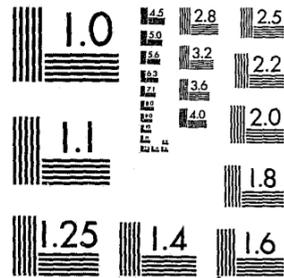


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MINNESOTA COMMUNITY CORRECTIONS ACT EVALUATION



86163

TECHNICAL REPORT:

EFFICIENCY

January, 1981

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A. Introduction

Economy alone does not indicate a policy's efficiency. Using an efficiency criterion, economy (costs) is linked to attainment of the policy's desired outcome. Just as a business may use the criterion of minimizing input cost per dollar of profit so a correctional policy efficiency criterion is to minimize input costs per public protection success. Public safety is hence the outcome to be achieved with minimum resource use. However, those making a policy choice may wish to balance efficiency and equity attainment for alternative policies. In the CCA evaluation, equity is defined as social justice (see Technical Report: Social Justice). This report examines efficiency attainment under the Community Corrections Act.

B. Issues

One outcome of the Community Corrections Act (CCA) is to promote efficiency in the delivery of correctional services through grants to assist counties in the development, implementation and operation of community-based corrections programs (Minn. Stat. 401.01). To be an efficient innovation, the CCA may operate either to directly reduce correctional costs or to increase the productivity of existing correctional resources. In other words, CCA is expected to have a smaller cost per desired outcome than continuation of previous policies. Here, the desired outcome is defined as a non-recidivating offender, i.e., CCA should have a lower cost per increase in public safety than the policies it replaced in order to promote efficiency.

It is assumed that CCA should directly reduce correctional costs in the following manner:

1. By reducing overlapping correctional jurisdictions,
2. By consolidating correctional program administration and planning,
3. By reducing state institution use, and
4. By reducing general assistance to offenders and A.F.D.C. to offenders' dependents.

CCA advances that should either reduce correctional costs and/or increase productivity include:

1. Decentralized decision making concentrated at the CCA area level,
2. Increased resource allocation responsiveness to criminal justice system indicators,
3. Increased public safety through use of an effective local rehabilitative mode, and
4. Improved labor productivity through training.

The delivery of probation and parole services prior to CCA is an example of overlapping correctional jurisdictions between county and state levels of government. For non-metropolitan counties with populations under 200,000, the counties assumed juvenile probation and parole services with the state subsidizing fifty percent of such costs (Minn. Stat. 260.31 Subd. 5). In such counties the state assumed adult probation and parole for felons and gross misdemeanants under Minn. Stat. 243.09. Hence, in counties under 200,000, there was a dual system of county and state agents delivering probation and parole services. In counties over 200,000, the state agents only dealt with adult parolees, the balance of adult and juvenile probation and parole services were furnished by the county. Three counties fell into this category: Ramsey, Hennepin, and St. Louis. Pay differentials between county and state agents in the

same area created an incentive for resource shifts to the higher paying level of government (often the county) and imposed added administrative costs (hiring, training, morale) on the lower paying level of government. Hence, before CCA entry (and for non-member areas even today), each area's probation and parole services were split between state and county levels of government, and jurisdictional coverage of each level varied by population size. Under CCA, all probation and parole services are consolidated at the CCA area level. A CCA area is defined by statute as one or more contiguous counties having population of 30,000 or more and being within the same regional development area (Minn. Stat. 401.02). From a management perspective, probation and parole consolidation at the CCA area level should reduce state administrative costs more than such consolidation adds to existing local probation and parole administrative costs. Such consolidation as a management innovation should reduce administrative costs per unit of correctional output (public safety).

The CCA, by centralizing correctional program administration and planning at the local level, should reduce duplicative programming efforts, administration, and planning. Prior to CCA, the counties and the state provided local correctional programming with no centralized administration or planning of such efforts across various federal, state, and local funding sources. For example, the state and counties provided numerous separate services under L.E.A.A. grants. Also, under Minn. Stat. 241.31, local community corrections centers can be established with approval of the Commissioner of Corrections for the purpose of providing housing, supervision, treatment, counseling, or other correctional services. The Commissioner could authorize grants up to sixty-five percent of each center's operating costs. Under CCA, by consolidating correctional program planning, administration and development at the local level, the cost of duplicative programming services should be eliminated. Reduced planning and administrative costs should also result. For example, it is more efficient from a management perspective to operate one chemical dependency program at ninety-percent capacity rather than operating two chemical dependency programs at forty-five percent capacity.

