

EVALUATION OF LANCASTER COUNTY EARLY IDENTIFICATION & ASSESSMENT PROCESS



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Executive Summary

In January 2009, Lancaster County implemented an early screening and assessment process. The goal of this pilot project was to ensure consistent processing of juvenile offenses, especially for very young offenders, and to ensure that youth were matched to the most appropriate early intervention. In 2010, the Juvenile Justice Institute evaluated the program to assess efficacy as a system point. Those results were promising -- they demonstrated that the early assessment process is an effective means of diverting youth. It does not appear to widen the net and draw youth into the juvenile justice system unnecessarily. However, this did not address whether the program was effective long term, or how it compared to other early intervention processes. The research questions that we focus on in this current evaluation are: 1) whether the early assessment program is effective in reducing recidivism and 2) whether it is as effective at reducing recidivism as traditional juvenile diversion programming.

Two programs are used as early interventions for juvenile offenders in Lancaster County: Early Assessment, which screens youth out of the juvenile justice system and Juvenile Diversion, which requires youth to repay the community, or learn from their mistake, to resolve the legal violation. We used propensity score matching to assess how program involvement impacted future recidivism. We found that youth who participate in Early Assessment, are less likely to recidivate long-term (within 24 or

more months after completing the program) when compared to youth who participate in Diversion. There is no difference in the recidivism rates of youth in each group when measured at 12-months or 24-months.

INTRODUCTION

Official processing of a juvenile law violation may be the least effective means of rehabilitating juvenile offenders. The Campbell Collaboration, an international research network, completed a meta-analysis of 29 juvenile justice studies. In this study they set out to compare outcomes for youth who were “officially processed” through juvenile court, versus those who were diverted from the system to other services or were released without any requirements (Campbell 2010). Official processing includes “charging” the case in juvenile court, adjudication and formal probation. The research question the Campbell Initiative sought to answer was whether formal processing of juvenile offenses reduces subsequent acts of delinquency. This massive research project examined 7,304 juvenile records and 29 different studies over a 35 year period. Although the results were not uniform across each of the 29 studies, the findings are startling: processing a juvenile through formal juvenile court proceedings appears to result in later acts of delinquency. “Rather than providing a public safety benefit, processing a juvenile through the system appears to have a negative or backfire effect” (Campbell 2010, pg 38).

In addition to research regarding effectiveness, alternatives to the formal juvenile justice system are almost always preferred for economic reasons, as long as community safety is maintained. While the Campbell Review supported alternatives to formal processing, it did not support a policy of diverting youth who would not otherwise have been processed. In other words, these researchers were not in favor of diverting *all* youth, but only youth who needed intervention. Critical questions that must be addressed when evaluating new diversionary techniques are 1) whether juveniles are being brought into the system unnecessarily, and 2) whether the intervention is effective as a means of reducing recidivism. According to the Annie E. Casey Foundation, “behavioral research has proven that children and adolescents are far less able than adults to gauge risks and consequences, control impulses, handle stress, and resist peer pressure” (Annie Casey Foundation website). Developmental experts agree that most young offenders will cease any law-breaking tendency as part of the normal maturation process. It is important therefore to clearly establish which youth require an intervention rather than intervening every time a youth acts out. The later approach ends up drawing youth into the system who might not have ever been filed on; a practical problem known as “net widening.” On the other side of the equation is the failure to identify youth who need services early enough. Youth with mental health needs, learning disabilities, or poor support and structure in their homes, go unidentified and may end up deeply entangled in our juvenile justice systems (Cocozza

& Skowyra 2000). A delicate balance exists between identifying youth early enough without over- reacting and criminalizing normal youth development and experimentation.

Lancaster County's Early Assessment Process

In January 2009, Lancaster County adopted a pre-diversion, early-assessment process designed to screen out low-risk, misdemeanor juvenile law offenders. Collaborative planning for this project included representatives from Juvenile Diversion, Juvenile Probation, the Public Defender's Office, the City and County Attorneys' Offices, private and non-profit providers and the Juvenile Detention facility. The goal of this collaborative undertaking was to identify, very early in the juvenile process, which youth require further intervention and which youth have sufficient community supports to be diverted away from official processing without further intervention. A unique aspect of this program is the few resources it requires to implement. The project involves one staff who works closely with the prosecuting attorney to identify youth who require only minimal intervention. Although other staff in the prosecutor's office conduct background checks, the Assessment Specialist's main task is to complete an interview with the youth and family by phone, in order to correctly classify the youth. Prior research examined important factors related to the early assessment process: 1) case processing time; 2) the assessment instrument utilized; and 3) legal issues related to this intervention (Hobbs & Kim 2010). Although those

questions will not be revisited in this report, that research demonstrated that timeliness, assessment tools and due process all impact program effectiveness and future recidivism.

