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**LONG-TERM IMPACT AND COST-EFFECTIVENESS OF RISK-NEEDS  
ASSESSMENT AND RISK-NEED-RESPONSIVITY (RNR) REFORMS IN  
JUVENILE PROBATION: THE LONG-TERM RNR-IMPACT STUDY**

**Technical Report Submitted to**

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## ABSTRACT

The Long-Term Risk-Need-Responsivity (RNR) Impact Study was a pre-post, quasi-experimental study of the impact of implementation of risk-needs assessment (RNA) and risk-need-responsivity-related (RNR) case management in five juvenile probation offices in two states. This study used three time points (pre-implementation, 1<sup>st</sup> year post-implementation, and 7<sup>th</sup>-year post-implementation) to examine the seven-year sustainability of impacts on system-responses (rates of informal processing, different dispositions, and out-of-home placements), youth outcomes (school and employment), and recidivism; as well as cost-effectiveness. This study also examined whether there was a significant difference in the impacts of implementation after seven-years between probation offices that were effective versus were ineffective in their first year of implementation. Every site was still using their RNA in the seventh year (two offices implemented the *Structured Assessment of Violence Risk in Youth* [Borum et al., 2006] and three used the *Youth Level of Service/Case Management Inventory* [Hoge & Andrews, 2006]). Adherence to their RNA policies increased significantly over seven years in all but one site, and probation officers reported strong adherence to the RNA and RNR in their decisions in all but one site. In the seventh year, the rates of informal processing increased and use of more serious dispositions significantly decreased in most every site, placement rates significantly decreased but only for the initially effective implementers, and recidivism rates significantly decreased in two sites. No sites significantly increased their costs in the 1<sup>st</sup> year or 7<sup>th</sup> year of implementation relative to the year prior to implementation but one site significantly cut its costs. In general, youth had significant improvements in school performance, attendance and employment over the course of supervision, but better tracking is needed in future studies to examine these outcomes. It was clear that probation offices can strengthen their implementation of evidence-based



practices over time, even if they are ineffective in the first couple of years. Studies that examine the quality of need-to-service matching, whether it improves over time, and its association with cost-effectiveness and other impacts studied here are a necessary next step.

## INTRODUCTION

The Long-Term Risk-Need-Responsivity (RNR) Impact Study examined the long-term impact of one prominent recommendation for juvenile justice reform: basing case management decisions on risk and criminogenic needs using valid risk-needs assessment (RNA). The National Research Council of the National Academy of Sciences (2013) strongly recommended valid RNAs be used to identify low-risk youth who could be handled less formally, to match youth to appropriate treatment, and to target high-risk youth for more intensive interventions. In addition, the Council of State Governments (Seigle et al., 2014) stated that use of a valid RNA for assigning supervision level, selecting services, and generally for resource-allocation was one of the four core principles for reducing recidivism and improving youth outcomes. Consequently, most states today have instituted an RNA instrument for use in case planning (Wachter, 2015). These recommendations stem from the principles of the risk-need-responsivity model (RNR, (Andrews, Bonta, & Hoge, 1990; Andrews & Bonta, 2003; Andrews & Bonta, 2010), which is the most widely studied case management model in justice settings. The association of the RNR approach with recidivism reduction has been supported in multiple meta-analyses (Andrews & Bonta, 2006; Andrews & Dowden, 2006; Dowden & Andrews, 1999; Dowden & Andrews, 2000; Dowden & Andrews, 2004; Gendreau et al., 2006; Lipsey, 2009). Briefly, the model indicates the highest risk offenders should receive the most intensive programming (*risk principle*), and the programming should target the individual's criminogenic needs (the dynamic risk factors that appear to be driving their offending; *need principle*) while considering factors that may affect treatment response (*responsivity principle*).

Despite widespread advances in adoption of RNAs, there have not been any studies examining the long-term impact of this reform effort. There are many challenges faced by

practitioners when implementing these instruments, and when translating information from RNAs into dispositional and case management decisions (National Research Council [NRC], 2013). Thus, it is crucial to determine whether these practices actually effectuate positive changes in the way the system responds to youth and in youth outcomes, and whether these positive changes can be sustained over time.

Another area in need of study is whether adoption of RNA instruments in the juvenile justice system is actually saving costs while also producing a benefit. Cost-benefit refers to the least costly way to achieve a specific goal (Tietenberg, 1996), in this case, reductions in reoffending. The cost-benefit of adoption of RNAs is often assumed in light of studies demonstrating that the services addressing risk and criminogenic needs are cost-effective (Romani et al., 2012), and studies indicating that implementation of an RNA can lead to reductions in confinement (Viljoen et al., 2019; Vincent, Guy, Gershenson, & McCabe, 2012). Alternatively, adoption of RNAs without sound implementation practices may lead to increased costs, particularly if low-risk youth continue to be required to attend community-based services (Fabelo et al., 2015), or receive secure or residential placements or high levels of supervision.

In light of the knowledge gaps, this quasi-experimental, pre-post prospective study examined the long-range impact of comprehensive implementation of valid RNAs and RNR-based practices on system-responses, positive youth outcomes, and recidivism, while also examining cost-effectiveness. ‘Long-range impact’ refers to whether the practice itself continued to result in lower rates of formal processing and confinement, as well as less severe dispositions in general. This study built on existing data from the *Risk/Needs Assessment in Juvenile Probation: Implementation Study* (RNAJP) (Vincent et al., 2016; Vincent, Paiva-Salisbury et al., 2012) of the changes in case processing effectuated by

implementing an RNA instrument with RNR in six juvenile probation offices in two states. The current study (the *Long-Term RNR Impact Study*) gathered data from a new cohort of youth from five of the original probation offices to examine the 7-year sustainability of impacts on system-responses and other outcomes, including cost-effectiveness.

## **Implementing Risk-Needs Assessment and Risk-Need-Responsivity in Juvenile Probation**

The risk-need-responsivity (RNR) framework has three primary principles. The *risk principle* suggests agencies should reserve most of their attention on the highest risk cases because lower risk cases do as well or better with minimal intervention (Hoge & Andrews, 2011). The *need principle* stipulates that programming should target the individual's dynamic risk factors that influence their offending to achieve the largest reduction in recidivism. The *responsivity principle* indicates programming also should consider how well the styles and modes of service are matched to an individual's attributes that may affect treatment response. To accomplish this, agencies must first conduct a valid risk-needs assessment (RNA) that accurately identifies each individual's risk level and dynamic risk factors (e.g., negative peer associations, impulsivity, poor anger control, pro-criminal thinking).

When translating RNR into juvenile justice practice, we would say the objectives of implementing RNA with RNR are to: a) reduce formal system involvement by identifying youths appropriate for diversion or informal processing, b) decrease rates of out-of-home and secure placements (confinement), c) promote positive youth outcomes by keeping youth in the community and in school and providing the programming they need, d) protect public safety by reducing reoffending, and e) potentially reduce costs by reallocating resources to only moderate to high risk youth (Andrews & Bonta, 2010; Seigle et al., 2014).

To investigate whether implementation of a RNA and RNR principles actually led to changes in the way youth justice cases were managed, researchers conducted the *Risk-Needs Assessment in Juvenile Probation Implementation Study* (RNAJP) funded by the John D. and Catherine T. MacArthur Foundation (Guy et al., 2014; Vincent, Paiva-Salisbury, et al., 2012; Vincent et al., 2016). The RNAJP study involved researcher-engaged, comprehensive implementation of the following policies and procedures in six juvenile probation offices: a) administration of a valid RNA by probation officers (POs) to every youth referred to the court or every youth adjudicated (depending on the site); b) making disposition, placement, and diversion recommendations in accordance with youths' risk levels; c) giving low risk youth fewer services and high risk youth more; d) designing case plans that addressed only youths' criminogenic needs and essential responsivity factors; and e) supervising low risk youth less and high risk youth more. Researchers trained probation officers in the RNA, the RNR approach, and in their new office policies (which were based on RNR principles) in the beginning of the study and again in a 6-month booster training. The study tracked outcomes for up to one year for two cohorts; a pre-implementation cohort of youth processed in the jurisdiction the year prior to implementation of the RNA and RNR process, and a post-implementation cohort of youth processed in the jurisdiction during the year following implementation of the RNA and RNR.

This reform effort fit well with the adolescent developmental science on psychosocial and cognitive maturity. Reoffending patterns, and consequently, risk, will change over time as youth mature and most will desist from offending in early adulthood (Farrington, 2007; Loeber et al., 2002; Moffitt & Caspi, 2001; Mulvey et al., 2010; Gatti et al., 2009). Deeper penetration into the juvenile justice system for many youths is associated with a greater likelihood of involvement in the adult system (Dishion et al., 1999); potentially as a consequence of their high susceptibility

to negative peer influences (Leve & Chamberlain, 2005; Hawkins et al., 2000) and the adverse impact on school or work achievement.

Results of the RNAJP study indicated that, compared to how the probation offices functioned prior to their implementation, sites with good adherence to their RNA administration procedures and RNR practices had significant changes in at least three of four of the system-response outcomes studied (e.g., reduced rates of out-of-home placements, less severe dispositions, number of services and supervision level related to risk level) (Vincent et al., 2016). These sites were considered *effective implementers*. There were two sites that had poor adherence to the RNA administration procedures and RNR practices. These sites had few to no changes in their outcomes (*ineffective implementers*). A key finding was that the one probation office that was unable to implement its risk-needs assessment to be completed pre-disposition had absolutely no changes in their outcomes after implementation. This led to strong recommendations for juvenile justice agencies to implement their RNAs pre-disposition.

Another key finding of the RNAJP study was that only one of the six probation offices had a significant reduction in recidivism, but no probation offices had an increase in recidivism. However, the 1.5-year follow-up was a relatively short period of time to investigate the actual impacts of implementation of these evidence-based practices on youth (Flores et al., 2006; Goldstein, 2011; Taylor, 2005). The current study extended the RNAJP study for another seven years to examine whether the positive outcomes were sustained, whether initially ineffective implementers improved, and whether recidivism reduction was an outcome that was achieved after a longer time period.

## Implementation Science and Sustainability

Questions regarding whether implementation of evidence-based practices is sustained are gaining increasing attention in many fields. A few concepts come into consideration, including the *quality* of implementation (fidelity), *effectiveness* of the implementation, the *duration* required to observe an actual impact on the consumer, and *sustainability*.

With respect to *quality*, there are several degrees of implementing reforms, many of which simply adopt the reform in name but do not actually relate it functionally to practice (Taylor, 2005; Haas & DeTardo-Bora, 2009). This often occurs with respect to adoption of RNA tools in justice settings. Staff may complete the assessments routinely but either report little to no use of the tools to guide their decisions (Miller & Maloney, 2013; Shook & Saari, 2007), or the data indicate case processing decisions are not in alignment with youths' risk (Fabelo et al., 2015). Consequently, some jurisdictions stop using RNAs within two years (Bonta et al., 2011).

*Effectiveness*, or whether implementation of a reform effort has an impact, can be examined at two levels (Taylor, 2005). First, there must be changes in thinking and behavior at the personnel level (*implementation-level outcomes*). Second, these functional components of change should lead to positive impacts for consumers (*impact-level outcomes*). Implementation-related studies have demonstrated that when RNAs were implemented well and paired with an effective case management strategy there was more likely to be an impact on the consumer (Barrett et al., 2008; Flores et al., 2006; Leve & Chamberlain, 2005; Vincent et al., 2016). At the personnel level, the RNAJP study found training on and use of a valid RNA and RNR led to significant changes in the practices of POs and their knowledge of developmental issues related to reoffending (Vincent, Paiva-Salisbury et al., 2012). In addition, there was a significant reduction in the percentages of

youth on their caseloads that they perceived to be high risk and most POs reported use of RNAs in their case planning.

With respect to *duration*, implementation science and studies of reform efforts suggest it requires about two to four years for adoption of a new practice to become fully operational (Goldstein, 2011; Taylor, 2005) to the point of having an impact on the consumer. The more complicated the procedural changes the longer it may take to achieve quality implementation (Bodilly, 1998). School-based reform studies, for example, have demonstrated it may require 3 to 5-years of sustained implementation of a new practice before it starts to impact student achievement (Slavin & Madden, 2000; Loman et al., 2010). In consideration of this evidence, the RNAJP finding that probation offices achieved several significant improvements in system-response related outcomes within one year after RNA and RNR implementation was fairly impressive. It may simply take longer to have an appreciable impact on recidivism. Indeed, adult system studies of effective RNA implementation found that reductions in recidivism did not occur until after three years (Flores et al., 2006).

In light of the duration required, in order for a juvenile justice reform to truly have an impact, it must also be *sustainable*. Two processes are important here (Haas & DeTardo-Bora, 2009): *sustained implementation*, meaning there is a consistently high level of fidelity to the practices of a reform program over the years, and *sustained impact*, meaning the improved outcomes to the consumer (i.e., young offenders and the juvenile justice system) are consistent or accumulated over time. Sustainability studies of school reforms have found schools that continued to use their new practice were still engaging in the practice for an average duration of seven years after adoption, ranging 4-10 years (Durlak, 2013),



whereas those that did not continue engaging in the practice ended implementation after an average two years. Trajectories of reform efforts can take several forms, even among those that continue the practice. The reform may...:

1. Establish itself but in name only and eventually be abandoned (*nominal reform*).
2. Establish itself and persist but in name only (*resident reform*).
3. Establish itself, change the system, and then pass away leaving little evidence that it ever occurred (*transient reform*).
4. Establish itself, change the system, but gradually give way to the forces of inertia, persisting in name only (*temporary reform*).
5. Overtake whatever preceded it so completely that it is institutionalized as the status quo (*sustained implementation*); or
6. Achieve a dynamic equilibrium, making continual adjustments to fit the needs of a continually changing environment (aka *innovative* [Taylor, 2005]).

