce the responsibilities of a typical trooper.
Total (a)	835	1575	\$1 million	\$ 7 million	

(a) Due to rounding these numbers may not add up.
Source: LPA analysis of audited data from six treatment providers and various state agencies.

As a result, although there may be many societal benefits to expanding substance abuse treatment services in Kansas, the savings to the state are not sufficient to offset the additional costs of treatment.

Our Results are Significantly Different From Other Studies Which Found Greater Savings From Expanding Substance Abuse Treatment

The relationship between providing substance abuse treatment and reducing a variety of societal costs has been well studied. We reviewed a number of these studies to better understand their findings and methodology.

Other studies we reviewed estimated savings related to substance abuse treatment that ranged from \$2 to \$23 for every \$1 spent on treatment. We reviewed seven studies that calculated the potential savings related to providing substance abuse treatment. All seven of them found the savings from reducing the need for social services, fewer crimes committed, and a variety of other societal savings was more than the cost of treatment.

However, our work estimated a net loss to the state, rather than net savings. We found it would cost more to provide substance abuse treatment than it would save by reducing the need for various state services. Our result differed from the studies we reviewed for several reasons, including:

- **We focused only on savings to the state, whereas other studies often included federal and local savings.** We focused solely on state savings because the purpose of this audit was to determine if additional state spending on substance abuse treatment might pay for itself. Because most studies we reviewed included federal, local, and societal benefits in their estimates, they identified greater total savings than we did.
- **Many of the studies we reviewed included savings in their estimates that we do not think would be realized.** For example, some studies found significant savings within the criminal justice system because their estimates included operational savings that we think are unlikely. For example, one study assumed a cost savings of \$25,000 for every individual who avoided incarceration because of treatment. That number represented the average annual cost to the correctional system of housing an inmate. However, unless a very large number of individuals avoid incarceration, only costs specific to an individual (e.g. food, clothing, etc.) can actually be saved. Other operational savings in areas such as staffing, utilities, and maintenance require a much larger reduction in the prison population.

For this reason, we identified very little or no savings in areas such as court services and the Kansas Highway Patrol. That is because we did not think the reduction in the number of crimes committed would significantly affect many of their operational costs.

- **We did not estimate savings in areas in which substance abuse was only one of many factors affecting the need for those services.** For example, we did not include savings related to increased economic productivity although some studies we reviewed did quantify this number. For example, one study calculated economic benefits to be about \$45,000 per year for every felon who

received substance abuse treatment (the study did not elaborate on exactly what those benefits represented). The economic productivity of an individual can be affected by a number of factors including an individual's education or mental health. Because resolving a substance abuse problem may not increase productivity if these other issues are not also addressed, we did not attempt to estimate savings in these types of areas.

Other studies we reviewed identified much larger net savings related to expanding substance abuse treatment than we did because of differences in their scope and methodology. However, given the particular scope of our audit question, we think the methodology we used provides a reasonable and accurate estimate of how increased treatment will affect state costs.

Conclusion and Recommendations

Conclusion

Although expanding access to state-funded substance abuse treatment in Kansas might be a worthy policy goal, it is unlikely to result in cost savings to the state. This is because the impact of substance abuse treatment on state-funded services overall is generally very small. In many cases, we found that a reduction in the number of individuals needing services was too small to affect the larger fixed costs of the agency. However, the impact of improved outcomes on individuals and communities is likely to be far more significant. Although improved access to state-funded substance abuse treatment may not provide significant, quantifiable savings to the state, it may produce other positive benefits such as safer communities and healthier families that could make it a worthwhile policy goal.

Finally, policymakers should not take these results to suggest that current state-funded substance abuse treatment is not cost effective. Our analysis was limited to the 4,500 to 7,000 individuals that might seek treatment through expanded access; it was not an assessment of the treatment system as a whole.

Recommendations

None

APPENDIX A Scope Statement

This appendix contains the scope statement approved by the Legislative Post Audit Committee for this audit on July 22, 2014.

Substance Abuse Programs: Evaluating Cost Savings Achieved Through Enhanced Access to State Substance Abuse Programs

Studies have shown that substance abuse treatment can increase recipient productivity and income, and lower health care and criminal justice costs. The National Association of State Alcohol and Drug Abuse Directors performed 16 substance abuse treatment cost-benefit studies between 1992 and 2006. Those studies found that every dollar spent on treatment returns an average \$6.35 through increased employment income and reduced health care and criminal justice system costs. A 2006 Virginia audit found that adverse effects of substance abuse cost state and local governments approximately \$613 million, especially in public safety areas. Based on a sample of 6,000 individuals, the audit also found that completing treatment resulted in a net cost reduction to state and local government of about \$6 million. The audit didn't project savings statewide because it's impossible to know how many individuals actually needed treatment but did not seek it.

