



WICHITA STATE
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SEDGWICK COUNTY COMMUNITY CRISIS CENTER: COMCARE AND THE SUBSTANCE ABUSE CENTER OF KANSAS

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Executive Summary

This study examines the cost avoidance impact of the Community Crisis Center, which includes services provided by COMCARE and the Substance Abuse Center of Kansas (SACK). The first approach estimated the cost avoidance of Center services if they were provided through in-patient or outpatient hospital services. **Using a conservative estimate that between 20-30% of Crisis Center admissions would have to receive hospital treatment, the cost avoidance is estimated to average \$9.5 million in 2016 and \$12.1 million in 2017.** The following tables present low, high and average cost avoidance estimates.

Estimated Cost Avoidance 2016			
	Low Estimate	High Estimate	Average
Community Crisis Center Services	\$3,823,664	\$5,735,495	\$4,779,580
Sobering/Detox Services	\$3,763,046	\$5,644,570	\$4,703,808
Total	\$7,586,710	\$11,380,065	\$9,483,388

Estimated Cost Avoidance 2017			
	Low Estimate	High Estimate	Average
Community Crisis Center Services	\$3,784,095	\$5,676,143	\$4,730,119
Sobering/Detox Services	\$5,916,608	\$8,874,912	\$7,395,760
Total	\$9,700,703	\$14,551,055	\$12,125,879

The second approach to cost avoidance analyzed the annual cost avoidance to hospitals, EMS, and law enforcement agencies due to the decline in number of cases processed during 2015 and 2016. The cost avoidance is approximately \$2.4 million in 2016 and \$2.8 million in 2017.

This study examines only the most likely range of cost avoidance of the major stakeholders in the current mental health service delivery system. Estimates do not take into consideration all of the tangible and intangible benefits to system clients or their families.

It is important to emphasize that many of the avoided costs are not direct dollar savings to local government programs, but rather provide reallocation of staff time to alternative activities and slows the growth in the need for more resources.

The long-term savings will depend upon the growth capacity of the Community Crisis Center. The demand for detox for drugs and alcohol, along with the demand for sobering, has jumped by over 40%. It is reasonable to assume this trend will continue as the opioid epidemic moves across the nation. In an eleven-month sample, between April 2016 and July 2017, the Substance Abuse Center of Kansas could not serve 485 individuals due to a lack of beds. Cost savings from diversion of individuals from other community services will continue only if there are sufficient beds and programs to serve those patients referred to the Center.

Introduction

The Community Crisis Center (CCC) operated by COMCARE and the Substance Abuse Center of Kansas (SACK) partnered in 2015 to provide rapid stabilization to avoid Emergency Department admissions, local hospitalizations, state hospitalizations and jail bookings. The geographic area served includes Sedgwick, Butler and Sumner Counties. The target population includes children, adolescents and adults who are at risk of a higher level of care, including voluntary or involuntary local and state hospitalization due to a mental health crisis and/or a crisis related to a co-occurring substance use disorder. Crisis services expanded through the Community Crisis Center include:

- 24-hour crisis observation
- Expanded children's crisis residential stabilization
- Sobering Services
- Detox Services
- Peer Crisis Services
- Additional local transportation.

This study examines the cost-avoidance to the community due to the establishment and operation of the Community Crisis Center (CCC). The Community Crisis Center became operational in 2015. It examines cost avoidance of community services for the years 2016 and 2017.

Two approaches are used to assess cost avoidance. The first approach examines costs avoided by treating clients in the CCC rather than sending them to area hospitals. The second approach examines the reduction of behavioral mental health cases served by other community agencies. It is assumed that this reduction is due, in part, to the creation of the Community Crisis Center.

IMPACT of COMCARE and SACK Community Services on Hospital Cost Avoidance

The Community Crisis Center (CCC), operated through a partnership with COMCARE and the Substance Abuse Center of Kansas (SACK), provides integrated mental health and substance use disorder crisis services at a lower cost than area hospitals. One approach to assess cost avoidance is to compare costs of services provided by the Crisis Center to costs if these services were delivered in a hospital.