In sum, because of the challenges involved in some reform efforts, it cannot be assumed that ineffective implementation displayed in the early stages of adoption will persist because some agencies may simply take longer to become functional.

## **RESEARCH QUESTIONS AND OBJECTIVES**

The intention of this Long-Term RNR-Impact Study was to extend the RNAJP study by gathering an additional wave of data to examine the 7-year sustainability of the impacts of implementation of a risk-needs assessment instrument (RNA) and risk-need-responsivity-based (RNR) practices. RNAJP was a quasi-experimental, pre-post study of the changes in case processing occurring after implementing an RNA and RNR in six juvenile probation offices in two states (Vincent et al., 2016; Vincent, Paiva-Salisbury et al., 2012).

Both states implemented well-validated RNA tools, specifically: The *Structured Assessment of Violence Risk in Youth* (SAVRY; Borum et al., 2006) in Louisiana and the *Youth Level of Service/Case Management Inventory* (YLS/CMI; Hoge & Andrews, 2006) in Pennsylvania. The study examined impacts (e.g., changes in placement rates, service referrals) by comparing propensity-score matched cohorts of youth processed in each probation office before implementation (*pre-implementation cohort*) and after implementation (*1<sup>st</sup> year post-implementation cohort*) of an RNA and RNR-based policies and decision support tools (e.g., case plan templates, disposition recommendation templates).

The current project gathered new data from samples of youth referred to the courts or adjudicated (depending on which decision-point the site used for conducting its risk-needs assessment) in 2017 from five of the RNAJP probation offices (three in Pennsylvania and two in Louisiana). Two of the five sites (one per state) were initially ineffective implementers and three were effective implementers. The current project's objective was to examine the 7-year sustainability of evidence-based practices in these probation offices, as well as the long-term impacts, by comparing within each office, the outcomes before implementation of their RNA and RNR (pre-implementation in 2008) to outcomes one year after implementation (in 2009 or 2010), and to outcomes 7-years after implementation (2017). An additional objective was to investigate whether sites with initially poor adherence to their policies and no changes in outcomes had improved after seven years. The third objective was to examine the cost-effectiveness of implementing an RNA and RNR. The four primary research questions were as follows:

***Question 1: Do RNA with RNR reform procedures have a long-term impact on system responses and positive youth outcomes 7-years after the implementation effort?***

The system response related-outcomes studied included use of informal versus formal processing, severity of dispositions, and likelihood of out-of-home placements (confinement). The study examined whether probation offices regressed, sustained their impact, or improved over time. To infer that outcomes could be attributed to RNR-based procedures, each system-response was examined for its correlation to risk-level (adherence to the risk principle). The youth outcomes were education and employment status at the beginning versus the end of juvenile justice involvement, or to the end of the study, whichever came first.

***Question 2: Does RNA with RNR reform have an impact on public safety 7-years after the implementation effort?*** The study compared rates of recidivism between the three cohorts within each site to examine whether there was a significant reduction in recidivism by the 7<sup>th</sup> year.

***Question 3: Does the 1<sup>st</sup>-year effectiveness of implementation continue to affect the impacts of RNA with RNR practices after 7 years?*** There is evidence that the effectiveness of early implementation practices is related to sustainability (Durlak, 2013); however, this cannot be assumed and, in the case of RNA with RNR reform efforts, it has never been studied. Thus, this study examined whether initial implementation effectiveness interacted with time (cohort) in the presence and rate of change in system response and recidivism outcomes.

***Question 4: Was implementation of the RNA and RNR reform efforts cost-effective?*** The study examined whether implementation of the RNA with the RNR approach was more

cost-effective than practices within each site prior to implementation. This study was able to examine whether there were larger impacts on cost-effectiveness after the intervention had been in use for 7 years that were achieved in the first year.

We report the methods and results of this study in three sections:

1. Implementation-level outcomes: Before examining any impact of implementation of an intervention, it is first essential to determine whether the probation offices were adhering to policies for administration of their risk-needs instruments and RNR-based procedures. If they were not maintaining implementation fidelity, any changes in outcomes could not be attributed to this intervention. By the 7<sup>th</sup> year of implementation (7<sup>th</sup> year cohort), compared to the 1<sup>st</sup> year of implementation (1<sup>st</sup> year cohort), adherence to policies and practices for effective implementers may have *regressed* (worse adherence than the first year; temporary reform), *sustained* (had the same high level of adherence as in the first year), or *improved* over time (higher fidelity to policies and practices than in the first year; innovative). Similarly, the initially ineffective implementers may have *regressed* (even worse adherence than before; nominal reform), *maintained* (adherence is not worse but also is not better), or *improved* over time. We investigated implementation-level outcomes in three ways: 1) review of current policies and qualitative interviews with chief probation officers and designated administrators, 2) interviews with probation officers about their practices, and 3) examination of youth-level risk-needs assessment data to determine whether the RNAs were administered in accordance with policies.
2. Impact-level outcomes: The section reports comparisons of the three matched cohorts of youth in rates of outcomes related to system responses.

3. Cost-effectiveness: This section reports the methods and results of the cost-effectiveness study.

## GENERAL STUDY METHODS

### Design Overview

This multi-method study used a rigorous, quasi-experimental design in five probation offices (*sites*). The initial implementation in the first year was staggered in an attempt to mitigate cohort effects. The current study (Long-Term RNR Impact Study) conducted qualitative and quantitative data gathering across multiple sources, including administrators, probation officers, and probation files and/or administrative databases. The study compared youth-level data from a new cohort of participants from 2017 (*7th-year post-implementation cohort*) to the existing RNAJP study *pre-implementation* (2008) and *1st-year post-implementation* (2009-2010) *cohorts*. The pre-implementation cohort's outcomes were each site's *baseline* prior to the RNA and RNR implementation. The investigators propensity-score matched youth in the 7<sup>th</sup> year cohort to the pre-implementation and 1st-year cohorts within each site along a variety of juvenile justice history, demographic, and psychosocial history variables. The study tracked system-response, positive youth, and recidivism outcomes over a period of time for each cohort, with the minimum follow-up period being held constant across cohorts within sites. The minimum follow-up periods were dependent upon the length of time required to obtain adequate samples within each cohort, which varied across time due to systemic changes (see Table 1 for follow-up periods).

The PI initiated this study by conducting in-person interviews (see Appendix A) with the chief probation officer or equivalent, their designated top manager or supervisor, and a staff member responsible for the office data system at each site. These interviews served multiple purposes, including a) establishing the data-gathering and study procedures for the respective

site, b) gathering qualitative data regarding any changes over the past seven years that may impact the outcomes of interest (e.g., the structure of the probation department, its stakeholders, new legislation, service availability), c) obtaining new risk assessment administration and use policies; and d) gathering information related to costs. Every probation department was still using the RNA they implemented in 2009.

### **Sites (Probation Offices)**

The sites for this study were five of the original six probation offices in the RNAJP study: three in Pennsylvania and two in Louisiana. We excluded one original RNAJP site because it was the only state-run probation office while the rest were county or parish-run, which introduces different implementation issues. The sites were matched between states in terms of their rural versus urban location, size with respect to volume of youth served (high, moderate, or low), and initial base rates of out-of-home placements for their youth, with at least one site in each state having very low baserates. Two other requirements for inclusion in the RNAJP study were that the probation offices a) could not have a risk assessment instrument already in place, and b) had to agree to implement the RNA instrument pre-disposition and use it for dispositional recommendations and case planning. Table 1 presents the relevant characteristics of each probation office. It is important to note that PA Sites 2 and 3 conducted only partial implementation in their first year and so the original research design was modified accordingly (see Table 1). PA Site 3 was large and therefore, chose to implement the YLS/CMI in only one probation unit initially. Thus, a matched control unit served as the ‘pre-implementation cohort’ and the 1<sup>st</sup> and 7<sup>th</sup> year cohorts were drawn from the initial implementing unit.

**Table 1***Site Descriptions and Methods*

	Louisiana Site Number /SAVRY		Pennsylvania Site Number/ YLS		
	1	2	1	2	3 <sup>b</sup>
Annual Referral Rate up to 2009	High	Low	High	Low	High
Pre-Implementation (Baseline) Placement Rate	High	Low	Moderate	Low	High
Location	Urban	Rural	Urban	Rural	Urban
RNA Implementation Date	February 2009	February 2009	June 2009	June 2009	October 2009
Timing of RNA	Post-adjudication/ pre-disposition	Pre-disposition	Pre-adjudication at probation intake <sup>a</sup>	Pre-adjudication at probation intake <sup>a</sup>	1 <sup>st</sup> year – post-disposition & 7 <sup>th</sup> year - pre- adjudication
Initial Implementation Effectiveness	Effective	Ineffective	Effective	Effective	Ineffective
<i>N</i> Probation Officers (7 <sup>th</sup> year)	22	17	19	21	8
<i>N</i> 7 <sup>th</sup> year Cohort Before Match	251	126	251	150	151
<i>N</i> Each Cohort After Match	205	92	221	104	108
Sample selection method					
Pre-implementation	Random, adjudications April to October 2008	Consecutive, all adjudications in 2008	Random, referrals April to October 2008	Consecutive, all referrals in 2008	Consecutive, all adjudications for 6 months-control unit

1 <sup>st</sup> Year Post-Implementation	Consecutive, all adjudications for 6 months	Consecutive, all adjudications for 11 months	Consecutive, all referrals for 6 months	Consecutive, all referrals for 9 months	Consecutive, all adjudications for 6 months – implementation unit
7 <sup>th</sup> Year Post-Implementation	Consecutive, all adjudications for 13 months	Consecutive, all adjudications for 10 months	Consecutive, all referrals for 8 months	Consecutive, all referrals for 11 months	Consecutive, all adjudications for 8 months – implementation unit
Minimum Case Data Follow-Up Period, Each Cohort	7	9	11	8	8
Case Data Tracking-Follow-Up Periods <i>M</i> Months(SD):					
Overall	9.02 (3.92) <sup>c</sup>	12.89 (4.70) <sup>d</sup>	9.32 (4.61) <sup>c</sup>	10.95 (3.67) <sup>f</sup>	9.94 (3.77) <sup>g</sup>
Pre-implementation cohort	8.64 (3.18)	14.11 (4.40)	9.48 (3.95)	10.37 (3.60)	9.79 (3.83)
1 <sup>st</sup> Year Cohort	8.68 (3.54)	13.17 (4.88)	9.43 (4.58)	10.33 (3.37)	9.68 (3.58)
7 <sup>th</sup> Year cohort	9.75 (4.77)	11.42 (4.43)	9.06 (5.22)	12.15 (3.76)	10.35 (3.88)
Recidivism Tracking -Follow-Up Periods <i>M</i> Months (SD):					
Overall	11.89 (3.06) <sup>h</sup>	15.79 (3.47) <sup>i</sup>	15.30 (2.33) <sup>j</sup>	14.31 (3.37) <sup>k</sup>	12.37 (2.59) <sup>l</sup>
Pre-implementation cohort	10.65 (1.67)	16.69 (3.69)	14.55 (2.12)	14.02 (3.41)	11.96 (3.01)
1 <sup>st</sup> Year Cohort	10.81 (2.15)	15.89 (2.99)	14.75 (2.13)	14.07 (3.38)	12.29 (2.49)
7 <sup>th</sup> Year cohort	14.22 (3.55)	14.82 (3.48)	16.60 (2.19)	14.84 (3.28)	12.85 (2.16)

*Note.* <sup>a</sup> Completed the RNA pre-adjudication because there was a well-staffed probation intake unit and the state had legal protections in place to prevent RNA information from being disclosed to the court prior to adjudication.

<sup>b</sup> Because this site processed a very high rate of cases, they implemented the RNA with RNR in just one unit as a pilot. Thus, the study at this site used a control group design selecting a similar unit within the probation department, rather than the pre-post implementation design. The control site was used for the pre-implementation cohort. The 7<sup>th</sup> year cohort was gathered from the new version of the initial implementation unit.



<sup>c</sup>There was a statistically significant difference between groups ( $F(2, 612) = 5.329, p = .005$ ) such that the 7<sup>th</sup> year cohort had a significantly longer follow-up than the pre-implementation and 1<sup>st</sup> year cohorts, following a post-hoc test,  $p = .012$  and  $p = .015$ , respectively.

<sup>d</sup>The average follow-up period was significantly shorter for the 7<sup>th</sup>-year cohort than other two cohorts,  $F(2, 271) = 8.171, p < .001$ ; significance following post-hoc analysis ( $p < .001$ ) for the 7<sup>th</sup> year cohort compared to the pre-implementation cohort, and ( $p = .027$ ) for the 7<sup>th</sup> year cohort compared to the 1<sup>st</sup> year cohort.

<sup>e</sup>The average follow-up period did not significantly differ between the three cohorts:  $F(2, 657) = .560, p = .572$ .

<sup>f</sup>There was a significant difference between groups ( $F(2, 309) = 8.799, p < .001$ ) such that the 7<sup>th</sup> year cohort had a significantly longer follow-up period than the other two cohorts, following a post-hoc analysis ( $p = .001$ ).

<sup>g</sup>The average follow-up period did not significantly differ between the three cohorts:  $F(2, 321) = .959, p = .384$ .