Kansas has a number of citizens that need substance abuse treatment. In Kansas, treatment services are the responsibility of the Kansas Department for Aging and Disability Services (KDADS) Behavioral Health Services division, who contracts with managed care organizations and 300 licensed providers for substance abuse treatment. Eligibility for these services is limited to individuals who are 200% below the poverty line. A 2006 Kansas Comprehensive Needs Assessment estimates that 63,500 adults and 7,000 adolescents needed substance abuse treatment and were eligible for KDADS funded services. In fiscal year 2014, KDADS funds served about 14,000 individuals and Medicaid funds covered another 6,000 individuals. In addition to an unmet need for treatment, the study reported limited service availability in many areas and recommended places to add capacity based on need. Legislators have expressed concerns that Kansas substance abuse programs may not be meeting all the treatment needs for state residents and costing the state money in increased criminal justice, health care, and other services.

An efficiency audit of substance abuse programs would address the following question:

- 1. Could state achieve significant savings by improving access to substance abuse treatment programs?** To answer this question, we would work with Virginia audit staff to better understand their methodology for estimating cost savings related to enhanced access to substance abuse treatment. Further, we would review other relevant studies to determine whether they quantified cost savings related to enhanced substance abuse treatment and how. We would collect available data from substance abuse programs to determine the average cost of providing services to individuals. Further, we would interview program staff and officials to determine how much it might cost to expand current outreach efforts or to develop new ones. Based on the methodologies used by Virginia and other studies, we would estimate Kansas health care and criminal justice cost reductions associated with enhanced substance abuse treatment. Finally, we would

compare those cost reductions with the increased costs associated with additional treatment and increased outreach. Based on this cumulative information, we would estimate net cost savings associated with increasing access to substance abuse treatment. We would perform additional work in this area as needed.

Estimated Resources: 3 LPA Staff

Estimated Time: 3 months (a)

(a) From the audit start date to our best estimate of when it would be ready for the committee. This time estimate includes a two-week agency review period.

APPENDIX B

Substance Abuse Treatment Model Methodology

This appendix contains a detailed description of important methodology and assumptions we used to estimate how state-funded services might be affected by expanded access to substance abuse treatment in Kansas.

We created a computer simulation to predict how substance abuse treatment might reduce the usage of state-funded services such as prison, foster care, and state hospitals. Computer simulations allow us to build a model of a real-world process and observe the effect of making changes that would be impossible or prohibitively expensive to make in the real world. Based on actual data and treatment results, the model predicted how often a simulated individual used certain state-funded services during a three-year period. Since the model is partially random, we ran the model 500 times to produce a range of possible outcomes.

Methodology and Assumptions Related to Increased Treatment (State Costs)

Individuals Who Need and Will Seek Treatment

Our model was populated by a random number of people within a range we identified that we think could plausibly be treated with expanded funding (4,500 to 7,000). We established this range through a combination of interviews with treatment providers and agency officials, and through evaluations of prior year data trends. For example, our estimate of how many individuals might seek substance abuse treatment services through Medicaid was based largely on interviews of current treatment providers. However, we estimated how many individuals might be required to attend substance abuse treatment if Senate Bill 123 eligibility were expanded based on fiscal year 2014 felony data. Our approach varied based on what information was readily available and on how easily that information could be used to estimate future trends.

Assessments and Treatment

Providers told us that not all individuals who receive assessments for substance abuse problems will actually end up receiving treatment. As a result, our model assumes 12% of those assessed each year do not receive treatment. We estimated that percentage by analyzing payment data for the number of individuals who had an assessment fee paid on their behalf but no further costs for the rest of the year. Further, we assumed those who get treatment as a result of a drug conviction always attend treatment because they have a strong incentive to attend (e.g. they go to prison if they do not).

Re-treatment

Providers told us some individuals will seek treatment multiple times. As such, we asked providers to estimate that percentage (about 30%) which we then applied that to the model. This resulted in more treatments than the number of individuals who seek it within the model.

Successful vs. Unsuccessful Treatment

In our model, we did not differentiate between a successful or unsuccessful treatment. In other words, every treatment in our model is assumed to effectively reduce the probability that other state services (e.g. state prisons or hospitals) will be required by a treated individual. Although not ideal, there was not sufficient information about the difference impact of successful and unsuccessful treatments on recidivism rates for us to incorporate this concept into our model.

Methodology and Assumptions Related to Reduced Services (State Savings)

Felony Status

Felony status was important in our model because there is evidence that the recidivism rates (e.g. how often an individual commits another felony) of felons are likely to be greater than non-felons. To capture this distinction, some people in our model are designated as “felons” from the very beginning. The felony conviction data we reviewed indicated this could be between about 30% and 50% of the total population who might receive substance abuse treatment in an expanded system, so those are the percentages we used.