Community Crisis Center – Crisis Units

The CCC Crisis Observation Unit served 976 cases in 2017, a decline of 10.9%, and the Children’s Crisis Unit served 49 cases, falling 15% from the 2016 levels.

Table 1.1: COMCARE Cases

	2016	2017	Percentage Change
Crisis Observation Unit	1,096	976	-10.9%
Children’s Crisis Unit	58	49	-15.5%
Total Cases	1,154	1,025	-11.2%

The average cost per admission in SFY16 and SFY17 for the Crisis Center is \$884, which provides one-on-one staffing for patients compared to the average hospital cost. Treatment of these individuals as in-patients in the hospital averages \$16,567 per patient in 2016 and \$18,459 in 2017. By treating these patients at the CCC, the cost savings are \$15,687 (\$16,567 - \$884) in 2016 and \$17,575 (\$18,459 - \$884) in 2017. In 2016, the estimated cost savings is \$18.1 million (1,154 x \$15,687) and in 2017 it is \$18.0 million (1,025 x \$17,575).

It is not realistic to assume all the Crisis Center patients would receive in-patient hospital care. Some patients would not receive services at all, while some would go to area hospitals. If we conservatively assume that between 20% to 30% of the individuals treated at the Crisis Center would have to be hospitalized if the Center did not exist, the hospital care cost avoidance would be between \$3.8 million and \$5.7 million in 2016 and between \$3.9 million and \$5.7 million in 2017.

Table 1.2: COMCARE Cost Avoidance

	2016		2017	
	Low Estimate (20%)	High Estimate (30%)	Low Estimate (20%)	High Estimate (30%)
COMCARE Cost Avoidance	\$3,823,664	\$5,735,495	\$3,784,095	\$5,676,143

**Substance Abuse Center of Kansas
Sobering and Detox Services**

The Substance Abuse Center of Kansas (SACK) provides Sobering and Detox Units that are co-located with COMCARE’s mental health Community Crisis Center (CCC). Beginning in 2015, SACK provided sobering services, which were restricted to alcohol and later in the year, SACK expanded services to include detox beds. Detox and Sobering cases have substantially increased by over 41% between 2016 and 2017. Detox services grew almost 50% and Sobering grew 25%.

Table 2.1: Cases Served by SACK Services

	2016	2017	Percent Change
Detox Drugs & Alcohol	778	1,163	49.5%
Sobering	382	472	23.6%
Total Cases	1,160	1,635	40.9%

SACK Costs

Detox costs per client increased by 23% from \$384.00/client in 2016 to \$473.01/per client for 2017. However, the average stay for detox tripled from 24 hours in 2016 to 72 hours in 2017. The almost 50% increase in the number of cases coupled with an increase in average stay from 24 hours to 72 hours has been a result of expanded community awareness about services available.

Sobering costs per client have fallen 59% between 2016 and 2017 as SACK has identified ways to extend resources, despite the 24% growth in number of clients. SACK has decreased the average sobering cost per client by 59%, from \$128 per client in 2016 to \$52.56 per client in 2017. The average stay for sobering is eight hours, which has been consistent in 2016 and 2017.

SACK has been financing this growth in services for up to \$367,000 in the last quarter of 2016 and for the second half of 2017. Total costs for SACK services increased 15.6% between 2016 and 2017.

Table 2.2: SACK Average Cost per Case and Total Costs

	2016	2017	Percent Change
Detox Drugs & Alcohol Average Cost	\$384.00	\$473.04	23.2%
Sobering Average Cost	\$128.00	\$53.56	-58.2%
Total Costs	\$496,972	\$574,959	15.7%

This study assumes a conservative estimate that between 20% and 30% of the SACK patients would be treated as inpatients in the hospital if the SACK services were not available. The estimated cost of in-patient hospital treatment in 2016 would be would be between \$3.7 and \$5.6 million and between \$5.9 and \$8.9 million in 2017. The large increase in cost savings in 2017 is attributed to the almost 50% growth in the number of Detox cases.