<sup>h</sup>There was a statistically significant difference between groups ( $F(2, 612) = 125.075, p < .001$ ) such that the 7<sup>th</sup> year cohort had a significantly longer follow-up than the pre-implementation and 1<sup>st</sup> year cohorts ( $p < .001$ ).

<sup>i</sup>The average follow-up period was significantly shorter in a post-hoc analysis ( $p = .001$ ) for the 7<sup>th</sup>-year cohort than the pre-implementation cohort;  $F(2, 273) = 7.01, p = .001$ .

<sup>j</sup>The average follow-up period for the 7<sup>th</sup> year cohort was significantly longer than the other two cohorts:  $F(2, 660) = 60.94, p < .001$ , following a post-hoc analysis ( $p < .001$ ).

<sup>k</sup>The average follow-up period did not significantly differ between the three cohorts:  $F(2, 309) = 1.97, p = .142$ .

<sup>l</sup>The average follow-up period was significantly longer for the 7<sup>th</sup> year cohort than the pre-implementation cohort;  $F(2, 321) = 3.387, p = .035$ , following a post-hoc test ( $p = .028$ ).

## **Initial Implementation Protocol**

A detailed description of the implementation procedures followed for the RNAJP study has been reported elsewhere (Vincent, Paiva-Salisbury, et al., 2012). The most relevant details are summarized briefly here. Implementation began with the researchers working alongside stakeholders at the state-level to assist with the selection of their risk-needs assessment instrument. Next, following detailed phone interviews with every probation officer regarding their case management practices, researchers conducted an orientation training with probation officers and stakeholder groups (e.g., judges, attorneys) about risk/needs assessment, risk-need-responsivity, and how best to implement it in their office or system. Second, researchers used information obtained from probation officers to work with administrators to develop and implement comprehensive policy and decision-support tools (e.g., disposition recommendations template, service matrix to select services that address criminogenic need areas, case plans) regarding how and when the RNA would be administered and used in decisions. These policies and tools were directly in-line with RNR practices, including how to determine disposition recommendations and communicate recommendations to judges, how to match supervision level and number of service referrals to risk level, and how to match services to criminogenic needs. The policies also included quality assurance procedures for monitoring completion of the RNAs and reviews of the assessments and case plans by supervisors.

Sites differed with respect to how they implemented their RNA pre-disposition. In Louisiana, probation did not have intake units so both sites strived to conduct the assessment post-adjudication/pre-disposition, with LA Site 1 permitting assessments to be conducted shortly after disposition for youth who did not receive the assessment earlier. In Pennsylvania, two of the sites (PA Sites 1 and 2) had intake units so wrote policy to conduct the RNA pre-adjudication

at probation intake. PA Site 3 was not able to implement the RNA pre-disposition in its first year due to lack of judge buy-in, so all youth received the RNA post-disposition.

After the initial policies and procedures were developed, probation officers completed a 2-day workshop about administration of their RNA, completed three practice cases over the subsequent two-months and received feedback on their ratings, and completed a half-day workshop about the new policies, RNR, and the research support for this practice. The probation officers all received booster training on their RNA and case planning six months later.

### **Risk-Needs Assessment Instruments**

*Youth Level of Service/Case Management Inventory* (YLS/CMI; Hoge & Andrews, 2006, Hoge & Andrews, 2011)

The YLS/CMI comprises 42 static and dynamic risk factors across eight scales (e.g., Attitudes/Orientation). Total scores based on summing the dichotomously rated items are used to assign youths to an actuarial-based categorical risk level (Low, Moderate, High, or Very High). Evaluators also can rate responsivity factors and provide their own estimate of risk for future offending; however, this professional judgment rating was not implemented in Pennsylvania until after the first-year cohort data were gathered. Meta-analyses of many studies indicate the YLS/CMI has good predictive validity for both non-violent and violent reoffending (Olver et al., 2014). The RNAJP study found the probation officer's inter-rater reliability (IRR) with youth cases in the field during the first year of implementation was high for the YLS/CMI total score ( $ICC_1 = .84$ ; Guy & Vincent, 2011) based on 61 double-rated youth cases. A new version of the YLS/CMI came out in 2011, which changed the risk level cutoff scores and made the cutoffs specific to each gender. There were no other changes to the items or scoring. Pennsylvania implemented the YLS/CMI Version 2 just prior to this study's data gathering for the 7<sup>th</sup> year

cohort. Because jurisdictions and probation officers were trained to use risk levels to guide decisions, we did not adjust the 1<sup>st</sup> year cohort's YLS/CMI risk level cutoffs to match the new cutoffs used for the 7<sup>th</sup> year cohort.

### ***Structured Assessment of Violence Risk in Youth*** (SAVRY; Borum et al., 2006)

The SAVRY was designed to assess violence risk in adolescents aged 12–18 years; however, it also is a valid assessment of non-violent offending, with effect sizes that are comparable to the YLS/CMI (Olver et al., 2009). The SAVRY comprises six protective factors (rated absent or present) and 24 risk factors (rated as low, moderate, or high) and contains both static and dynamic risk factors. The SAVRY is a structured professional judgment instrument such that the final determination of an examinee's overall level of risk for violence or reoffending is the examiner's Summary Risk Rating (SRR; low, moderate, high risk). The SRR is based on the evaluator's professional judgment as informed by a systematic appraisal of the most relevant risk and protective factors, including idiosyncratic factors noted by the evaluator. Meta-analyses have shown the SAVRY to have good predictive validity in a variety of young offender populations that is comparable to actuarial tools (average AUCs of 0.71; Singh, Grann, & Fazel, 2011). The field inter-rater reliability reported for probation officers in their first year of implementation in the original RNAJP study was good for the SRR ( $ICC_1 = .71$ ) and excellent for total scores ( $ICC_1 = .86$ ) based on 80 double-rated cases (Vincent, Guy, Fusco, & Gershenson, 2012). The SAVRY risk level used in this study was the summary risk rating assigned by the probation officers.

### **Initial Implementation Effectiveness**

Initial implementation effectiveness was a characteristic of each probation office (effective or ineffective) based on performance in their first year of implementation only. Thus,

the categorization of sites based on their implementation effectiveness was not based on their performance in 7<sup>th</sup> year of implementation. Implementation effectiveness was defined according to the site's a) initial adherence to their RNA administration policy (the percentage of eligible youth who were administered the risk/needs assessment), and b) initial adherence to RNR practices as indicated by significant associations between youths' risk levels and system-responses (i.e., severity of dispositions, number of services referred, out-of-home placements, and supervision levels). Initially effective implementers were sites found by the RNAJP study to have at least an 85% adherence rate to administering their RNA to eligible youth and all four system-response outcomes studied were significantly related to youths' risk levels in the expected direction. Conversely, initially ineffective implementers were sites that did not meet either of these benchmarks, with 84% or less of youth receiving a risk-needs assessment and few if any system-responses significantly related to risk level. PA Sites 1 and 2 and LA Site 1 were effective implementers, and PA Site 3 and LA Site 2 were ineffective (see Table 1) based on results of the RNAJP study (Vincent et al., 2016).

## **SECTION 1: IMPLEMENTATION LEVEL OUTCOMES: METHODS AND RESULTS**

### **Relevant Site-Level Changes Since the First Year of Implementation**

#### ***Overview of Changes and Practices in Pennsylvania Site***

In Pennsylvania, many significant activities to promote reform efforts occurred in the juvenile justice system since 2010, which started with adoption of the YLS/CMI, leading to the adoption of many other practices. Language was adopted in the juvenile act requiring juvenile justice agencies to use evidence-based practices and the Juvenile Court Judges Commission (JCJC) started requiring probation offices to have the YLS/CMI in order to receive grants-in-aid. JCJC designed its [Juvenile Justice System Enhancement Strategy](#), which outlined a process of

system reform that included the YLS/CMI, RNR and motivational interviewing, followed by changing youth behavior through quality case management, evidence-based practices, graduated response, and skill-building. Thus, JCJC provided resources for probation offices to get advanced training on case management and skill-building, including statewide adoption of the [Carey Guides Brief Intervention Tool](#).

The state adopted legislation requiring every youth have a colloquy prior to going to court for a fact-finding hearing to get signed permission that the youth made an admission (if applicable) of their own free will. In addition, it was mandatory for all youth to get regular dispositional review hearings every 30 to 90 days to determine whether it was still necessary for the youth to be under supervision. The changes resulted in more time in court for probation officers but may have decreased the average amount of time youth stayed on supervision.

With respect to training and quality assurance practices, JCJC and the probation chief's committee instituted a process for recertification of state YLS/CMI master trainers biannually and booster trainings twice a year for all probation officers. These practices were used by each study site. Each PA site in the current study instituted regular supervisory reviews of the YLS/CMIs. PA sites 1 and 2 also implemented reviews to ensure the services recommended by probation officers were addressing needs on the YLS/CMI. PA site 2 actually added the quality of probation officers' YLS/CMI and need-to-service matching to their performance evaluations. PA Site 3 did not have a process for monitoring case planning. Other changes over the seven-year period that were specific to individual PA study sites are provided in Appendix B.

### ***Overview of Changes and Practices in Louisiana Sites***

In Louisiana, the juvenile justice system experienced major changes to the payment structure for community-based services, such that the payer shifted from being the Louisiana

Office of Juvenile Justice to being multiple managed care organizations. The managed care organizations also covered evidence-based practices, which led to a large increase in availability of these services. This process started during the probation offices' first year of RNA and RNR implementation. In 2013, the system adopted juvenile detention standards that reduced the number of youths who could be housed in a detention facility. This led to a shift in use of more community-based services.

With respect to training and quality assurance practices as reported by probation managers, LA site 1 continued to give probation officers booster trainings on their RNA once per year, included SAVRY and case plan training as part of the orientation for new probation officers, and maintained quality assurance by supervisors checking the quality of the SAVRYs and case plans. LA Site 2 did not provide regular in-house boosters and had only one booster from an outside party since 2010. Their supervisors routinely checked the quality of case plans but not SAVRYs. Other changes specific to each Louisiana site are provided in Appendix B.

### **Adherence to Risk-Needs Assessment Administration Policies**

Only one site out of the five changed its policy regarding when the risk-needs assessment was to be administered since their original implementation in 2009. In 2014, PA Site 3 (initially ineffective implementer) changed its policy from post-disposition to pre-adjudication assessments. The new policy was for the YLS/CMI to be conducted within 20 days of the intake hearing, unless the youth or family refused, in which case it was to be completed within 10 days of the finding of fact. This was a significant change exemplifying a major improvement because the YLS/CMI was initially conducted post-disposition. This change led to significant differences in their youth sample characteristics gathered in the 7<sup>th</sup> year versus the 1<sup>st</sup> year, particularly with respect to number of prior offenses.

The RNA administration policies for the other four sites that did not have significant changes since 2009 were as follows:

- LA Site 1 (initially effective implementer): This site continued to administer the SAVRY post-adjudication/pre-disposition or within 10 days of case assignment (post-disposition) if the SAVRY could not be administered pre-disposition. Youth who did not require, but could have, SAVRYs were deferred dispositions, unsupervised cases, and cases with 90 days or less probation.
- LA Site 2 (initially ineffective implementer): The SAVRY was to be administered for every case upon adjudication and was to be part of the pre-disposition report, with the exception of youth younger than 10 or older than 17 years.
- PA Site 1 (initially effective implementer): The YLS/CMI was to be completed pre-adjudication with all youth except those charged with only non-payment of fines, or whose cases were withdrawn or dismissed.
- PA Site 2 (initially effective implementer): The YLS/CMI was to be completed pre-adjudication for youth expected to be adjudicated. Cases excluded from the YLS/CMI were those expected to be withdrawn, dismissed, warned and released, or diverted to the Youth Aid Panel. During the 1<sup>st</sup> year cohort data collection, this site was just piloting its YLS/CMI implementation and, therefore, assigned just half of its probation officers to complete the YLS/CMI. They used the same policy with respect to which youth were not required to receive a YLS/CMI; however, some youth in the RNAJP 1<sup>st</sup> year cohort did not receive the YLS/CMI until post-disposition because some of the piloting officers were not assigned the case before disposition.



We evaluated change in each site's adherence to their risk-needs assessment policy by using administrative and probation file data for youth in the 1<sup>st</sup> and 7<sup>th</sup> year cohorts to document whether a risk-needs assessment had been completed and when. We allotted an extra 10-day window between court hearing dates and assessment dates to adjust for potential date errors in the coding of whether the policy was followed in each case. Adherence to policy was not applicable for PA Site 2 in the first year because of their partial implementation process. All youth in the 1<sup>st</sup> year cohort for PA Site 2 had a YLS/CMI.

Table 2 provides each site's percent adherence to completion of the RNA for eligible youth, and the overall rate of adherence to policy, which factors in both whether the RNA was completed and whether it was completed at the right time. In the 1<sup>st</sup> year of implementation, PA Site 1 and LA Site 1 both had over 85% adherence to completion of their instruments but lower adherence to their policy regarding when it was completed. PA Site 3 and LA Site 2 had poor adherence in the 1<sup>st</sup> year of implementation, with PA Site 3 actually administering the YLS/CMI to less than 40% of its eligible youth.

By 2017, adherence to policy significantly improved in three sites, regressed in one site, and one site (PA Site 2) could not be evaluated for change due to the nature of its initial implementation. Table 2 demonstrates the site with the greatest improvement was PA Site 3, which greatly increased its percentage of youth who received the YLS/CMI (37.04% to 96.30%, respectively). The percent of cases with a YLS/CMI completed within the policy timeframe was still relatively low; however, the fact that over 50% of the 7<sup>th</sup> year cohort received the YLS/CMI pre-disposition exemplified a substantial improvement. PA Site 1 also improved by increasing both the percentage of youth who received a YLS/CMI and the percentage who received it within the policy timeframe (see Table 2). It is important to note that the percentage of cases for

which PA probation officers adhered to their administration policies reported in Table 2 may be slight underestimates because whether the youth or parent refused the assessment prior to the adjudication hearing was not recorded. In these cases, it would have been appropriate for probation officers to not conduct the YLS/CMI until after adjudication, which usually translated into after disposition.