Correctional costs should be further reduced under CCA by retaining offenders in the community thus reducing the use of state institutions. The presumption is that providing local alternatives for offenders is less costly than state institutional use for such offenders thereby resulting in lower correctional costs under CCA. Also, future criminal justice system costs should be further reduced if the local programming mode is more effective in promoting public safety through reduced recidivism than state incarceration. Hence, CCA should reduce state institutional costs.

The use of state institutions is regarded as disruptive to family support systems. The CCA, by retaining more offenders in the community, should reduce direct welfare payments to offenders and offenders' dependents. The Technical Report: Economy of this evaluation tests the impact of CCA and of the policy prior to CCA on the increased use of welfare sources of support for offenders and their dependents during the period from sentencing through incarceration. If the policy prior to CCA led to greater government assistance dependence, while under CCA such dependence is reduced, then CCA as a policy reduces general assistance and A.F.D.C. costs. With the agreement of the CCA Evaluation Advisory Group, no analysis of CCA's impact on indirect welfare expenditures for social services to offenders is made. See the Technical Report: Economy for further explanation of this decision.

Decentralized correctional decision making concentrated at the CCA area level should lead to more efficient resource use. Local needs assessment is more easily conducted at the local level where key actors from other criminal justice subsystems (law

enforcement, prosecutorial, defense, and judicial subsystems) are present. The local needs assessment functions like a pricing mechanism; it summarizes criminal justice "market" signals that should guide effective resource use at a government level where workloads can be most easily assessed and resource substitutions made. A state administration facing an aggregate service demand function for 87 counties may not have the time or flexibility to meet the priority needs of each county. Indeed, explanation of particular local needs may be lost in standardized aggregation categories needed for state administration decision making. Yet, under the CCA, local areas can efficiently prioritize local needs by carefully assessing the relative effectiveness of resources in various programs, and deploying resources to achieve the maximum level of output (public safety) attainable for a given dollar input. Better decisions may be made because local decision makers may have access to more information and this information is less likely to be distorted through transmission to another governmental level. In each area, this should lead to better decisions. By reacting to the local criminal justice system environment each CCA area is guided to establish a service delivery system which, when examined across all participating areas and within each area, is a more efficient policy that achieves public safety for the same or less costs than compared to a state centralized approach.

Another indicator of an efficient cost conscious organization in the business sector is its ability to react quickly to changing market and competitive conditions so as to maintain its profitability. Just as decentralized correctional planning and administration should lead to efficient resource allocations in a static sense (see previous paragraph) so also this approach should lead to efficient resource allocations in a dynamic sense. Under CCA, correctional planning and programmatic administration is concentrated at the local level where changing criminal justice conditions are first detectable. Indeed, under CCA, each area has an Advisory Board composed of criminal justice professionals from the law enforcement, prosecutorial, defense, and judicial subsystems. The Advisory Board should also receive further information on changing local conditions through development of local research and information systems. A forum is thus created by which changing criminal justice system signals can be quickly detected and corresponding correctional resource adjustments made without such signals being communicated one step further, i.e., to the state level. Quick responsiveness of correctional resource allocations to changing criminal justice system indicators should enable more public safety to be attained with the same or less resources under the CCA.

Underlying the CCA is a presumption that the rehabilitative approach is more effective than institutionalization. In other words, even if the same amount of resources were spent for local programming rather than the increased use of institutions, the end result would be increased public safety under CCA because the local approach is expected to work better than institutionalization in preventing recidivism. Hence, CCA is expected to be a more efficient policy because more output is expected from each dollar expended on resources.

Costs can be reduced in an organization by improving resource productivity. Under rules promulgated for the Community Corrections Act, specific fund allocations are set aside for training purposes. These funds should enable an ongoing human capital investment to be made under the CCA policy. The intent of this investment is to increase labor productivity. By making existing corrections professionals more efficient in their jobs, labor costs can be maintained or even reduced.