Lancaster County's Juvenile Diversion Process

Lancaster County has had a formal Juvenile Diversion Program in place since 1995.¹ Generally, youth in diversion are required to complete educational programming in lieu of formal processing. Lancaster County Juvenile Diversion Services allows youth ages 7 to 17 into the program. Most of the youth have committed a minor, first-time law violation, but a youth with prior offenses may be eligible depending upon the facts, circumstances, and the severity of the law violation.

Pursuant to Neb. Rev. Stat § 43-274, the Lancaster County Attorney may refer a juvenile to diversion prior to filing a petition in court. While participating in the program, a youth completes an assessment, may undergo a more intensive evaluation and the juvenile is generally required to attend educational classes or therapy. Often these programs are built upon principles of restorative justice (U.S. Department of Justice and OJJDP, 2009). If the youth successfully completes diversion, his or her record is sealed pursuant to Neb. Rev. Stat §43-2.108.03.

Similarities and Differences of the Programs

The two programs are fairly similar in the characteristics of the youth they

¹ An informal program was offered through Juvenile Probation and LPD Youth Aid prior to 1995.

accept, as well as the types of law violations referred to them. They are quite different in the amount of resources required to run the program. The key programmatic differences between the two programs are:

- 1) Youth referred to the Early Assessment Process generally only speak with a juvenile justice professional over the phone (while youth enrolled in Diversion have on-going meetings over a series of months);
- 2) Youth referred to the Early Assessment Process are screened using a brief assessment tool called the Nebraska Youth Screen (NYS), an adaptation of the YLS/CMSI. Youth in Diversion complete the Youth Level Services / Case Management Inventory, and may have more in depth evaluations required based on the results.
- 3) Youth referred to the Early Assessment Process generally do not have to complete any requirements, whereas diversion youth are required to complete a number of requirements like educational classes, community service, paying restitution or written assignments.

METHODS

Early Assessment and Diversion programs have been in operation long before the current research began, so random assignment to treatment and control groups was not possible. Because random assignment was not possible, selection bias may be a

present. For example, it may be that youth assigned to the Early Assessment program are less likely to recidivate to begin with –due to age, or the type of law violation-- than youth referred to Diversion. In an attempt to reduce possible selection bias, propensity score matching was employed.

What is Propensity Score Matching?

Propensity score matching was developed by Rosenbaum and Rubin (1983), and is one possible way to ensure that treatment and control groups are similar. Traditional matching techniques can be used to ensure that treatment and control groups are equivalent, when randomization is not possible (Guo & Fraser, 2010). However, the more covariates that are used in traditional matching, the more difficult it becomes to create a perfect match (Guo & Fraser, 2010). This problem can be addressed by matching on a single item: the propensity score (Guo & Fraser, 2010). A propensity score is the probability of being assigned to a treatment group, given a set of observed covariates (Apel & Sweeten, 2010; Guo & Fraser, 2010; Rubin 2001). Basically, the propensity score encapsulates and summarizes a variety of covariates in a single score, simplifying matching (Guo & Fraser, 2010). It can be used to ensure that the treatment and control groups are similar (Guo & Fraser, 2010). Instead of matching treatment cases to similar control cases based on a variety of individual covariates, treatment and control cases are matched using a single propensity score (Guo & Fraser, 2010). If it can be demonstrated that the treatment and control groups are balanced, selection bias

should be largely eliminated (Guo & Fraser, 2010). In other words, given the propensity score, treatment assignment is independent of the other covariates (Guo & Fraser, 2010).