**Table 2**

*Adherence to Risk/Needs Assessment Administration Policies by Site and Cohort*

	1 <sup>st</sup> Year Cohort		7 <sup>th</sup> Year Cohort		Comparing Rates of Adherence $\chi^2$ (df), phi (CI), p-value
	RNA Completed n(%)	Adherence to Policy n(%)	RNA Completed n(%)	Adherence to Policy n(%)	
<b>Pennsylvania</b>					
Site 1 (n = 221)	190 (85.97%)	152 (68.78%)	209 (94.57%)	173 (78.28%)	5.13(1), .11 (.01, .20), $p = .02$
Site 2 (n = 104)	104 (NA)	104 (NA)	99 (95.19%)	99 (95.19%)	NA
Site 3 (n = 108)	40 (37.04%)	29 (28.71%)	104 (96.30%)	67 (62.04%)	23.34(1), .33 (.20, .46) $p < .001$
<b>Louisiana</b>					
Site 1 (n=205)	185 (90.24%)	165 (82.50%)	180 (87.80%)	142 (93.42%)	9.24(1), .16 (.07, .25), $p = .002$
Site 2 (n = 92)	76 (82.61%)	47 (57.32%)	69 (75.00%)	22 (25.29%)	17.93(1), -.33 (-.47, -.19) $p < .001$

*Note.* NA = not applicable. The *n*'s in the first column represent the number of cases in each cohort. All percentages were calculated using the cohort *n* as the denominator (percent of total cases).

In LA Site 1, even though a smaller percentage of the 7<sup>th</sup> year cohort than the 1<sup>st</sup> year cohort had a completed SAVRY, adherence to the timing of the SAVRY's completion improved significantly (see Table 2). This is because they greatly increased their informal cases in the 7<sup>th</sup> year cohort so many of the youth without a SAVRY were not required to have one (e.g., unsupervised probation cases). These cases were included in the cohorts because these informal

processing decisions were made post-adjudication and these youth did get a SAVRY more often than not (in the 7<sup>th</sup> year cohort, 53 youth who were not required to have a SAVRY had one). LA Site 1 managed to complete most of their SAVRYs pre-disposition in both years (65% year 1, 60% year 7). The site that regressed was LA Site 2 which went from less than 83% of youth receiving a SAVRY to 75% of youth receiving a SAVRY and only a quarter of these youth received the SAVRY pre-disposition as stated in their policy (see Table 2).

### **Adherence to Risk-Need-Responsivity-Based Practices: Probation Officer Interviews**

We interviewed all probation officers and supervisors at the five sites who were responsible for conducting, using, or supervising the use of RNAs to investigate whether they were adhering to RNR-based practices. We also tested probation officers' knowledge of the YLS/CMI or SAVRY and risk-need-responsivity by asking them to complete knowledge tests.

#### ***Sample***

There were 87 probation officers (POs), including 13 supervisors involved with risk-needs assessments in some manner across the five sites. All 87 POs completed the two study knowledge tests and all but the three POs who were on leave completed a phone interview ( $n = 84$ ). The majority of the POs interviewed (91.66%) were responsible for conducting the initial risk-needs assessments with youth when they entered the system. Only a few POs only conducted reassessments and a few POs were supervisors who did not conduct assessments themselves. The POs had an average of over seven years-experience working in their juvenile probation office, and 40 had been working in the office since their risk-needs assessment was first implemented. Only 10 POs had worked in the probation office for under one year. Thus, we would expect most of the POs to perform well on their knowledge tests and to be using RNR-based practices.

**Table 3***Probation Officer Characteristics (N =84)*

	Pennsylvania						Louisiana				Overall	
	Site 1		Site 2		Site 3		Site 1		Site 2		n	%
	n	%	n	%	n	%	n	%	n	%		
<b>Sample</b>												
Total # of POs in dept	19	-	21	-	8	-	22	-	17	-	87	-
# POs interviewed (% of all POs in dept)	18	94.74	21	100	7	87.50	21	95.45	17	100	84	96.55
# POs completed quizzes (% of all POs in dept)	19	100	21	100	8	100	22	100	17	100	87	100
<b>Experience</b>												
# POs completing quizzes who were in dept since RNA implementation (2009)	12	63.16	11	52.38	1	12.50	12	54.54	4	23.53	40	45.98
# POs who conduct full risk assessments	17	94.44	21	100	7	100	17	81.95	15	88.23	77	91.66
Months in current position (M, SD)	90.56 (88.35)		120.79 (94.75)		85.11 (121.78)		80.90 (83.18)		44.06 (51.28)		85.84 (87.71)	
Months working with JJ involved youth (M, SD)	192.94 (100.33)		218.29 (103.16)		191.00 (133.76)		160.38 (106.00)		140.41 (108.88)		180.34 (108.39)	
<b>Characteristics</b>												
Gender: Female	9	47.37	5	23.81	2	25.00	11	50.00	8	47.06	35	40.23
Age (M, SD)	41.50 (9.68)		41.43 (9.08)		42.29 (10.99)		41.62 (9.74)		36.94 (9.44)		40.65 (9.56)	
<b>Race</b>												
White	15	83.33	21	100	7	100	9	42.86	10	58.82	62	73.81
Black	3	16.67	-	-	-	-	11	52.38	6	35.29	20	23.81
Asian	-	-	-	-	-	-	1	4.76	-	-	1	1.19
Other	-	-	-	-	-	-	-	-	1	5.88	1	1.19
Latinx	1	5.56	1	4.76	2	28.57	1	4.76	-	-	5	5.95
<b>Current Position</b>												

Supervisor	1	5.56	3	14.29	3	42.86	3	14.29	3	17.65	13	15.48
FINS Officer	-	-	-	-	-	-	-	-	4	23.53	4	4.76
Field or Intake POs	17	94.44	13	61.90	4	57.14	17	80.95	10	58.82	61	72.62
Other	-	-	5	23.81	-	-	1	4.76	-	-	6	7.14
Education												
Two college degrees	-	-	-	-	-	-	1	4.76	-	-	1	1.19
Some grad school	-	-	1	4.76	-	-	-	-	-	-	1	1.19
Bachelor's degree	13	72.22	10	47.62	5	71.43	7	33.33	15	88.23	50	59.52
Master's degree	5	27.78	10	47.62	2	28.57	13	61.90	2	11.76	32	38.09

*Note.* *N* = Sample size; % = Percent of probation office sample

Table 3 presents the demographic characteristics of the sample overall and by site. The majority of POs were White (73.8%), male (60.7%), and had a bachelor's degree or higher (97.8%). LA Site 2 had the youngest and least experienced POs (M = 44.1 months, SD = 51.3 months) compared to the other sites where the range was an average 80.9 to 120.8 months. All POs provided their verbal consent to be interviewed and were informed that the interview was completely voluntary, confidential, and would not affect their employment. There were no refusals to be interviewed.

## **Measures and Procedures**

### ***Risk-Needs Assessment and RNR Knowledge Tests***

POs completed two knowledge tests; one about their risk-needs assessment and one about RNR principles (see Appendix C for tests). The 13-item YLS/CMI quiz was created by Robert Hoge, author of the YLS/CMI. The 17-item SAVRY quiz was created by the PI for use in SAVRY trainings. The 30-item RNR test was created by the investigators of the Risk Needs Assessment and Behavioral Health Screening Study funded by the OJJDP (Guy et al., 2015). Each test was scored based on the percent correct.

### ***Adherence to RNR***

Consenting probation officers completed an interview with one of five trained research assistants (see Appendix C for interview) that gathered both quantitative and qualitative data. Interviewers entered interview data into the REDCap online platform, including answers to open-ended questions. The interviewers asked probation officers about their experiences and roles with their RNA and case management. Then interviewers asked questions to gauge probation officers' adherence to RNR-based principles within four areas: disposition recommendations, service recommendations, supervision level, and probation violations. Each

section started with an open-ended question in an attempt to understand the factors involved in each area of the POs' decision-making (e.g., "What information do you consider in your disposition recommendations? What factors or issues are most important?") prior to direct questioning about their use of the RNA in the particular decision. Interviewers asked for probation officers' consent to be audio recorded so that they could type up their responses to open-ended questions after the interview, at which time the audio recordings would be destroyed. The interviewers typed up the responses to the open-ended questions, which they then coded as 0 'no mention of the RNA', 1 'mentioned the RNA or its criminogenic need areas directly', or 2 'mentioned the RNA indirectly' (e.g., stated they pay attention to youths' *needs* and then listed risk factors in the RNA, stated decisions are based on what they gather in the interview process). The final coding of each of the five open-ended questions was based on consensus between the interviewer and the PI.

After the open-ended question, POs were asked five questions to rate their use of the SAVRY or the YLS/CMI specifically on an 8-point scale (0 = Never and 7 = Always). The first four questions regarded their use of the instruments in decisions and were adapted from a national survey of risk assessment use in probation settings designed by Miller and Maloney (2013). Generally, these questions asked how often do they 1) make a recommendation that corresponds with the RNA risk level (or that targets the need areas identified by the RNA for services), 2) make a more restrictive recommendation than the RNA risk level indicates (or disregard need areas identified on the RNA), 3) make a less restrictive recommendation than the RNA risk level indicates (or target needs not identified on the RNA), and 4) make a recommendation without consulting the RNA. The fifth question in each area asked them to rate, on an 8-point scale, how useful they found the RNA to be for the particular decision. Additional policy-related questions

in the interview asked POs whether the RNA could have any impact on informal processing decisions in their jurisdiction, whether they had seen and used their office's service matrix, and whether there was someone in their office who could answer questions about the RNA if needed. See Appendix D for a copy of the interview.

## RESULTS

### Knowledge Tests

The results of the knowledge tests are displayed in Table 4. Performance on the YLS/CMI and SAVRY quizzes could not be compared between states because each state only received the quiz for the specific RNA the state implemented. The average score on the YLS/CMI quiz among the three PA sites was 64% correct (SD = 15%) but was significantly lower for PA Site 3 (46%, SD = 13%) than the other two sites;  $F(2, 45) = 8.99, p = .001$ . The average score on the SAVRY quiz among the two LA sites was 61% (SD = 11%) and was a fair bit higher, but not significantly different, in LA Site 1 than in LA Site 2 but the groups were small;  $t(37) = .87, p = .39$ . The average score on the RNR quiz, which was completed by all 87 probation officers, was 63% (SD = 11%) and this did not differ significantly by state;  $t(76.34) = 1.15, p = .25$ . The new POs did not have appreciably different scores than the others.



**Table 4***Knowledge Test Scores by Site (Mean % Correct)*

	Knowledge Test		
	SAVRY <i>M</i> (SD)	RNR <i>M</i> (SD)	YLS <i>M</i> (SD)
Pennsylvania			
<b>Site 1 (n = 19)</b>	-	62% (.24)	67% (.14)
<b>Site 2 (n = 21)</b>	-	68% (.17)	68% (.12)
Site 3 (n = 8)	-	60% (.09)	46% (.13)
Overall Pennsylvania (n = 48)	-	64% (.19)	64% (.15)
Louisiana			
<b>Site 1 (n = 22)</b>	66% (.09)	64% (.09)	-
Site 2 (n = 17)	63% (.10)	56% (.11)	-
Overall Louisiana (n = 39)	65% (.10)	61% (.11)	-

*Note.* Sites in bold were effective implementers in the 1<sup>st</sup> year of implementation.

### **Adherence to RNR in Decision-Making**

Table 5 provides the results from both the open-ended and the scale-response questions in the probation officer interviews by decision area and by site, as well as for the whole sample. The site *n*'s were too small to compare sites statistically. The first rows within each of the four decision areas report results of the coding of POs' qualitative responses from the open-ended questions regarding what information they reported using to make their respective decisions (e.g., disposition recommendations). The 'yes, directly' row reports the percentage of POs who mentioned the RNA or criminogenic need areas directly, and the 'yes, indirectly' row is the percentage of POs who referenced 'needs' more generically, the RNA interview process or some other element of the RNA indirectly. The remaining rows within each area report the average responses on the 8-point scale questions about use of the RNA in their decisions.

With respect to disposition decisions, it is important to note that only 69 of the 84 POs were in a role that involved making disposition recommendations. Of these 69, over 60% of POs mentioned considering information from the RNA when making disposition recommendations (see Table 5). For the POs that did not mention their site's RNA, the most common factors they

reported considering in their disposition recommendations were the current offense, youth's offense history, prior compliance, school behavior, and the home environment. The average response on other items indicated they made recommendations that corresponded with youths' risk levels most of the time, rarely made recommendations that were more or less restrictive than the risk level would indicate, and rarely made recommendations without consulting their RNA (see Table 5). With the exception of PA Site 3, POs also generally found the RNA to be useful for disposition recommendations. In PA Site 3, only 25.00% mentioned using the RNA in their disposition recommendations, and this group was most likely to make recommendations that did not correspond with risk level.