Table 2.3: SACK Cost Avoidance

	2016		2017	
	Low Estimate (20%)	High Estimate (30%)	Low Estimate (20%)	High Estimate (30%)
SACK Cost Avoidance	\$3,763,046	\$5,644,570	\$5,916,608	\$8,874,912

Growing Demand for SACK Services

In September 2016, SACK began documenting the number of individuals who were declined services, along with the reason services could not be provided. Based on annualized records from September 2016 through July 2017, approximately 850 individuals could not be served. Fifty-seven percent (485) of these individuals were declined services because there were not enough beds available. About 10% (85) were too intoxicated to be served on-site and about 10% (85) were too medically or mentally unstable to receive services provided by SACK. These patients were referred to the hospital or other community resources.

Given the 40% growth rate in SACK cases, along with the approximately 485 individuals that were declined services at SACK due to a lack of beds, there is evidence that expanded SACK services would benefit the community.

TOTAL COST AVOIDANCE ESTIMATE

Examining the combined impact of the CCC, total cost avoidance is estimated to be between \$7.6 and \$11.4 million in 2016 and \$9.7 and \$14.6 million in 2017.

Table 3.1: Estimated Cost Avoidance Attributed to Community Crisis Center and Substance Abuse Center of Kansas Services

	2016		2017	
	Low Estimate (20%)	High Estimate (30%)	Low Estimate (20%)	High Estimate (30%)
Crisis Center Cost Avoidance	\$3,823,664	\$5,735,495	\$3,784,095	\$5,676,143
SACK Cost Avoidance	\$3,763,046	\$5,644,570	\$5,916,608	\$8,874,912
Total	\$7,586,710	\$11,380,065	\$9,700,703	\$14,551,055

Cost Avoidance Impact to Community Services

The second approach examines cost avoidance to community service providers who benefit from the establishment of the Community Crisis Center.

Hospital Costs

Since the CCC and SACK became operational in SFY15, Via Christi Hospital has reported annual declines in the number of behavioral health cases as shown in Table 4.1.

In SFY15, following the opening of the Community Crisis Center, the hospital reported a 4.6% (355 cases) decline in behavioral health cases compared to SFY14. This downward trend in the number of cases treated in the hospital has continued for SFY16 and SFY17.

Table 4.1: Hospital Cases: Behavioral Mental Health

	2014	2015	2016	2017
Total Hospital Patients	7,787	7,432	7,281	7,009

To estimate the hospital treatment cost savings, we can estimate how many of these cases would have been treated as hospital inpatients or outpatients, and the costs associated with treatment. In SFY16, the average cost of inpatient care was \$16,576 per case and outpatient was \$3,120. Using this data, we can estimate the treatment cost savings for the decline of 151 fewer cases to be \$1.8 million in SFY16. Cases continued to decline in SFY17 by almost 4% (272 cases) while hospital average costs increased to \$18,459 (11%) for inpatient and \$3,373 (8%) for outpatient. The cost savings for SFY17 totaled \$3.3 million.

Assuming a cautiously low estimate of 20% to 30% of the decline in hospital cases is due to diversion to the CCC and SACK, cost savings estimates are presented in Table 4.2.

The cost savings to the community in SFY16 ranged from \$350,589 to \$525,883 and in SFY17 were between \$668,044 and \$1.0 million. The establishment of the CCC has consistently saved the community significant hospital costs since it became operational in SFY15.

Treatment of uninsured patients is another cost avoidance for the hospital. In SFY16 and SFY17, the average uninsured percentage of patients was 27%. Given the reduction of 151 cases in SFY16, the cost avoidance to the hospital due to uninsured patients totals \$701,413. In SFY17, the cost avoidance was \$1.5 million. Assuming between 20% and 30% of the cost avoidance is due to the existence of the Community Crisis Center, we can estimate between \$140,282 and \$210,424 cost avoidance in SFY16 and between \$292,378 and \$438,567 savings in SFY17.