Data

Data on individual youth involved in Early Assessment were provided by the Lancaster County Attorney's Office ($n=2,475$). This dataset included all youth screened for Early Assessment since the program began in January 2009. Because many of the variables were case processing variables (i.e. time contact was attempted), this dataset did not include a large selection of variable for matching. Data on individual youth referred to Diversion from 2004 to 2011 ($n=7,093$) were provided by CEDARS Youth Services, a non-profit agency contracted by the Lancaster County Attorney and Lincoln City Attorney, to serve youth eligible for diversion. From these comprehensive records, youth who had only ever participated in Early Assessment and youth who had only ever participated in Diversion were selected. Youth who had participated in both programs were excluded from the present analyses.

Recidivism data was collected by a Lancaster County Attorney staff member. The staff member manually collected recidivism data by entering each youth's name and searching for law violations that resulted in a juvenile or criminal petition being filed (post program completion). Because well over 9,000 individual youth were included in either the Diversion or Early Assessment data, it was not practical for the staff member to generate reports for each youth. Therefore, we provided a random list of names,

drawn from all participants in each group. Specifically, a random sample of 400 youth was selected from the youth in Diversion and a random sample of 400 youth who had participated in Early Assessment was selected from the data provided.

Sample

One youth in the Diversion group and one in the Early Assessment group had incomplete or missing data and were eliminated from the sample, leaving a final sample of 798 youth in either Early Assessment or Diversion. Descriptive statistics of the sample are available in Table 1 below.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min.	Max.
Age	14.435	2.365	7	20
Gender	0.624	0.485	0	1
Race/Ethnicity				
Black	0.143	0.350	0	1
Hisp	0.040	0.196	0	1
White	0.627	0.484	0	1
Other	0.190	0.393	0	1
Offense Type				
Person	0.257	0.437	0	1
Property	0.452	0.498	0	1
Weapons	0.020	0.140	0	1
Drugs/Alcohol	0.190	0.393	0	1
Traffic	0.005	0.071	0	1
Other	0.075	0.264	0	1

Youth in the final sample were, on average, 14.4 years old. Most (62.4%) youth were male. White youth made up the largest racial group in the sample (62.7%). In addition, 14.3% of sampled youth were Black, 4.0% were Hispanic and the remaining 19.0% were

categorized as “other race.” Approximately 45% of sampled youth had committed a Property offense while approximately 26% of the sample had committed a Person related offense. An additional 19% of offenses fell into the Drugs/Alcohol category. Very few youth committed Weapons related (2.0%), Traffic (0.5%), or Other (7.5%) offenses².

Plan of Analysis

We began our analysis by estimating the propensity score for each individual case. Next, youth assigned to Early Assessment were matched with those assigned to Diversion. Specifically, we used nearest neighbor matching, which simply means that youth were matched to a very similar individual in the other treatment group. We then checked for balance across the covariates both before and after matching. Subsequently, we used Stata to calculate the average treatment effect for the treated (ATT). If the ATT is significant, then program participation is responsible for a significant change in the dependent variable (Guo & Fraser, 2010). In other words, if the ATT is significant, then participation in Early Assessment is responsible for any change in recidivism rates.

² For detailed notes on the coding of Offense Types, see Appendix Table A.

Main Independent Variable: Program Assignment

Program assignment was coded as a simple dichotomous variable. Youth who were referred to Early Assessment were coded as 1 and youth referred to Diversion were coded as 0.

Dependent Variable: Recidivism

Recidivism was defined as any law violation charged or filed on by the Lincoln City Attorney or Lancaster County Attorney, after resolution of the initial law violation (which brought the youth to Early Assessment or Diversion.) Recidivism was measured at three distinct time periods: 12 months, 24 months and long-term/any recidivism.

Control Variables

Several additional covariates were included in the analyses. Age, measured in years was included, along with gender (girls were coded as 0 and boys were coded as 1). Race was coded as a series of dichotomous indicator variables. Specifically, variables indicating race as White, Black, Hispanic and Other were created. Because of the very small number of youth who fell into the Asian, Native American, and Other categories, these were collapsed into one "Other" race variable. This "Other" category was left out of the analysis as the reference group. Several dichotomous indicator variables were also created to indicate the type of offense a youth committed. Specifically, variables for Person, Property, Weapons, Drug and Alcohol, Traffic and Other offenses were created. The "Other" category was the reference group.