With respect to informal processing, most POs who had some involvement with youth at this stage (66.70%) indicated the RNA could have some impact on decisions regarding whether to handle a youth informally. The exceptions were LA Site 2 (33.30% of POs said their RNA could have an impact on informal processing decisions) and PA Site 3 (14.30% said the RNA could have an impact). The POs in Louisiana mentioned that whether youth would be diverted or receive deferred dispositions (also informal processing) was determined by district attorneys before any RNA had been conducted, but POs could recommend unsupervised probation after conducting a SAVRY. In PA sites, POs reported that the district attorney might defer their diversion decisions on occasion to wait for the POs' recommendation. In PA, many POs indicated that the YLS/CMI was factored into informal adjustment dispositions, but not into consent decrees, which were the default recommendation unless the youths' 'risk was too high'.

Most of the POs interviewed indicated that they had some say in making service referrals for case planning purposes (76 out of 84). Among these POs responsible for case planning, a little less than 60% mentioned, either directly or indirectly, that they consider their RNA need

areas for this purpose. The most common factors considered in service recommendations among POs who did not mention the RNA were mental health evaluations, trauma, and family dynamics or the home environment. The LA Sites were the least likely to mention the RNA or criminogenic need areas for service recommendations (close to only 40.00%). Conversely, examination of their mean responses on the direct questions with 8-point scale response options reported in Table 5 indicated the POs has an average score indicating that they targeted criminogenic needs identified on their RNA close to always ( $M = 6.19$ ,  $SD = 1.26$ ).

Overall, rarely did POs give responses indicating that they disregarded needs on their RNA or did not consult their RNA for service referrals. However, it wasn't uncommon to target needs not identified on their RNA ( $M = 2.91$ ,  $SD = 1.90$ ). Another measure of RNR policy adherence was whether POs used their office service matrix to select services that matched youths' criminogenic needs. Sixty percent of POs said they use their service matrix, and about 17% said they used it initially but not anymore. Overall, the site with lowest adherence to RNR with respect to service referrals and case planning was PA Site 3.

With respect to supervision level, 63 of the 84 POs had some responsibility for assigning youths' level of supervision or contact with the PO during community supervision. As Table 5 reflects, there was relatively high adherence to use of the offices' RNA for assigning supervision level, 84% of POs mentioned that the RNA was what they considered in their supervision level decisions when asked an open-ended question. Again, PA Site 3 reported the lowest RNR adherence where they indicated it was not uncommon to assign supervision levels without consulting the YLS/CMI.

**Table 5**

*Probation Officer Interview Ratings for Their Use of Risk-Needs Assessments in Decisions by Site*

	Pennsylvania			Louisiana		Overall M(SD) <i>n</i> = 69
	1 M(SD) <i>n</i> = 17	2 M(SD) <i>n</i> = 19	3 M(SD) <i>n</i> = 4	1 M(SD) <i>n</i> = 15	2 M(SD) <i>n</i> = 14	
<b>Disposition Recommendations</b>						
Mentioned using RNA for disposition recommendations in qualitative response						
Yes, directly <sup>a</sup>	52.94%	57.89%	25.00%	33.33%	57.14%	49.27%
Yes, indirectly	17.65%	10.53%	0%	26.66%	0%	13.04%
Recommendation corresponds with RNA risk level	4.82(2.07)	5.68(.95)	4.00(1.83)	5.80(1.01)	6.29(.82)	5.52(1.46)
Made a more restrictive recommendation than the risk level would indicate	1.82(1.51)	1.79(1.40)	2.50(1.00)	1.67(1.34)	1.36(1.22)	1.72(1.35)
Made a less restrictive recommendation than the risk level would indicate	2.00(.97)	2.00(1.73)	2.75(2.06)	2.07(1.91)	1.14(1.03)	1.88(1.53)
Made a recommendation without consulting the RNA	1.65(1.93)	.32(.95)	2.75(3.02)	.67(1.29)	1.00(1.57)	1.00(1.68)
Useful for disposition recommendations	4.53(2.03) <i>n</i> = 17	5.05(1.35) <i>n</i> = 21	3.25(2.75) <i>n</i> = 5	5.53(1.06) <i>n</i> = 17	5.57(1.65) <i>n</i> = 16	5.03(1.71) <i>n</i> = 76
<b>Service Recommendations</b>						
Mentioned using RNA for selecting services in qualitative response						
Yes, directly <sup>a</sup>	41.18%	80.95%	40.00%	17.65%	31.25%	44.74%
Yes, indirectly	11.76%	0%	20.00%	23.53%	12.50%	11.84%
Target criminogenic needs identified by RNA	6.35(.61)	6.29(1.15)	5.50(1.91)	5.76(1.89)	6.50(.82)	6.19(1.26)
Disregard some needs identified by RNA	1.35(1.69)	1.57(1.60)	.75(.96)	1.12(1.93)	.38(.72)	1.12(1.57)
Target needs not identified in the RNA	2.76(2.05)	2.86(1.98)	4.75(2.50)	2.94(1.71)	2.63(1.67)	2.91(1.90)
Make service recommendations without consulting the RNA	2.76(2.14)	1.19(1.57)	4.00(3.16)	1.24(1.85)	.88(1.36)	1.64(1.99)
Uses the office service matrix						
n(%) Yes	25.00%	73.68%	25.00%	68.75%	80.00%	42(60.00%)
n(%) Used to but not anymore	25.00%	5.26%	50.00%	12.50%	20.00%	12(17.14%)

Useful for service recommendations	5.24(1.75)	5.67(1.24)	5.25(1.71)	5.76(1.35)	5.94(1.95)	5.63(1.56)
<b>Supervision Level</b>	<b>n = 13</b>	<b>n = 18</b>	<b>n = 4</b>	<b>n = 13</b>	<b>n = 15</b>	<b>n = 63</b>
Mentioned using RNA for supervision level in qualitative response– all were direct	84.61%	94.44%	75.00%	76.92%	80.00%	84.13%
Made a recommendation that corresponds with the RNA risk level	5.38(1.80)	6.22(.94)	6.00(1.15)	6.69(.48)	6.87(.35)	6.29(1.14)
Made a more restrictive recommendation than the risk level would indicate	2.23(2.28)	2.00(.97)	1.25(2.50)	1.31(1.38)	.93(1.44)	1.60(1.63)
Made a less restrictive recommendation than the risk level would indicate	1.38(1.32)	1.83(1.25)	2.25(2.63)	1.00(1.15)	1.07(1.83)	1.41(1.51)
Made a recommendation without consulting the RNA	1.08(2.25)	.28(.75)	3.25(3.77)	.54(1.94)	.40(.91)	.71(1.81)
Useful for making decisions about youth supervision level	5.62(2.22)	5.50(1.04)	4.25(3.10)	6.15(1.46)	6.47(.83)	5.81(1.61)
<b>Probation Violations</b>	<b>n = 15</b>	<b>n = 18</b>	<b>n = 6</b>	<b>n = 17</b>	<b>n = 13</b>	<b>n = 69</b>
Mentioned using RNA for probation violations in qualitative response						
Yes, directly <sup>a</sup>	26.66%	27.77%	16.66%	0%	30.77%	20.29%
Yes, indirectly	13.33%	0%	0%	0%	0%	2.90%
Made a recommendation that corresponds with the RNA risk level	4.40(2.16)	5.33(1.41)	3.33(2.66)	5.35(1.45)	6.31(.95)	5.14(1.82)
Made a more restrictive recommendation than the risk level would indicate	2.27(1.94)	2.28(1.32)	3.50(1.87)	2.12(1.90)	1.00(1.00)	2.10(1.71)
Made a less restrictive recommendation than the risk level would indicate	1.80(1.47)	1.72(1.18)	3.50(2.74)	2.18(1.81)	.54(.88)	1.78(1.69)
Made a recommendation without consulting the RNA	2.60(2.80)	1.06(1.59)	3.67(3.08)	1.59(2.09)	.62(1.12)	1.67(2.25)
Useful for determining best response to probation violations	4.00(2.42)	5.11(1.78)	3.83(2.86)	4.53(1.94)	5.69(1.38)	4.72(2.06)

*Note.* Ratings ranged from 0 (Never) to 7 (Always). A "yes, directly" - the specific tool or its criminogenic need areas were mentioned. "yes, somewhat" – mentioned youths' needs, specific dynamic risk factors, or the interviewing process but did not say SAVRY or YLS directly.

The lowest use of the RNAs as reported by POs was in guiding recommendations to the courts about how to respond to violations of probation. Less than a quarter mentioned the RNA being part of their decision and it had low average usefulness ratings ( $M = 4.72$ ,  $SD = 2.06$ ). However, every office had a graduated response matrix to guide the PO recommendations when youth violated probation. An important component of these matrices is youths' risk levels. Thus, POs may just not have been making this connection between the SAVRY and the YLS/CMI to their recommendations about how to respond to probation violations.

### **Differences by Implementation Effectiveness**

There was a significant difference in performance on the RNR knowledge test by initial implementation effectiveness with the initially effective implementers ( $M = 65\%$ ,  $SD = 17\%$ ) scoring better on the quiz than the ineffective implementers ( $M = 58\%$ ,  $SD = 10\%$ );  $t(72.04) = 2.36$ ,  $p = .02$ . The initially ineffective implementer sites had more POs that were new in the past year ( $n = 7$ ) than the effective implementer sites ( $n = 3$ ); however, this did not seem to explain the differences in test scores. Average performance on the RNR test was 63% for both the newer and the more experienced POs.

We also attempted to examine whether there were significant differences in POs' reporting of their adherence to RNR principles between sites that initially had effective versus ineffective implementation of their RNA. The results are presented in Table 6 and indicate the groups were not significantly different on most items, however, the sample size of POs for the ineffective group was small ( $n = 18$ ). There were only two significant differences, both in a surprising direction. The initially effective implementers were more likely to disregard some needs identified by their RNA when making service recommendations and were more likely to give youth a more restrictive supervision level than the RNA would indicate (see Table 6).

**Table 6***Probation Officer Ratings for Their Use of Risk-Needs Assessments in Decisions by Initial Implementation Effectiveness*

	Initial Implementation Effectiveness		Statistics
	<i>Effective</i> M(SD)	<i>Ineffective</i> M(SD)	
<b>Disposition Recommendations</b>	<b>n = 51</b>	<b>n = 18</b>	
Mentioned using RNA for disposition recommendations in qualitative response	66.67%	50.00%	$\chi^2(1, N = 69) = 1.57, p = .21$
Recommendation corresponds with RNA risk level	5.43(1.47)	5.78(1.44)	$t(67) = -.86, p = .39, d = .24$
Made a more restrictive recommendation than the risk level would indicate	1.76(1.39)	1.61(1.24)	$t(67) = .41, p = .68, d = .11$
Made a less restrictive recommendation than the risk level would indicate	2.02(1.56)	1.50(1.42)	$t(66) = 1.24, p = .22, d = .35$
Made a recommendation without consulting the RNA	.86(1.52)	1.39(2.06)	$t(67) = -1.14, p = .26, d = .29$
Useful for disposition recommendations	5.02(1.57)	5.06(2.10)	$t(67) = -.08, p = .94, d = .02$
<b>Service Recommendations</b>	<b>n = 55</b>	<b>n = 21</b>	
Mentioned using RNA for selecting services in qualitative response	60.0%	47.62%	$\chi^2(1, N = 76) = .95, p = .33$
Target criminogenic needs identified by RNA	6.15(1.31)	6.30(1.23)	$t(73) = -.47, p = .64, d = .12$
Disregard some needs identified by RNA	1.36(1.71)	.45(.76)	$t(70.05) = , p = .002, d = .69^{**}$
Target needs not identified in the RNA	2.85(1.89)	3.05(1.99)	$t(73) = -.39, p = .70, d = .10$
Make service recommendations without consulting the RNA	1.69(1.95)	1.50(2.16)	$t(73) = .36, p = .72, d = .09$
Useful for making decisions about youth supervision level	.84(.64)	1.21(.53)	$t(73) = -.58, p = .56, d = .14$
<b>Supervision Level</b>	<b>n = 44</b>	<b>n = 19</b>	
Mentioned using RNA for supervision level in qualitative response	86.36%	78.95%	$\chi^2(1, N = 63) = .55, p = .46$
Made a recommendation that corresponds with the RNA risk level	6.11(1.26)	6.68(.67)	$t(61) = -1.86, p = .07, d = .56$
Made a more restrictive recommendation than the risk level would indicate	1.86(1.58)	1.00(1.63)	$t(61) = 1.97, p = .05, d = .53^*$
Made a less restrictive recommendation than the risk level would indicate	1.45(1.27)	1.32(2.00)	$t(61) = .33, p = .74, d = .08$

Made a recommendation without consulting the RNA	.59(1.67)	1.00(2.11)	$t(61) = -.82, p = .41, d = .21$
Useful for making decisions about youth supervision level	5.73(1.57)	6.00(1.73)	$t(61) = -.61, p = .54, d = .16$
<b>Probation Violations</b>	<b><math>n = 50</math></b>	<b><math>n = 19</math></b>	
Mentioned using RNA for probation violations in qualitative response	22.00%	26.31%	$\chi^2(1, N = 69) = 1.4, p = .70$
Made a recommendation that corresponds with the RNA risk level	5.06(1.71)	5.37(2.14)	$t(67) = -.62, p = .53, d = .16$
Made a more restrictive recommendation than the risk level would indicate	2.22(1.69)	1.79(1.75)	$t(67) = .93, p = .35, d = .25$
Made a less restrictive recommendation than the risk level would indicate	1.90(1.49)	1.47(2.14)	$t(67) = .94, p = .35, d = .23$
Made a recommendation without consulting the RNA	1.70(2.22)	1.58(2.36)	$t(67) = .20, p = .84, d = .05$
Useful for determining best response to probation violations	4.58(2.05)	5.11(2.08)	$t(67) = -.94, p = .35, d = .26$

*Note.* Ratings ranged from 0 (Never) to 7 (Always). A “yes, directly” - the specific tool or its criminogenic need areas were mentioned. “yes, somewhat” – mentioned youths’ needs, specific dynamic risk factors, or the interviewing process but did not say SAVRY or YLS directly.