If the CCA is an efficient policy it should lower the cost per outcome unit. The efficiency goal comparison is between community corrections in Minnesota given the

Act and continuation of the policy in effect prior to the Act. This hypothesized community corrections system (continuation system) is based upon the pre-CCA system's costs and outcomes adjusted primarily for upward trends in target populations and for inflation. The adjustment for inflation makes cost figures comparable in constant dollars of purchasing power across all years studied. If such an adjustment is not made, the pre-CCA expenditures and hence, continuation expenditures will appear smaller than CCA expenditures even though such pre-CCA dollars represent, per dollar, more purchasing power.

The efficiency question is whether the CCA has a lower cost per public protection success as compared to the continuation system. Each success is a non-recidivating client. For each CCA area, efficiency measures will be developed for adult and for juvenile programs in the short run and, whenever possible, in the long run. The short run and long run are determined by the length of case follow-up data available. In each area, the CCA will be efficient if the ratio of program costs to public protection successes (cost per public protection success) is lower under the CCA as compared to under the continuation system.

If the CCA is efficient in a majority of CCA areas, then it is an efficient correctional policy.

C. Methodology

1. Cost-effectiveness Analysis of the CCA

The efficiency analysis is basically a cost-effectiveness analyses (See Gray et al. (1978)) by which costs are linked to the desired outcome of public protection. Just as a firm may use the criterion of minimizing input cost per dollar of profit so the correctional policy efficiency criterion applied is to minimize input costs per public protection success. Public safety is the outcome to be achieved with minimum resource use. The cost-effectiveness of two policies are compared: continuation of the pre-CCA policy and the CCA policy. Table 3 presents the efficiency ratios of cost per public protection success. Continuation CCA costs are divided by predicted successes to derive an efficiency measure for continuation of the pre-CCA policy while post-CCA costs are divided by actual successes under CCA to derive a similar measure for the CCA policy. The cost measure and public protection success measure are described below.

2. Total Average Annual Expenditures

Continuation and post-CCA total average annual expenditures are derived as described in the Technical Report: Economy. These figures are reported in Table 14 of the above report. For reasons cited in the Technical Report: Economy section C.3.iv., expenditures could not be disaggregated into adult and juvenile related expenditures. Therefore, aggregate adult and juvenile expenditure and success figures are used. Estimation procedures for the actual and predicted number of successes follow.

3. Estimating Actual and Predicted Numbers of Successes

a. Adults

The evaluation of public protection (see Technical Report: Public Protection) uses offender successes as an indicator of public safety. The more offenders are prevented from committing new offenses (felonies), the more the public is protected. The adult

target population for the goal of public protection is all cases sentenced to the community and all less serious cases committed to prison. Estimates of actual and predicted successes are based on this post-CCA target population. The population and sample data are available only through 1978 because the public protection evaluation requires a follow-up period for coding new offenses. Estimates of successes, therefore, are not made for Rock-Nobles whose entry was 1/1/79. Estimates also are not made for Washington because its CCA entry of 7/1/78 provides only six months of post-CCA cases.

The public protection evaluation relies on comparisons of success rates (i.e., proportion of offenders not committing new felonies) before and after CCA entry among samples of offenders in each CCA area. The public protection evaluation distinguishes success rates in the short term, the long term and overall. The overall success rates are used for estimating successes in the early and middle participants. Because of their recent entry only short-term success rates can be used for Region 6 West, Blue Earth and Hennepin.

The estimate of the actual number of successes is derived by multiplying the sample post-CCA success rate by the post-CCA target population. The method for predicting number of successes had an area not entered the CCA depends upon the research design used in evaluating public protection. The designs are explained thoroughly in the report on public protection. For some areas the design is a pretest-posttest design without control groups. The middle participants (Red Lake-Polk-Norman, Todd-Wadena, Arrowhead Regional Corrections and Anoka) have no comparison counties. The comparisons originally planned for Region 6 West and Blue Earth were ruled out as invalid. For areas with no comparison data, predictions are based solely on the pre-CCA success rates. When there is no significant change in success rates after CCA entry, the predicted number of successes is considered to be the same as the actual. When there is a significant change in success rates after CCA entry, the predicted number of successes equals the pre-CCA sample success rate multiplied by the post-CCA target population.