Analysis/Results

The results indicate that prior to matching, youth referred to Early Assessment and Diversion are different in some key aspects. Table 2 displays results from the pre- and post-matching t-tests for the covariates in the study.

Table 2: Achieving balance among Diversion and Early Assessment youth: pre- and post- matching t-tests

	Unmatched sample			Matched Sample		
	Early Assessment	Diversion	<i>p</i>	Early Assessment	Diversion	<i>p</i>
Age	13.063	15.812	0.000 *	13.484	13.470	0.910
Gender	0.629	0.618	0.749	0.610	0.549	0.099
Race/Ethnicity						
Black	0.188	0.098	0.000 *	0.165	0.198	0.249
Hisp	0.025	0.055	0.030 *	0.025	0.014	0.281
White	0.657	0.595	0.075	0.670	0.643	0.436
Offense Type						
Person	0.341	0.173	0.000 *	0.346	0.401	0.126
Property	0.484	0.422	0.081	0.467	0.440	0.457
Weapons	0.028	0.013	0.131	0.025	0.008	0.081
Drugs/Alcohol	0.083	0.296	0.000 *	0.091	0.088	0.897
Traffic	0.008	0.003	0.318	0.008	0.000	0.083

* $p < .05$

Before matching, the treatment and control group were relatively well balanced in terms of gender, the distribution of White youth, and offense types (property, weapons, and traffic offenses). Early Assessment participants and Diversion participants were significantly different in terms of age, type of offense (person, drugs/alcohol), and race. Prior to matching, Diversion participants were significantly older than Early Assessment participants (mean age 15.81 and 13.06, respectively). In addition, more Black youth were in Early Assessment and significantly fewer Hispanic youth were in Early Assessment, compared to Diversion. In addition, more youth committing offenses against a person were in the Early Assessment group while more

drug and alcohol offenders were in the Diversion group. There were no significant differences in terms of the other covariates. After matching, the treatment and control groups were well balanced across all covariates; no significant difference existed between the two groups. There were 364 treatment cases and 297 control cases on the common support.

After balancing on the covariates, we used Stata (version 11.0) to estimate the average treatment effect for the treated (ATT). The results are displayed in Table 3.

Table 3: Results from Propensity Score Matching analyses

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
Re-Offense at any time	Unmatched	0.150	0.490	-0.340	0.031	-11.02
	ATT	0.159	0.475	-0.316	0.083	-3.79
	ATU	0.492	0.424	-0.067	.	.
	ATE			-0.204	.	.
Re-Offense at One Year	Unmatched	0.088	0.128	-0.040	0.022	-1.84
	ATT	0.091	0.069	0.022	0.046	0.48
	ATU	0.114	0.279	0.165	.	.
	ATE			0.086	.	.
Re-Offense at Two Years	Unmatched	0.128	0.254	-0.126	0.028	-4.58
	ATT	0.135	0.143	-0.008	0.061	-0.13
	ATU	0.222	0.306	0.084	.	.
	ATE			0.033	.	.

A significant *t*-statistic for the ATT indicates that program participation accounts for a significant difference between the treatment and control groups in terms of the dependent variables. The commonly accepted critical value for a *t*-statistic is 1.96. Any *t*-value above 1.96 is significant. While the relationship between recidivism and participation in Early Assessment vs. Diversion was examined at three time periods (12

months, 24 months, and long-term/any recidivism), a significant difference existed only at time 3: long-term recidivism. The t -statistic for long-term recidivism was significant after matching ($t = -3.79$). In sum, youth who participate in Early Assessment, when compared to youth who participate in Diversion, are less likely to recidivate long-term. The difference in recidivism patterns is not due to referral patterns. For example, one might consider the fact that youth who complete Early Assessment still have an opportunity to complete Diversion. Thus, by definition, these youth should have a lower number of charges filed by the County Attorney. However, as we stated at the data section, youth were excluded from the sample if they had been referred to both programs – we *only* considered youth who had done one program or the other. Consequently, we know that differences in recidivism are not related to subsequent referrals to diversion. There is no difference in the recidivism rates of youth in each group when measured at 12-months or 24-months.