\*\*\*  $p < .001$ .



## SUMMARY OF MAIN FINDINGS: IMPLEMENTATION-LEVEL OUTCOMES

Overall, adherence to the RNA administration policies and RNR-based practices was strong enough to examine the long-term impacts of implementation of these practices. All sites still had policies regarding consistent use of their RNA. All but one site (LA Site 2) met the minimum level of adherence for the proportion of youth being administered the instrument (85%; see Vincent et al., 2016) in order to be effective. The primary findings were:

- By their 7<sup>th</sup> year of implementation, all five probation offices were striving to complete their RNA pre-disposition, which is the optimal decision point to fully implement the RNR approach in later case processing decisions. PA Site 3 (the one anomaly in the first year) had a change in leadership that led to significant improvements to policy.
- Adherence to administration of the SAVRY or YLS/CMI significantly improved in most sites. LA Site 2 was the exception where the percentage of youth receiving a SAVRY regressed from 83% to 75%. All other sites completed their RNA for over 85% of their eligible youth in the 7<sup>th</sup> year cohort. For PA Site 3 this was an especially dramatic increase from the mere 37% of youth receiving the YLS/CMI in the 1<sup>st</sup> year of implementation.
- Adherence to policies regarding the timing of completion of the RNAs also significantly improved in every site but LA Site 2. In LA Site 2, completion of the SAVRY pre-disposition occurred in only 25% of cases. The findings indicate it is challenging for probation offices to complete their RNA post-adjudication and pre-disposition (LA Site 2). Administrators in LA Site 2, for example, noted the low adherence was due to changes in their judiciary that occurred after the 1<sup>st</sup> year of implementation and led to increases in the court practice of setting a disposition at the same time as the adjudication.

- The probation officers received average scores on the YLS/CMI, SAVRY, and RNR knowledge tests with few exceptions. PA Site 3 had below average scores on the YLS/CMI test, and LA Site 2 had below average scores on the RNR test. Both of these sites were initially ineffective implementers.
- According to probation officer interviews, adherence to use of RNAs in RNR-based decisions was generally high in most sites for disposition recommendations, service referrals and case planning, and supervision level assignments. POs in PA Site 3 reported the lowest adherence to use of their RNA in all decisions.
- Use of RNAs in crafting recommendations for responses to probation violations was considerably lower than in other decisions. However, every office implemented a graduated response matrix sometime after their 1<sup>st</sup> year of RNA implementation, which rely on youths' risk levels, at least in part. It is likely that POs adhering to use of their matrix simply did not consider the fact that the graduated response automatically factors in risk level.

## **SECTION 2: IMPACT-LEVEL OUTCOMES: METHODS AND RESULTS**

This section reports the methods and results of analyses of youth-level data to measure whether the RNA and RNR implementation had a sustainable impact in the following areas.

*Question 1: Did RNA with RNR reform procedures have a long-range impact on system response-related and positive youth outcomes 7-years after implementation?*

*Question 2: Did RNA with RNR reform have an impact on public safety 7-years after implementation?*

*Question 3: Did the effectiveness of implementation in an offices' 1<sup>st</sup> year continue to affect the impacts of RNA with RNR practices after 7 years?*

### **Youth Sample Acquisition**

The final youth sample included the propensity-score matched pre- and 1st-year post-implementation cohorts (*pre-implementation* and *1<sup>st</sup> year cohorts*) gathered for the RNAJP study (Vincent et al., 2016) along with a new cohort of youth obtained seven years later (*7-year cohort*). The 7<sup>th</sup> year cohort was generated by obtaining all continuous youth cases who should have received a risk-needs assessment according to the current probation offices' policies (i.e., all youth referred to the court or all youth adjudicated, depending on the site) starting January 1<sup>st</sup>, 2017 onward, until a sufficient number of cases were obtained. This Long-Term RNR Impact Study retained the same youth cases from the first two cohorts and used propensity-score matching to select matched cases from the new 7<sup>th</sup>-year cohort. Table 1 provided the number of youth cases obtained for the 7<sup>th</sup> year cohort by site before and after propensity-score matching with the earlier cohorts in each site. The propensity score matching procedures are described in the data analysis section. The demographic and psychosocial characteristics of the 7<sup>th</sup> year

cohort's matched youth are in Table 7 by site, and all characteristics of the prior two cohorts are in Appendix F.

### **Data Collection Procedures and Operationalization of Variables**

The majority of data for this study came from local probation and/or state administrative databases, including youth demographic information, juvenile court history, current offense, dates of hearings, disposition dates and types, placement dates and locations, results of all RNAs conducted, and services received. Different individuals (*coders*) were trained to conduct local coding at each site. In two sites, these were trained graduate-level probation interns, in two sites they were administrative staff, and in one site these were probation officers. The coders coded youth data related to psychosocial history variables from probation files (e.g., social summaries, JPOs' notes) based on the youths' status at the time of intake (e.g., prior mental health or substance abuse treatment, child welfare involvement, school status). At two sites (LA Site 1 and PA Site 3), most all of the administrative data needed for this study had to be coded from probation files using a coding sheet created by the investigators (see Appendix E). Most coders also used probation files to obtain education and employment status at completion of supervision, or at the end of the follow-up period, whichever came first. In Louisiana, education and employment data at the end of youths' supervision was gathered directly from POs on an 'exit sheet' designed for the study (see Appendix E). The investigators conducted biweekly calls with the coders at every site and obtained data on a monthly basis to conduct quality assurance.

**Table 7**

*Final Matched Sample Youth Characteristics by Site and Overall: 7<sup>th</sup> Year Post-Implementation Cohort*

	Overall (N = 730)	LA S1 (n = 205)	LA S2 (n = 92)	PA S1 (n = 221)	PA S2 (n = 104)	PA S3 (n = 108)	Statistics
<b>Gender</b>							
% Female	23.97%	24.39%	23.91%	24.43%	25.00%	21.30%	$\chi^2(4) = .530, p = .970,$ V = .03 [.03, .13]
<b>Race</b>							
% African American/Black	50.68%	81.95%*	59.78%	24.89%*	11.54%*	74.07%*	$\chi^2(8) = 249.41, p < .001,$ V = .41 [.38, .46]
% White	47.26%	16.59%*	40.22%	74.66%*	80.77%*	23.15%*	
% Other	2.05%	1.46%	0.00%	0.45%	7.69%*	2.78%	
% Latinx	9.18%	1.46%*	0.00%*	16.74%*	6.73%	18.52%*	$\chi^2(4) = 51.15, p < .001,$ V = .27 [.22, .32]
Age at Study Start (at time of referral or adjudication)	M = 15.50 SD = 1.80	M = 14.97 <sup>c,e</sup> SD = 1.69	M = 15.02 <sup>c,d</sup> SD = 1.77	M = 15.66 <sup>d</sup> SD = 1.82	M = 16.18 <sup>d,e</sup> SD = 1.64	M = 15.95 <sup>d,e</sup> SD = 1.73	$F(4, 729) = 12.85, p < .001, \eta^2 = .066$ [.03, .10]
<b>Index Offense Category</b>							
% homicide	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
% major sex offense	4.25%	4.39%	6.52%	3.17%	5.77%	2.78%	
% robbery or kidnap	3.29%	1.95%	2.17%	0.00%	1.92%	14.81%	
% assault/arson intent	20.68%	21.46%	16.30%	20.81%	21.15%	23.15%	
% threats or harassment	3.29%	0.00%	1.09%	7.24%	3.85%	2.78%	
% minor sex offense	1.10%	0.00%	1.09%	1.36%	3.85%	0.00%	
% theft/break & enter/fraud	21.64%	27.32%	33.70%	14.03%	19.23%	17.59%	--
% arson	0.68%	0.49%	0.00%	1.81%	0.00%	0.00%	
% weapons offense	4.11%	3.41%	4.35%	7.24%	1.92%	0.93%	
% drug offense	14.38%	4.39%	7.61%	18.55%	20.19%	25.00%	
% miscellaneous offenses	20.27%	23.41%	7.61%	25.79%	22.12%	12.04%	
% violation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
% status offense	6.30%	13.17%	19.57%	0.00%	0.00%	0.93%	

% Violent Index Offense	28.22%	27.80%	25.00%	23.98%	28.85%	40.74%	$\chi^2(4) = 10.89, p = .028,$ $V = .12 [.07, .21]$
Age at First Offense	$M = 14.47$ $SD = 2.01$	$M = 13.44^c$ $SD = 1.76$	$M = 13.50^c$ $SD = 1.77$	$M = 15.27^d$ $SD = 1.93$	$M = 15.37^d$ $SD = 1.65$	$M = 14.78^d$ $SD = 1.87$	$F(4, 729) = 41.10, p < .001, \eta^2 = .185$ [.13, .23]
% Any Violent Priors	17.26%	30.73%*	28.26%*	7.69%*	1.92%*	16.67%	$\chi^2(4) = 65.17, p < .001,$ $V = .30 [.24, .36]$
Mean # of Prior Arrests	$M = 0.88$ $SD = 1.51$	$M = 1.38^c$ $SD = 1.67$	$M = 2.05^d$ $SD = 2.17$	$M = 0.40^c$ $SD = 0.98$	$M = 0.29^c$ $SD = 0.80$	$M = 0.49^c$ $SD = 0.93$	$F(4, 729) = 37.83, p < .001, \eta^2 = .173$ [.12, .22]
% Any Axis I Diagnosis	34.25%	40.00%	45.65%	17.19%	49.04%	-- <sup>a</sup>	$\chi^2(4) = 4.13, p = .389,$ $V = .09 [.05, .19]$
% Any Axis II Diagnosis	14.52%	9.76%*	20.65%	15.84%*	19.23%	-- <sup>a</sup>	$\chi^2(4) = 25.19, p < .001,$ $V = .21 [.14, .32]$
% Prior or Current Outpatient Mental Health Treatment	31.51%	38.54%*	29.35%	13.57%*	52.88%*	36.11%	$\chi^2(8) = 216.12, p < .001,$ $V = .39 [.35, .44]$
% Prior or Current Outpatient Substance Abuse Treatment	11.92%	2.44%*	4.35%*	13.57%*	28.85%*	16.67%	$\chi^2(4) = 66.24, p < .001,$ $V = .34 [.28, .42]$
% Regular School Attendance	56.03%	41.46%*	52.17%	84.62%*	63.46%	22.22%*	$\chi^2(8) = 140.41, p < .001,$ $V = .32 [.29, .37]$
% Good School Performance	48.63%	23.41%*	38.04%*	81.90%*	66.35%*	21.30%*	$\chi^2(4) = 174.38, p < .001,$ $V = .53 [.47, .59]$
% Enrolled in School	93.56%	92.20%	95.65%	94.57%	93.27%	92.59%	$\chi^2(4) = 8.06, p = .090,$ $V = .11 [.06, .19]$
Living Arrangement							
% Both Parents	17.40%	8.78%*	25.00%*	18.10%	28.85%*	14.81%	
% Single Parent	63.56%	64.88%	56.52%	68.78%*	58.65%	61.11%	$\chi^2(12) = 47.89, p < .001,$
% Relative	12.19%	20.98%*	11.96%	6.33%*	5.77%*	13.89%	$V = .17 [.14, .23]$
% Other institution	6.16%	4.39%	5.43%	6.79%	6.73%	8.33%	
% History of Child Welfare Involvement	26.44%	29.27%	26.09%	12.22%*	37.46%*	37.96%*	$\chi^2(4) = 37.34, p < .001,$ $V = .23 [.18, .31]$

<sup>a</sup> Indicates cells where data were not able to be obtained reliably from files.

<sup>b</sup> Prior offenses were based on charges or court referrals depending on which data were available in the particular site. This variable counted the number of times youth had been charged/referred rather than the number of actual offenses.

\* indicates that the value is significantly larger or smaller than would be expected if the null hypothesis were true ( $p \leq .01$ ; Adj. Residual  $\geq 2.58$ ).

Means that do not share subscripts (<sup>c-e</sup>) differ by  $p < .05$  according to Scheffé's test of multiple comparisons.

The final follow-up date for tracking youths' data and recidivism in the 7<sup>th</sup> year cohort was August 31, 2018, with the exception of PA Site 3 where the follow-up date was earlier (May 31, 2018) because a shorter follow-up period was required to stay consistent with the other cohorts in this site. The researchers controlled the minimum length of the follow-up to be the same for each cohort within each site because it was essential to compare rates of outcomes (placements and recidivism) over the same time periods. The minimum follow-up periods varied by site and were based on the longest period possible across the cohorts within a site (see Table 1 for follow-up periods). Despite this control, as Table 1 indicates, there were still significant differences in the average lengths of follow-up between cohorts within sites as a result of the variable number of months required to obtain adequate sample sites. Thus, some analyses adjusted follow-up lengths.

The study also obtained and tracked data regarding whether cases were lost at follow-up and why (e.g., moved out of state, AWOL, transferred to adult court) on the coding sheets utilized by research assistants and on the exit sheets completed by PO's. Youth lost at follow-up were excluded from the placement and school/employment outcome analyses, recidivism analyses, or all of the above depending on the reason each youth was excluded.