Table 4.2: Total Hospital Cost Avoidance

	2016		2017	
	Low Estimate (20%)	High Estimate (30%)	Low Estimate (20%)	High Estimate (30%)
Hospital Treatment Cost Avoidance	\$350,589	\$525,833	\$668,045	\$1,002,067
Uninsured Patients Cost Avoidance	\$140,282	\$210,424	\$292,378	\$438,567
Total Hospital Cost Avoidance	\$490,871	\$736,257	\$960,423	\$1,440,634

The downward trend in behavioral mental health cases treated in hospitals cannot be directly attributed to the creation of the Community Crisis Center (CCC) and the expansion of treatment services by the Substance Abuse Center of Kansas (SACK). However, it is reasonable to assume that these services are playing an important community role in reducing cases treated by hospital emergency departments.

Osawatomie State Hospital Admissions

Admissions

In 2014, Osawatomie State Hospital capacity issues reached their worst levels when 2,684 patients were unable to be admitted to a facility with 206 licensed beds. Between June 2015 and July 2016 the facility had an average wait time of 1.6 days but could have a wait time of approximately eight days during peak capacity (Kansas Health Institute, 2017). Overcapacity issues, as well as facility maintenance, resulted in the hospital suspending admissions, reducing bed capacity, and providing wait lists in order to increase the quality of services provided (Kansas Health Institute, 2017).

The decline in state hospital admissions severely reduced the number of Sedgwick County admissions in SFY15, to a four-year low of 384 admissions. By SFY16

admissions increased to 666 and in SFY17, admissions fell to 556. This volatility in the data leads us to examine the number of bed days as a more stable proxy for costs.

The number of bed days in SFY16 was 11,623 days, a 661-day reduction from the previous year. In SFY17 bed days declined to 10,797, a reduction of 826 bed days.

Osawatomie State Hospital reports the average cost per bed day is \$662. Table 5.1 shows a total cost savings due to the decline in bed days. If we assume 95% of the cost savings is due to the implementation of the CCC and SACK services the savings are \$415,703 for SFY16 and \$519,471 in SFY17.

Table 5.1: State Hospital Bed Days

	2016	2017
State Hospital Bed Days	11,626	10,797
Total Cost Avoidance	\$415,703	\$519,471

State Hospital Transports

The Sedgwick County Sheriff's Office provides involuntary transports to Osawatomie State Hospital via contract with Apple Bus. Transports were stable between SFY15 and SFY16 and declined by 99 transports in 2017. Using an average cost of \$375 per trip the total cost avoidance is \$37,125 in 2017.

Table 5.2: State Hospital Transports

	2016	2017
Transports	378	279
Total Cost Avoidance	--	\$37,125

Emergency Medical Transports

Sedgwick County Emergency Medical Service (EMS) responds to COMCARE Crisis Services for medical and psychiatric emergencies. In SFY16, EMS transported 204 individuals from the Crisis Center to area hospitals and in SFY17 approximately 202 individuals were transported. Because transports have remained stable over the SFY16 to SFY17 time-period, there is not a significant cost avoidance observed in transports.

However, a previous study conducted by the Public Policy and Management Center (September 2016), found EMS transports from COMCARE to area hospitals fell by 63.4% after the creation of the Community Crisis Center. This savings was estimated to be \$26,663 in SFY15. Since transports were stable between SFY16 and SFY17, it is reasonable to assume some level of cost savings exists in the reduction of EMS transports from the SFY15 levels.

Table 6.1: EMS Transports

	2016	2017*
Transports	204	202
Total Cost Avoidance	--	--

*Estimates based on January – June averages and annualized.

Wichita Fire Department

In addition to transports, an analysis of the number of low acuity medical 911 calls could be important for understanding the cost implications for community services responding to high utilizers.

Wichita Police Department

According to the Wichita Police Department (WPD), officers responded to approximately 2045 mental health and suicide attempt calls in the 12-month period sampled between April 2016 and April 2017 compared to 1,925 in the same period for 2016. This is a 6.2% growth over the 2016 period and is consistent with national trends of increased police response to mental health related calls (Dodd, V., 2017; Gottfried, H.M., 2016; Steele, J., 2016).