The public protection evaluations of Dodge-Fillmore-Olmsted, Crow Wing-Morrison, Ramsey and Hennepin utilize comparison county data. When comparison data are available the predicted number of successes is based on the pre-CCA success rate, adjusted for changes occurring in the comparison counties. Should the success rate change not be significantly different from the change found in the comparison counties, the predicted number of successes is considered to be the same as the actual number with the CCA. However, when the success rate change is significantly different from the change occurring in the comparison counties, the pre-CCA success rate is adjusted by the average percentage change found in the comparison counties. For example, if the average percentage change in an area's comparison counties is plus five percent the CCA area's pre-CCA success rate is increased by five percent. This adjusted rate multiplied by the post-CCA target population constitutes the predicted number of successes had a county not participated in the CCA.

Predicted and actual adult successes are shown in Table 1.

b. Juvenile Offenders

The evaluation of public protection vis-a-vis juvenile offenders is far less satisfactory than that for adults. Because of problems in data availability, the evaluation relies solely on juvenile arrest rates as a negative indicator of public protection. Yearly arrest rates are obtained by dividing the number of juvenile arrests by the juvenile

TABLE 1: Actual and Predicted Adult Offender Successes

Area	Overall Success Rate		Post-CCA Target Population ^b	Actual Number of Successes	Predicted Number of Successes
	Pre-CCA ^a	Post-CCA			
Dodge-Fillmore- Olmsted	N.S.	82.0	381	312	312
Crow Wing- Morrison	N.S.	88.2	347	306	306
Ramsey	N.S.	84.3	2541	2142	2142
Red Lake-Polk- Norman	N.S.	86.7	194	168	168
Todd-Wadena	N.S.	98.0	65	64	64
Arrowhead Regional Corrections	N.S.	87.2	886	773	773
Anoka	N.S.	83.0	470	390	390
	<u>Short-Term Success Rate</u>				
	<u>Pre-CCA</u>	<u>Post-CCA</u>			
Region 6 West	N.S.	97.7	27	26	26
Blue Earth	N.S.	93.5	50	47	47
Hennepin	N.S.	93.6	1224	1146	1146

^aIf the pre and post-CCA rates are not significantly different or the change is not significantly different from comparison county changes, "N.S." is recorded in the pre-CCA column.

^bPost-CCA target population equals all adults sentenced to the community or less serious offenders sentenced to prison for felony offenses from the date of CCA entry through 1978.

population-at-risk. Using the juvenile population-at-risk means that the target population is all juveniles. The report on public protection explains that in fact the juvenile target population is much larger than the adult target population because most serious juveniles are assumed to be treatable in the community and CCA resources are directed at juvenile pre-offenders. Using the entire juvenile population-at-risk, therefore, is less problematic for juveniles than it would be for adults.

Number of juvenile successes are obtained by multiplying the actual and predicted post-CCA success rates (1 - arrest rate) by the juvenile population-at-risk for each post-CCA year. The predicted post-CCA arrest rate is obtained by adjusting an area's pre-CCA rate by the percentage change occurring in non-CCA counties. The non-CCA data includes CCA counties prior to their entry. Hennepin and Ramsey data are excluded. Hennepin and Ramsey are used as comparisons for each other. If arrest rates before and after 1976 are increasing five percent in non-CCA areas, then the pre-CCA arrest rates for areas that enter the Act in 1976 are increased by five percent to obtain predicted rates had the areas not participated in the CCA. The pre-CCA, post-CCA, and predicted post-CCA arrest rates are reported in Table 16 in the Technical Report: Public Protection. The numbers of successes that are derived by multiplying these rates by the juvenile population-at-risk are reported in Table 2.

Two points should be made regarding the use of juvenile successes. Because the juvenile target population is so much larger than the adult target population and because for all but one area the actual and predicted numbers of adult successes are the same, the denominator for the efficiency ratio is dominated by the juvenile data. This result is somewhat unfortunate because of the problems in the juvenile arrest data discussed in the Technical Report: Public Protection. If one were to take the most conservative approach and assume that actual and predicted numbers of juvenile successes are the same (i.e., to assume that the increases found in CCA arrest rates are entirely due to error and not to the CCA), actual efficiency ratios would continue to be greater than the continuation ratios for all areas. That is, the denominators would be constant, while the numerator (costs) would change. The most conservative approach produces slightly smaller differences between the actual and continuation ratios, but the actual ratio continues to be greater than the continuation ratio except in Ramsey and Blue Earth where the ratios are nearly equal using one of the efficiency approaches (the per diem approach).