### ***Initial Dispositions and Disposition Severity***

In order to examine changes in rates of informal vs. formal processing, in addition to changes in rates of the severity of dispositions, this study defined dispositions as the initial decision that was made regarding the youth's supervision. The initial disposition could have occurred without an adjudication (e.g., informal adjustment) or following an adjudication (e.g., probation). We defined disposition severity according to the level of restrictiveness on one's civil liberties with an informal option (e.g., informal adjustment) being the least severe and a secure or non-secure out-of-home placement being the most severe. If youth had multiple types of



dispositions (e.g., detention for one month followed by probation) we counted the most severe disposition. We did not count pre-adjudication detention unless the youth was sent to detention and subsequently received a disposition of ‘time served’, in which case, the time spent in detention was considered the youth’s disposition.

### ***Out-of-Home Placements***

Out-of-home placements were defined as any removal from the home associated with considerable supervision, including detention, shelters, group homes, residential facilities, inpatient settings, and secure correctional facilities. We did not count foster care placements because foster care does not restrict community mobility. We defined placement outcomes in three ways. The first outcome was rates of out-of-home *placements occurring at disposition*, as described in the initial disposition section. The second outcome was whether youth spent any time in a placement up until the end of their supervision (including at disposition), or before the end of the follow-up period whichever came first. These placements were separated into two categories: *delinquency placements at any time*, which included detention, secure correctional facilities, secure private institutions, non-secure delinquency placements, open residential programs, and residential treatment program; and *any placements at any time*, which included all the delinquency placements as well as shelters, group homes, and placements designed for drug and alcohol (residential) or mental health (inpatient) treatment.

It was essential to examine placements occurring at disposition versus at any time during supervision separately because it is more common for youth to receive a placement as a result of a supervision failure than as a result of their disposition. Thus, decisions regarding whether to put youth into a placement, theoretically, are driven by different factors at these two points. Similarly, the characteristics of youth that may warrant a treatment or a group home placement

because they cannot return to family may differ from the characteristics that warrant a secure or restricted delinquency placement.

### ***Recidivism***

Recidivism was defined as a new petition for a delinquency or adult criminal offense (excludes status offenses unless the status offense was adjudicated [LA only], traffic offenses and probation violations<sup>1</sup>) following each youths' initial referral (for PA) or initial adjudication (for LA) offense, up to the date at which recidivism data were obtained (*follow-up*). We measured recidivism using new petitions rather than new adjudications (convictions) because of a) the relatively short follow-up period in this study (adjudications often involve long lags in court processing), and b) the objective to measure an outcome occurring as close to youths' actual behavior as possible. New petitions were categorized as (a) *violent* (offenses related to actual or threatened harm to persons, including major sex offenses), and (b) *any offenses*, which included both violent and non-violent delinquency offenses. The end of the follow-up date for obtaining juvenile and adult court records was August 31, 2018 (or May 31, 2018 for PA Site 3 only), resulting in an average follow-up period of 13.50 months (SD = 3.58 months) across all sites and cohorts (see Table 1 for a breakdown by sites). We were unable to obtain adult recidivism data from LA Site 1 due to issues related to the COVID-19 pandemic; therefore, the recidivism rates reported for this site may be an underestimate.

Some youth had to be excluded from recidivism analyses because they were transferred out of state. In addition, a few youths in the pre-implementation and 1<sup>st</sup> year cohorts had to be

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<sup>1</sup> Violations were excluded from recidivism analyses because, although the occurrence of a violation may relate to youths' risk, these are also largely dependent on the probation officer and the way the particular system responds. Moreover, we had concerns about variability in the quality of probation violation data. Most violations that were actually recorded were due to new offenses. The study was not able to track technical violations.

excluded from recidivism analyses if their records had been expunged. We were able to obtain expunged records for recidivism analyses in the 7<sup>th</sup> year cohort due to new legislation in PA.

The length of opportunity (time at-risk) that youth had to reoffend was calculated separately for the any and violent recidivism categories. Consistent with the method for tracking all outcomes in this study, the start date for tracking youths' time at-risk was the point in the process at which the risk-needs assessment was supposed to be conducted. Thus, the start date for the samples differed by state; it was the adjudication date for LA sites and the court referral date for PA sites that corresponded with the initial offense (the offense that resulted in inclusion in the study), or the date of first release from a secure or residential placement for youth who were placed right after their disposition. The end date was the date of the first new petition within the recidivism category or the study follow-up date for youth who did not reoffend.

### ***School and Employment Outcomes***

Another objective of this study was to examine youths' progress in school and employment between the beginning and the end of their juvenile justice involvement, and whether progress related to good implementation of RNR. We attempted to obtain multiple measures of school status and one measure of employment status for every youth in all three cohorts at the time of intake and again when they completed supervision (or at the end of the study, whichever came first). Data included each youth's grade level, whether they were enrolled in school and the type of school (e.g., college, vocational, alternative), or whether they were expelled or dropped out of school. Other data included ratings of youth's school attendance and performance (based on file information), whether they had obtained or were working on a GED, and whether youth were currently employed and at what level (e.g., part-time, full-time) (see the coding sheet in Appendix E).

The researchers attempted to obtain school and employment status data archivally for youths from the pre-implementation and 1<sup>st</sup> year cohorts at the close of their supervision in order to compare rates of improvement across all three cohorts. However, the school and employment data either were never recorded, had been lost, or were unreliable due to data systems overwriting these data fields when youth returned on new offenses. Therefore, school and employment outcomes were only examined for the 7<sup>th</sup> year cohort.

### **Data Analyses**

Prior to comparing outcomes across cohorts, youth in the new 7th-year cohort were matched to the previous two matched study cohorts using propensity-score matching procedures to equate groups along a number of important youth characteristics. Propensity score matching is a technique commonly used in observational studies to reduce potential bias resulting from differences on relevant characteristics between control and treated groups (Rosenbaum & Rubin, 1983). Matching is completed to identify control and ‘treatment’ participants who have a better balance on a range of relevant characteristics. Consistent with the procedures in the RNAJP study, these characteristics included: youth demographic (e.g., age at adjudication, race, gender, living in a supervised or unsupervised setting), whether the current offense was violent, juvenile court history, and psychosocial variables (e.g., substance use and mental health treatment histories, history of child welfare involvement). Propensity scores were modeled with logistic regression with the dependent variable being the odds of belonging to the 7<sup>th</sup> year cohort. For a few variables with considerable missing data, missing data were coded into a separate category for matching purposes because if the information was missing (e.g., diagnoses, mental health treatment history) it generally meant youth did not have the characteristic in question, or at least the juvenile justice system did not know they had the characteristic in question. Matching was

conducted using macro codes developed by Parson (2004) and Coca-Perraillon (2006) using a nearest available neighbor (with no replacement) matching procedure in SPSS.

The 7<sup>th</sup> year cohort was adjusted to match the previous two cohorts in order to enable direct comparison to prior findings from each of these sites. The tradeoff for having this continuity was restrictions in the ability to match some variables across cohorts. Therefore, any unmatched youth characteristics were tested for their association with the outcome of interest and included as covariates in regression models when these associations were significant.

### ***Question 1: Analyses Comparing System Responses and Youth Outcomes***

The study examined whether rates of the following system responses improved across cohorts: 1) the frequency of use of informal versus formal dispositions, 2) the severity of dispositions, and 3) the likelihood of receiving out-of-home placements. The analyses also examined the correlation between the responses and risk level to infer whether the risk principle had been followed. The youth outcomes studied were changes in school and employment status at the beginning versus the end of their juvenile justice involvement, or the end of the study, whichever came first.

To examine system response outcomes, we used logistic regressions and included a cohort indicator to compare the 7<sup>th</sup>-year cohort to both the pre- and the 1<sup>st</sup>-year post-implementation cohorts. These comparisons involved conducting two sets of logistic regression models for each outcome for each site; one model assigning the pre-implementation cohort as the reference group (pre-implementation = 0, 1<sup>st</sup> year cohort = 1, and 7<sup>th</sup> year cohort = 2), and the other model assigning the 1<sup>st</sup> year post-implementation cohort as the reference group to compare to the 7<sup>th</sup> year cohort only (excludes the pre-implementation cohort).

Each regression model included covariates, which were defined as variables within the particular site that 1) could not be matched in the 7<sup>th</sup> year cohort to the other two cohorts, and 2) were significantly associated with the particular outcome at  $p \leq .05$ . The covariates were selected and tested within each site separately. In addition, each model analyzing rates of any placement during supervision also included the length of follow-up as a control variable to adjust for the significant differences between cohorts in the length of opportunity to be placed. We reported rates for each outcome within each cohort at each site using univariate generalized linear modeling (GLM) to produce adjusted group means after accounting for differences in characteristics (covariates) and follow-up periods between cohorts. Across all sites and cohorts, a total of 36 matched youth (pre-implementation = 12, 1<sup>st</sup> year cohort = 8, 7<sup>th</sup> year cohort = 16) were excluded from placement and youth outcome analyses for reasons such as transfer to another county or transfer to adult court.

Chi-squares were used to obtain the strength of the association between youths' risk levels and the severity of the system responses (adherence to the risk principle) in the 7<sup>th</sup> year cohorts. To determine whether adherence regressed, sustained (continued to have a significant correlation with risk), maintained (continued to have no correlation with risk), or improved, we qualitatively compared the pattern and strength of the association with that reported in the 1<sup>st</sup> year cohort for the respective site. Significant differences between cells within chi-square were identified using adjusted standardized residuals. To examine improvement in youth education and employment outcomes in the 7<sup>th</sup> year cohort, we used paired tests for categorical data (e.g., McNemar test) for the whole cohort and by site.

***Question 2: Analyses Comparing Recidivism Across the pre-, 1<sup>st</sup>-year-, and 7<sup>th</sup>-year-Implementation Cohort***

Changes in rates of recidivism between the cohorts were examined separately for *any* recidivism and *violent* recidivism specifically. The models used hierarchical Cox proportional-hazards regression. Cox regression is a semi-parametric survival analysis that accounts for variable times at-risk by examining the proportion of cases that are surviving the time to a specific event (recidivism). It permits inclusion of *censored cases* (in this context, those who have not yet reoffended) and accounts for youths' time 'at-risk' (length of opportunity to reoffend) while also accounting for any covariates that differ across cohorts. The hazard ratio (Exp[B]) is the preferred index for interpretation. It is the ratio of hazards between two individuals whose values on the variable of interest differ by one unit when predictor variables are held constant, if applicable (Hosmer et al., 2008). For example, an Exp[B] equal to two for the 7<sup>th</sup> Year cohort (relative to the pre-implementation cohort) would indicate that, at any day during the study period, the likelihood of recidivism for a youth in 2017 would be twice that of a youth in 2008.

We conducted the Cox hierarchical regression models in the same manner as described for placement outcomes with the exception of including length of follow-up as a covariate because these models adjust for time at-risk. Also consistent with analyses for Question #1, we used GLM to report the baserates of each category of reoffending for each cohort within each site after taking covariates and total follow-up time into account (marginal means). We excluded youth cases if records had been expunged (first two cohorts only), if they were lost at follow-up due to transfer out of state, or if records indicated they were in a restricted placement for the entire follow-up period. A total of 84 youth had to be excluded from recidivism analyses, with more

being excluded from the first two cohorts (pre-implementation = 37, 1<sup>st</sup> year cohort = 35) than the 7<sup>th</sup> year cohort (n=12).

***Question 3: Examining Whether Initial Implementation Effectiveness (1<sup>st</sup>-year cohort)***

***Continued to Affect the Impacts of RNA with RNR Practices Seven Years Later***

We conducted moderated hierarchical logistic regressions to examine whether initial implementation *effectiveness* affected the impact of RNA and RNR on the severity of dispositions and the likelihood of receiving placements seven years after initial implementation. Similarly, we conducted moderated hierarchical Cox regressions for recidivism analyses in the same manner. These analyses were conducted with the overall sample by including the relevant covariates at the first block and adding the cohort indicator and implementation effectiveness (effective = 0 and ineffective = 1) variables at the second block. At the third block, we added an interaction term for Cohort X Initial Implementation Effectiveness (moderator). If the interaction term was significant, it would indicate that a probation office's initial implementation effectiveness had a significant effect on the impact of the RNA and RNR reform effort seven-years later. We report the final Exp(B) for implementation effectiveness produced from the third block for each model. Using effective implementer sites as the reference group, a significant Exp(B) over 1.00 would indicate greater change in the rates of the outcome in question occurred for the ineffective implementer sites than for the effective implementer sites by the 7<sup>th</sup> year after implementation, after taking the interaction with the cohort into account. Conversely, significant Exp(B)'s with values less than 1.00 would indicate significantly lower rates of changes in the outcome in question for the ineffective implementer sites. For ease of interpretation, we created graphic displays of each significant interaction term.



## RESULTS

### Youth Sample and Changes in Youth Cases Over Time

Table 7 provided the characteristics of the sample overall and by site for the 7<sup>th</sup> year cohort (tables for the previous cohorts are in Appendix F). The youth sample significantly differed between sites in many ways (see Table 7). Appendix G contains results of propensity-score matching displaying the differences between the 7<sup>th</sup> year cohorts and the previous two cohorts before and after matching within each site. As shown in Appendix G, there were several characteristics of the 7<sup>th</sup> year cohort that could not be matched to prior cohorts within some sites. The most common significant differences were for the 7<sup>th</sup> year cohorts to have higher incidences of youth with child welfare history, poor school attendance and performance, history of mental health treatment, and diagnoses. Based on discussions with the leadership at each site, we believe these differences were a result of better information-gathering and documentation in 2017 within probation offices compared to 2008 to 2010. The only exception was LA Site 1 where the leadership believed the significant increases in prevalence on some of these variables were due to a real difference in their youth justice population. Although most differences in characteristics between cohorts were due to data unreliability issues, we still included the variables as covariates in analyses because the difference in documentation would lead to a difference in awareness of mental health and child welfare issues among POs and courts, which may have affected their decision-making. Lastly, the change to the RNA policy in PA Site 3, which involved conducting the risk-needs assessment pre-adjudication instead of post-disposition, resulted in a 2017 cohort with significantly fewer prior arrests than the prior cohorts. The matching procedures balanced these variables to the extent possible. All variables remaining significantly different between the

7<sup>th</sup> year cohort and the prior cohorts were tested in each analysis to determine whether and when to include the variables as covariates.