Based on WPD estimates of time, number of personnel involved and average wages, total costs of the mental health calls for the 12-month period are estimated to be \$266,749 compared to \$249,292 in 2016. This represents an increase of \$17,457 (7%) due to the growth in volume of calls.

Wait times for WPD officers transporting patients to area hospitals are estimated to average three hours while the wait time for the CCC is estimated at 15 minutes. Using an average hourly rate for a police officer of approximately \$46 (salary + benefits), the wait time at hospitals is estimated to be \$138 compared to approximately \$11.25 for a drop-off at the CCC, a savings of \$126.75 of officer time. In the sample period of April 2015-2016, 424 cases were taken to the CCC. This is a savings of \$53,742. In the period of April 2016-17, 495 cases were taken to the CCC between April 2016 and April 2017, representing a savings of \$62,741.

Table 7.1: Officer Wait Time

	2016	2017
Number of Calls to CCC	424	495
Total Cost Avoidance	\$53,742	\$62,741

The total cost avoidance attributed to the WPD is \$53,742 in 2016 and \$62,741 in 2017. These numbers may be conservative because officers have discretion in categorizing cases formally labeled as mental health related. In addition, officers may not record the location of transportation for all cases.

Sedgwick County Jail Diversion

For 2016 and 2017, samples from the Sedgwick County Sheriff's officer identified an approximate number of individuals incarcerated each year for crimes connected to mental illness. In 2016, approximately 971 individuals qualified and in 2017 approximately 837 individuals could have been diverted to the Community Crisis Center if space was available. In 2016, the sample indicated these individuals spent an average of 16 days in jail and in 2017 the average declined to 12 days in jail at an average cost of \$71.55 a day. This results in an annual cost of \$1.1 million in 2016 and \$721,035 in 2017. In addition, the cost for psychotropic medicines is approximately \$198 per month for an annual cost of \$2,380 in 2016 and \$2,387 in 2017.

The 14% decline, between 2016 and 2017, in the number of inmates incarcerated for crimes connected to mental illness is not solely attributable to the establishment of the Community Crisis Center. However, it is reasonable to conclude the Center has significantly influenced this reduction in the number of inmates.

Table 8.1: Total Jail Cost Avoidance

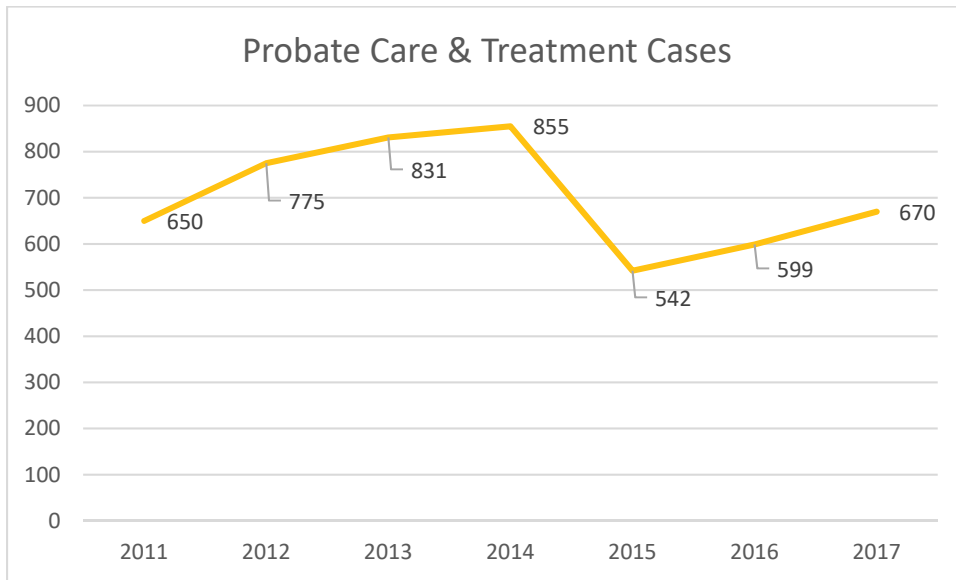
	2016	2017
Jail Cost Avoidance	\$1,111,601	\$718,648
Psychotropic Medications Cost Avoidance	\$2,380	\$2,387
Total Cost Avoidance	\$1,113,981	\$721,035