A second point is that using the entire juvenile population-at-risk as the target population may reduce the cost per success figure. If one could clearly identify a juvenile target population-at-risk, then the costs per success would be higher. However, the comparison of actual and continuation ratios would not be affected. One would compare higher actual and continuation costs per success, but the differences between ratios should be similar.

D. Results and Conclusions

The efficiency outcome examines whether the CCA as a corrections innovation is more efficient than continuation of the policy it replaced. Has the CCA operated either to directly reduce correctional costs or to increase the productivity of existing correctional resources so as to reduce cost per public protection success? Using this cost-effectiveness analysis the answer is no: the CCA is less efficient overall than continuation of the pre-CCA policy. However, efficiency is maintained in the Ramsey and Blue Earth CCA areas if institutional commitments averted by CCA through local retention of offenders are valued at the institutional per diem rate. However, if such

TABLE 2: Actual and Predicted Numbers of Juvenile Successes

Area	1974	1975	1976	1977	1978
<u>Dodge-Fillmore-Olmsted</u>					
Actual ^a	12,403	12,671	12,591	12,510	12,430
Predicted ^a	12,450	12,719	12,638	12,558	12,477
<u>Crow Wing-Morrison</u> ^b					
Actual	6,987	6,971	6,817	6,663	6,509
Predicted	7,006	6,990	6,836	6,681	6,527
<u>Red Lake-Polk-Norman</u>					
Actual			5,082	4,920	4,757
Predicted			5,089	4,926	4,763
<u>Todd-Wadena</u>					
Actual			3,800	3,683	3,566
Predicted			3,820	3,702	3,584
<u>Anoka</u>					
Actual			21,220	21,381	21,543
Predicted			21,257	21,419	21,580
<u>Arrowhead Regional Corrections</u>					
Actual			28,856	27,829	26,802
Predicted			28,950	27,920	26,891
<u>Region 6 West</u>					
Actual				5,187	4,971
Predicted				5,192	4,976
<u>Blue Earth</u> ^c					
Actual					5,147
Predicted					5,145
<u>Ramsey</u> ^d					
Actual	44,605	44,799	43,885	42,971	42,057
Predicted	44,930	45,125	44,205	43,284	42,364
<u>Hennepin</u> ^d					
Actual					82,267
Predicted					81,121

^aActual successes are calculated by multiplying the mean post-CCA success rate (1-arrest) by the population-at-risk. Predicted successes are calculated by multiplying the predicted post-CCA success rate by the population-at-risk. The predicted rate is obtained by adjusting the pre-CCA rate by the change occurring in non-CCA counties.

^bThe 1977 rate is excluded from the actual post-CCA arrest rate because it appears deviantly high. The actual numbers of successes would have been lower had the 1977 data been included.

^cThe 1975 rate is excluded from the pre-CCA and therefore the predicted rate because it appears deviantly low. The predicted number of successes would be higher had the 1975 data been included.

^dRamsey and Hennepin are treated separately and are used as comparisons for each other. The predicted successes for Ramsey are probably increased and the predicted successes, reduced for Hennepin because of reporting problems in the Ramsey data in the early 1970's.

Errata Sheet: Efficiency

Page 9, paragraph 1.

Using the variable cost approach, the increases range from seven percent in Hennepin and fifteen percent in Ramsey to ninety-nine percent in Dodge-Fillmore-Olmsted.

Replace the underlined segment with:

. . . ninety-four percent in Todd-Wadena.

Page 10, Table 3 corrected figures:

Dodge-Fillmore-Olmsted	Efficiency	
	Per Diem Approach	Variable Cost Approach
<u>Continuation</u> \$47.28	Decrease 34%	Decrease 40%

averted commitments are valued at variable (client upkeep) levels, these two CCA areas are inefficient.