Because the propensity score is estimated only from known, observed covariates, it is possible that important variables have been omitted from these analyses. Omitting these hypothetical variables could result in hidden bias that might account for the significant relationship between long-term recidivism and Early Assessment participation (Guo & Fraser, 2010; Morgan & Winship, 2007). Therefore, we conducted a sensitivity analysis to determine how much hidden bias would be necessary before the relationship between recidivism and Early Assessment participation became non-

significant. In this analysis, gamma, which represents the degree to which hidden biases change the odds of belonging to the treatment group (Guo & Fraser, 2010), became significant at approximately 3.4. Thus it is likely that these results are fairly resistant to hidden bias. In other words, our results are not due to any hidden bias and it is likely that youth referred to Early Assessment are in fact significantly less likely to recidivate than their peers in Diversion.

Conclusion and Recommendations

The early assessment process implemented in Lancaster County appears to reduce recidivism when participating youth are compared to youth who participated in the Juvenile Diversion program.

This is an important finding, but should be interpreted with some caveats. Although the sensitivity analysis indicates that our results are fairly robust, it is conceivable that because the propensity score is estimated only from known, observed covariates, it is possible that important variables have been omitted from these analyses. It is possible that the inclusion of different covariates in the analyses could change our results. For example, where a youth lives (youth zip code, location of crime) could conceivably affect a youth's recidivism. However, we could only match on covariates that were included in both the Early Assessment dataset and the Diversion datasets.

Early assessment appears to offer an effective method of screening out those youth who 1) require minimal intervention and 2) are unlikely to recidivate. In this era

of dwindling budgets and cutbacks, programs that are both efficacious and cost-effective are critical. Timely case processing time and accurate assessment must continue for these results to continue. Future research could include matching across a greater number of variables and a follow-up longitudinal study to confirm recidivism findings. In the meantime, efforts should be made to promote this straightforward and cost effective model as an evidence based practice.

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Appendix

Appendix Table A: Coding of Offense Type

Person
Sexual Assault, Domestic Assault, Child Neglect, Assault, Sexual Abuse, Assault and Weapons Discharge, Assault and Vandalism, Disturbing the Peace, Disturbing the Peace and Vandalism, Disturbing the Peace and Trespassing, Disturbing the Peace by Fighting, Disturbing the Peace and Indecent Exposure, Indecent Exposure and In a Park After Hours, Disturbing the Peace by phone, Disturbing the Peace and Assault, Assault by Mutual Consent, Robbery, Intimidation by Phone Call, Public Indecency
Property
Forgery, Negligent Burning, Aid and Abet Shoplifting, Shoplifting, Arson, Aid and Abet violation of city code 9.04.010 steal money or goods, Aiding a Theft, Attempted Theft, Burglary, Aid and Abet Burglary, Concealed Merchandise, Larceny, Theft of Services, Theft from a Building, Theft by Deception, Theft by Receiving, Theft by Unlawful Taking, Unauthorized Use of Financial Device, Unauthorized Use of Motor Vehicle, Vandalism, Criminal Mischief, Aid and Abet Criminal Mischief, Possession of Stolen Property
Weapons
Use of a Destructive Device, Vandalism/Carry Concealed Weapon, Discharge Weapon, Bomb Threat, Carry Concealed Weapon, Discharge BB Gun in City Limits, Discharge Weapon in City, Explosives Threats
Drugs/Alcohol
Minor in Possession, Possession of Narcotic with Intent to Deliver/Robbery, Possession of a Legend Drug, Possess or Attempt to Obtain Legend Drugs, Possession with Intent to Deliver a Controlled Substance, Provide Tobacco to Minor, Sale of Prescription Drug Consuming Alcohol in Public Open Container, Maintain Disorderly House and Possession of Marijuana and Paraphernalia, Possession of a Controlled Substance, Possession of Drug Paraphernalia, Possession of Marijuana, Possession of Tobacco
Traffic
Careless Driving/No operator's license/No seatbelt, Driving without a license, POP violation/Traffic signal violation
Other
Trespassing, Trespassing/False Information, Littering, Obstruct Government Operations, Obstructing Driver, Open Burning/Trespassing, Possession of Fireworks, Possession of Illegal Fireworks, Discharge Fireworks where Prohibited, Enter a Park After Hours, Failure to Comply, False Information, Inmate of a Disorderly House, Resisting Arrest, Switch Tags, Urinate in Public, Body Art Practitioner Permit Required - No Parental Consent for Body Art on Minor