Criminal Justice Probabilities

We assigned probabilities of an individual going to prison or probation if they received treatment and if they did not receive treatment. Those probabilities were determined through interviews with providers and a review of academic literature. For those who the model predicted would commit a felony, we used conviction data from the Kansas Sentencing Commission to estimate the percent of convicted criminals who go to prison and what percent receive probation. Those percentages were applied to our model population. We also used the Sentencing Commission data to understand how prison and probation lengths are distributed. Those distributions were then applied to the model population. Finally, we assumed recidivism rates decreased each year over our three-year model period because some of the studies we reviewed indicated this could be the pattern.

Other State-Funded Service Probabilities

We estimated the probability of being admitted to a state hospital or having a child removed from the home to foster care based on whether an individual received substance abuse treatment or not. These probabilities were determined through interviews with providers and agency officials (the Department of Corrections, Kansas Department for Aging and Disability Services, the Department for Children and Families, and the Kansas Highway Patrol), and by analyzing state hospital and foster care admissions data.

Miscellaneous Methodology and Assumptions

Death Rate

We used academic literature to develop an estimated annual mortality rate for substance abuse users. This is important because users who die do not receive any further treatment and do not access any other state-funded services in our model. We used a study on alcohol abuse which found an average annualized death rate of 0.51% for alcoholics. We used this rate for all individuals in our model because alcohol is a common addiction (about 40% of those who seek state-funded treatment do so for alcohol abuse) and because it was the best estimate we could find.

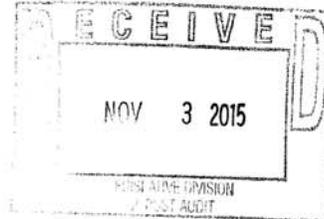
APPENDIX C
Agency Response

On September 24, 2015 we provided copies of the draft audit report to the Kansas Department of Aging and Disability Services. Its response is included in this Appendix.

Agency officials generally concurred with our findings and conclusions. However, agency officials also noted that if we had used assumptions that increased the estimated number of individuals affected by treatment, it might have led to greater savings. Although we agree that this is possible, we also think the assumptions we used were reasonable and accurately reflect the general effect of increasing substance abuse treatment in Kansas.

November 3, 2015

Mr. Scott Frank
Legislative Post Auditor
800 SW Jackson Suite 1200
Topeka, Kansas 66612



Dear Mr. Frank:

Thank you for the opportunity to review and comment on the draft copy of the performance audit, *Substance Abuse Programs: Evaluating Cost Savings Achieved Through Enhanced Access to State Substance Abuse Programs*. We appreciate the time and commitment the Legislative Post Audit (LPA) staff expended in completing the performance audit. We recognize the difficulty in predicting future outcomes with the large number of estimates and assumptions to be considered. While we understand that the focus of this report was narrow given the specificity of the question to be answered, we would like to share additional information that may be useful.

We understand that the specific focus of this study on state government costs did not allow for an examination of the broader costs of substance use disorder on society. However, as the report acknowledges, changes in assumptions would have affected the outcome of the study. In particular, different assumptions may have led LPA to identify additional fixed cost savings. For example, utilizing data from the following reports could have led to different results:

- The 2014 Kansas Behavioral Health Barometer, which uses data collected from the National Survey on Drug Use and Health, indicates 175,000 individuals were dependent on or abused alcohol, and 11,000 (6%) received treatment. This report also indicates 43,000 individuals in the age category 12 and older were dependent on or abused illicit drugs, of which 5,000 (11%) received treatment.
- An Inventory of Cost Offset Studies for State Substance Abuse Agencies was collected by the National Association of State Alcohol and Substance Abuse Directors. This inventory included a short summary of the outcome or information collected from 17 states. The studies point to significant savings achieved for the states and society by reducing emergency room visits and less involvement with state family service agencies and criminal justice agencies.
- An April 2009 fact sheet published by the Substance Abuse and Mental Health Services Administration (SAMHSA) stated that accessible and effective community-based alcohol and drug treatment reduces the financial burden on society associated with drug use. SAMHSA found a 26% overall reduction in health care costs, including emergency room visits and hospital stays. Employers also benefit by a 75% increase in employee productivity.

If the report had used assumptions that would have increased the number of projected individuals affected, the results may have indicated reductions in costs in excess of the additional costs associated with treatment.

Thank you for allowing us an opportunity to respond to the recommendations made in the LPA audit. KDADS appreciates the time and effort that LPA staff took to evaluate programs and costs. The report will serve as an additional resource for public and private entities as we evaluate behavioral health services for the care and treatment of Kansans.

Sincerely,



Kari M. Bruffett
Secretary