Table 3 presents continuation costs per predicted public protection success under continuation of the pre-CCA system and two measures of post-CCA costs per public protection success. If averted institutional costs under CCA are valued using variable costs avoided, the post-CCA total average annual expenditures per public protection success are higher than continuation figures. If averted institutional costs are valued at the per diem level, efficiency decreases in eight areas and is maintained in two areas. Using the per diem approach, increased cost per success range from less than one percent in Ramsey and nine percent in Hennepin to one hundred seven percent in Todd-Wadena. Using the variable cost approach, the increases range from seven percent in Hennepin and fifteen percent in Ramsey to ninety-nine percent in Dodge-Fillmore-Olmsted. Percentage increase in all other areas fall between the above bounds.

The results indicate that based on the CCA policy and continuation of the pre-CCA policy, Hennepin, Ramsey, and Arrowhead Regional Corrections have the highest total average annual expenditures per public protection success. Under CCA, a cost per success over \$140 occurs in Hennepin, Ramsey and Arrowhead Regional Corrections while a cost per success below \$90 occurs in all other areas.

In summary, since public protection is basically maintained under CCA (see Technical Report: Public Protection) while economy overall is reduced (see Technical Report: Economy), the cost per public protection success increases under CCA in a majority of CCA areas. More resources are needed to generate a success under CCA as compared to continuation figures based on the pre-CCA system. In most areas, a higher cost per success occurs under CCA. In two areas, the cost per success is maintained using one of the two approaches used to value averted institutional costs under CCA. Overall, efficiency is reduced under the CCA.

TABLE 3: Efficiency Goal: Predicted and Post-CCA Total Average Annual Expenditures per Public Protection Success (Constant Dollars, 1980)

CCA Area	Continuation	Total Average Annual Expenditures/Public Protection Successes ^a			
		Post-CCA		Efficiency ^b	
		Averted Per Diem Approach	Averted Variable Cost Approach	Averted Per Diem Approach	Averted Variable Cost Approach
Dodge-Fillmore-Olmsted	\$ 33.28	\$ 63.53	\$ 66.33	Decrease 91%	Decrease 99%
Ramsey	\$139.16	\$140.28	\$159.51	Maintain 1%	Decrease 15%
Crow Wing-Morrison	\$ 39.43	\$ 42.93	\$ 58.67	Decrease 9%	Decrease 49%
Red Lake-Polk-Norman	\$ 39.20	\$ 49.46	\$ 70.21	Decrease 26%	Decrease 79%
Todd-Wadena	\$ 42.54	\$ 88.20	\$ 82.63	Decrease 107%	Decrease 94%
Arrowhead Regional Corrections	\$133.96	\$164.21	\$170.17	Decrease 23%	Decrease 27%
Anoka	\$ 64.23	\$ 85.32	\$ 79.92	Decrease 33%	Decrease 24%
Region 6W ^c	\$ 35.31	\$ 45.13	\$ 51.90	Decrease 28%	Decrease 47%
Hennepin ^d	\$184.47	\$200.59	\$196.75	Decrease 9%	Decrease 7%
Blue Earth ^d	\$ 64.53	\$ 65.48	\$ 79.13	Maintain 1%	Decrease 23%

^aPublic protection successes are the sum of average annual juvenile and adult public protection successes.

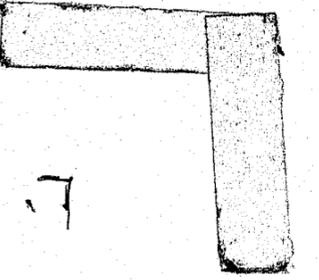
^bEfficiency is increased (respectively decreased or maintained) if CCA has lower (respectively higher or the same) cost per public protection success than the continuation cost per success. Due to variances in accounting procedures, individual area figures may be over- or under- estimated by five percent.

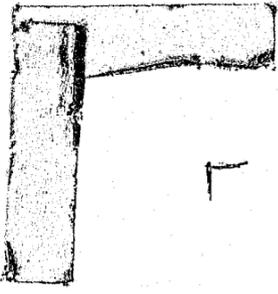
^cPost-CCA annual figures are based on one and one-fourth years of data.

^dPost-CCA annual figures are based on one year of data.

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1. GRAY ET AL. (1978) "Cost Effectiveness of Residential Community Corrections, An Analytical Prototype." Evaluation Quarterly 2 (August): 375-399.





END