Probate Court

Involuntary Commitment Care & Treatment cases in Sedgwick County have consistently increased from 2011 through 2014. However, in 2015 the case count decreased 36%, reducing the case workload for the District Attorney's Office, court personnel and defense attorneys, allowing them to allocate staff time to processing criminal cases. Cases have begun to increase approximately 10% annually in 2016 and 2017. However, cases are still significantly lower than the peak level of 855 cases in 2014, prior to creation of the CCC.

The estimated cost to COMCARE is \$205 per case for client's attorney fees for hearings. Benchmarking against the peak level of 855 cases prior to the establishment of COMCARE, savings due to the reduction in cases was \$52,480 in 2016 and \$37,925 in 2017.

Graph 1.1: Probate Care & Treatment Cases



ESTIMATED COST AVOIDANCE TO EXISTING COMMUNITY SERVICES

This study indicates the Community Crisis Center and SACK services provide a significant cost avoidance of between \$2.4 and \$2.8 million to community sectors. Table 10.1 summaries sector estimates.

In a similar the study conducted by the Public Policy and Management Center at Wichita State University (September 2016), the cost avoidance to community services in the first year following implementation of the Community Crisis Center in SFY15, was estimated as \$6.2 million. This was due to the large redirection of cases from higher cost services in the community to the lower cost services provided through the Community Crisis Center. The current study indicates the community continues to reap significant annual cost avoidance benefits.

Table 9.1: Estimated Cost Avoidance to Exiting Community Services

	2016	2017
Hospital Care Cost Savings	\$736,257	\$1,440,634
State Hospital Admissions & Transports	\$415,703	\$519,471
Emergency Medical Transports	--	\$37,125
Wichita Police Department	\$53,742	\$62,741
Sedgwick County Jail	\$1,113,981	\$721,035
Probate Court	\$52,480	\$37,925
Total Cost Avoidance	\$2,372,163	\$2,818,931

CONCLUSION

The Community Crisis Center provides an estimated annual cost savings of \$7.5 to \$11.4 million in 2016 and between \$9.7 and \$14.6 million in 2017. These estimates assume that if the Community Crisis Center did not exist, between 20% and 30% of patients served would need treatment in area hospitals, at a significantly higher cost per patient.

Analyzing the impact to community services determined approximately \$2.4 to \$2.8 million in cost savings due in part to deferral of cases from area hospitals, EMS, police, jail and probate court to the Community Crisis Center.

This study examines only the most likely range of cost avoidance of the major stakeholders in the current mental health service delivery system. Estimates do not take into consideration all of the tangible and intangible benefits to system clients or their families.

It is important to emphasize that many of the avoided costs are not direct dollar savings to local government programs, but rather provide reallocation of staff time to alternative activities and slows the growth in the need for more resources.

The long-term savings will depend upon the growth capacity of the Community Crisis Center. Cost savings from diversion of individuals from other community services will continue only if there are sufficient beds and programs to serve those patients referred to the Center.

Continued collaboration of service providers to share information and data is strongly encouraged. Additional analysis of high utilizers will enable agencies to better

understand and manage services for this population. Data sharing among community agencies will help identify gaps in service areas and foster development of community-wide strategies for reducing and managing needed community services.

References

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Disclaimer: This study was conducted by the Public Policy and Management Center (PPMC) at Wichita State University (WSU). The PPMC is an independent research body and this report was prepared by the research team. It represents the findings, views, opinions and conclusions of the research team alone. The report does not express the official or unofficial policy of WSU. Information for this report was supplied by The Substance Abuse Center of Kansas (SACK), COMCARE, Via Christi Hospital, and Sedgwick County. The accuracy of findings for the report is dependent upon the information provided.

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