Table 8 reports the YLS/CMI and SAVRY risk levels of matched youth samples in the 1<sup>st</sup> year versus 7<sup>th</sup> year cohorts by site. In the 7<sup>th</sup> year cohorts, LA Site 1 had a significant increase in its proportion of high-risk youth and LA Site 2 had a significant drop in high-risk youth. In Pennsylvania, Site 1 had a significant increase in low-risk youth and fewer rated as moderate risk in the 7<sup>th</sup> year cohort than in the 1<sup>st</sup> year cohort. PA Sites 2 and 3 did not have appreciable changes in the proportions of youth at each risk level over time. It is important to note that PA Site 3 had no high-risk youth in the 1<sup>st</sup> year cohort because over 60% of their sample never received a YLS/CMI. Most of this site's missing YLS/CMIs cases were youth who were sent straight to detention and therefore, presumably were relatively high-risk.

**Table 8***Risk Level Comparisons Between Cohorts for All Matched Youth Who Received SAVRY or YLS/CMI in Each Cohort by Site<sup>x</sup>*

	1 <sup>st</sup> Year Cohort (n = 594)			7 <sup>th</sup> Year Cohort (n = 661)			$\chi^2$ (df); Cramér's V (95% CI), p value
	Low n (%)	Mod n (%)	High n (%)	Low n (%)	Mod n (%)	High n (%)	
Pennsylvania/YLS/CMI							
<b>Site 1 (n = 190, 209)</b>	106 (47.96%) <sup>a</sup>	72 (32.58%) <sup>a</sup>	12 (5.43%) <sup>a</sup>	148 (66.97%) <sup>b</sup>	49 (22.17%) <sup>b</sup>	12 (5.43%) <sup>a</sup>	10.44(2); .16 (.08, .27), <i>p</i> = .005
<b>Site 2 (n = 104, 99)</b>	35 (33.65%)	60 (57.69%)	9 (8.65%)	36 (34.62%)	53 (50.96%)	10 (9.62%)	.38(2); .04 (.02, .20), <i>p</i> = .828
Site 3 (n = 40, 104)	21 (19.44%)	19 (17.59%)	--	53 (49.07%)	47 (43.52%)	4 (3.70%)	1.59(2); .11 (.06, .23), <i>p</i> = .45
Louisiana/ SAVRY							
<b>Site 1 (n = 185, 180)</b>	66 (32.20%) <sup>a</sup>	89 (43.41%) <sup>a</sup>	29 (14.15%) <sup>a</sup>	23 (12.78%) <sup>b</sup>	108 (60.00%) <sup>b</sup>	49 (27.22%) <sup>b</sup>	43.71(2); .34 (.26, .42), <i>p</i> < .001
Site 2 (n = 76, 69)	39 (42.39%) <sup>a</sup>	24 (26.09%) <sup>a</sup>	13 (14.13%) <sup>a</sup>	52 (56.52%) <sup>b</sup>	15 (16.30%) <sup>a</sup>	2 (2.17%) <sup>b</sup>	11.69(2); .28 (.16, .43), <i>p</i> = .003
Overall	267 (36.58%)	264 (36.16%)	63 (8.63%)	312 (47.20%)	272 (41.15%)	77 (11.64%)	--

*Note.* The YLS/CMI has a fourth risk category—Very High—that is not listed here because only one youth fell into that category. Cells represent the percent of the whole sample within each cohort and site and will not equal 100% due to some youth missing the RNA. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post-implementation. Chi-square analyses compared the 1<sup>st</sup> year cohort's proportions to the 7<sup>th</sup> year cohort's proportions (e.g., Low risk to Low risk). Proportions with different <sup>a</sup> or <sup>b</sup> subscripts between cohorts were significantly different at *p* <= .05.

<sup>x</sup> = The *n*'s in for the cohorts are lower than the final matched sample sizes because this table only reports data for the youth who had a completed SAVRY or YLS/CMI.

## Question 1: Comparing Impact-level Outcomes (System Responses and Youth Outcomes)

### *Dispositions*

**Changes in Informal vs. Formal Processing and Severity of Dispositions.** Disposition options differed by state. Therefore, we categorized dispositions into four broad categories in order of severity: informal processing, consent decrees (Pennsylvania only), probation, and any placement. The *informal processing* category combined minor sanctions (e.g., letter of apology, restitution); warn, counsel and release; informal adjustments (Pennsylvania only); and unsupervised probation (Louisiana only) because these were all very low-level dispositions. Consent decrees are also technically a version of informal processing because the youth are not adjudicated; however, we kept consent decrees in a separate category because this disposition involves more supervision and services than an informal adjustment. PA Site 3 had a number of youths with dispositions of interim probation, which we included in the consent decree category on the suggestion of the probation chief because youth receiving either disposition are essentially handled the same. The *probation* category included drug and mental health courts, which were used in Louisiana. Finally, the *any placement* category primarily included detention, correctional and residential facilities. For Louisiana youth, this category also included youth committed to the Louisiana Office of Juvenile Justice (OJJ), which is necessary for youth to be placed in a correctional facility. OJJ usually places youth in a non-secure or secure placement, but occasionally may decide to manage a youth on state probation. Nonetheless, we included state commitment in the any placement disposition because it is the most severe disposition a parish-run probation office can give.

The frequencies for each disposition type are provided in Table 9 for each cohort by site. It is noteworthy that use of informal processing options increased in most sites,

especially sites that did not have these options available for youth eligible to receive the risk-needs assessment in the 1<sup>st</sup> year cohort. The small frequencies of informal processing in PA Site 2 are deceiving. Because the decision to handle youth informally in PA Site 2 occurs prior to administering a YLS/CMI, most youth handled informally were not eligible for inclusion in this study.

**Changes in Rates of Dispositions Over Time.** The frequencies in Table 9 are somewhat misleading because every site had some differences in youth characteristics across their cohorts that may have accounted for differences in dispositions received. Thus, Table 10 provides the within-site percentages of youth receiving each type of disposition (baserates) after adjusting for differences in youth characteristics between cohorts by reporting the marginal means from univariate GLM analyses. GLM could not be conducted for the informal disposition type because of the low to nonexistent occurrence in the pre-implementation and 1<sup>st</sup> year cohorts. In general, with the exception of PA Site 2, the rates in Table 10 indicate there was a trend towards less use of probation and greater use of pre-adjudication or informal dispositions.

Table 11 reports odds ratios from two sets of logistic regressions conducted within each site and for the sample overall. The first two columns within each disposition category in Table 11 display the odds of the respective cohort (1<sup>st</sup> year or 7<sup>th</sup> year cohorts) receiving the disposition relative to the pre-implementation cohort. The third column within each category displays the odds of youth in the 7<sup>th</sup> year cohort receiving the respective disposition as compared to the 1<sup>st</sup> year cohort.

Overall, as shown in Table 11, probation offices had greater use of informal processing options for the 7<sup>th</sup> year cohort and less use of probation and placement

dispositions compared to pre-implementation (baseline). Youth in the 7<sup>th</sup> year cohort were increasingly more likely to receive an informal disposition than the pre-implementation and 1<sup>st</sup> year post-implementation cohorts. Unfortunately, the overall regression results for informal processing included only PA Site 1 and the few cases in PA Site 2 because other sites did not have informal dispositions in their samples in the pre-implementation and 1<sup>st</sup> year cohorts. Nonetheless, it is evident from the frequencies in Table 9 that most sites greatly increased their use of informal processing options by the 7<sup>th</sup> year, including the sites that did not offer diversion options or did not utilize the RNA at a point that could influence diversion options initially.

**Table 9***Frequency of Dispositions Across Time by Site*

	Informal			Consent Decree			Probation			Any Placement		
	Pre	1 <sup>st</sup> yr	7-yr	Pre	1 <sup>st</sup> yr	7-yr	Pre	1 <sup>st</sup> yr	7-yr	Pre	1 <sup>st</sup> yr	7-yr
Pennsylvania												
Site 1 (n = 221)	79	94	119	37	26	45	82	80	44	19	19	13
Site 2 (n = 104)	3	5	7	84	93	76	14	3	18	3	3	3
Site 3 (n = 108)	0	0	3	38	38	69	46	52	25	24	18	11
Louisiana												
Site 1 (n = 205)	8	5	45	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	137	173	124	60	27	36
Site 2 (n = 92)	0	0	27	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	87	74	58	5	15	7
Overall	90	104	248	159	157	143	366	382	269	111	82	70

*Note.* The *n*'s reported are for each cohort. <sup>a</sup> Indicates cells that did not apply to the site.

**Table 10***Percentage of Youth Receiving Each Disposition Across Time by Site After Accounting for Covariates (Marginal Means -GLM)*

	Informal			Consent Decree			Probation			Any Placement		
	Pre	1 <sup>st</sup> yr	7-yr	Pre	1 <sup>st</sup> yr	7-yr	Pre	1 <sup>st</sup> yr	7-yr	Pre	1 <sup>st</sup> yr	7-yr
	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)	%(SE)
Pennsylvania												
<b>Site 1</b>	28.28%	35.92%	53.21%	16.73%	11.66%	22.22%	39.52%	36.61%	16.28%	7.78%	8.32%	3.91%
	(.03)	(.04)	(.04)	(.03)	(.02)	(.03)	(.04)	(.04)	(.03)	(.02)	(.02)	(.01)
<b>Site 2</b>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	80.71%	90.87%	76.36%	14.01%	3.00%	15.91%	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
				(.04)	(.03)	(.04)	(.04)	(.02)	(.04)			
Site 3	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	31.35%	29.21%	48.28%	38.01%	47.75%	23.57%	20.10%	13.53%	11.81%
				(.06)	(.06)	(.07)	(.05)	(.06)	(.05)	(.04)	(.04)	(.04)
Louisiana												
<b>Site 1</b>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	67.67%	84.07%	68.05%	29.12%	13.31%	16.47%
							(.04)	(.03)	(.04)	(.03)	(.02)	(.03)
Site 2	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	94.81%	80.51%	64.93%	5.41%	16.44%	7.36%
							(.02)	(.04)	(.05)	(.02)	(.04)	(.03)
Overall	14.83%	16.65%	28.14%	37.07%	34.91%	38.07%	50.76%	54.77%	35.99%	15.36%	11.95%	9.28%
	(.02)	(.02)	(.03)	(.03)	(.03)	(.03)	(.02)	(.02)	(.02)	(.02)	(.01)	(.01)

*Note.* SE = standard errors. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post-implementation. Cells represent the marginal means and standard errors produced from GLM after accounting for site-specific covariates. Covariates differed by site: PA Site 1—White race, Living arrangement (supervised or not supervised), history of child welfare involvement, and evidence of an Axis I diagnosis; PA Site 2—history of child welfare involvement; PA Site 3—any violent offense in the past, number of prior offenses (court referrals), living arrangement, and history of child welfare involvement; LA Site 1—history of child welfare involvement, outpatient mental health treatment ever, and age at first offense; LA Site 2—age at first offense; Overall—number of prior offenses (court referrals), living arrangement at intake, age at first offense, evidence of an Axis I diagnosis, and history of child welfare involvement.

<sup>a</sup> Indicates cells that did not apply to the site or where frequencies were too small for analyses.



**Table 11**

*Odds of Receiving Particular Dispositions Over Time and Implementation Effectiveness (Logistic Regressions – Exp(B))*

	Informal			Consent Decree		
	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p-value	7-yr vs. Pre Exp(B) (CI), p-value	7-yr vs. 1 <sup>st</sup> -yr Exp(B) (CI), p-value	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p-value	7-yr vs. Pre Exp(B) (CI), p-value	7-yr vs. 1 <sup>st</sup> yr Exp(B) (CI), p-value
Pennsylvania						
<b>Site 1</b>	1.42 (.95, 2.14), <i>p</i> = .09	2.89*** (1.84, 4.51)	2.11*** (1.34, 3.32)	.66 (.38, 1.13), <i>p</i> = .13	1.42 (.86, 2.36), <i>p</i> = .17	2.33** (1.33, 4.10), <i>p</i> = .003
<b>Site 2</b>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	2.38* (1.01, 5.60), <i>p</i> = .05	0.77 (.39, 1.53), <i>p</i> = .46	0.34** (.15, .78), <i>p</i> = .01
Site 3	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	0.90 (.44, 1.84), <i>p</i> = .49	1.86 (.94, 3.71), <i>p</i> = .08	2.33* (1.15, 4.72), <i>p</i> = .019
Louisiana						
<b>Site 1</b>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Site 2	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Overall	1.15 (.78, 1.69), <i>p</i> = .78	2.25*** (1.50, 3.36)	1.96** (1.33, 2.89), <i>p</i> = .001	0.90 (.66, 1.22), <i>p</i> = .49	1.04 (.77, 1.42), <i>p</i> = .79	1.15 (.84, 1.57), <i>p</i> = .39
Implementation Effectiveness <sup>b</sup>		--			.49 (.26, .93), <i>p</i> = .03	
Cohort X Imp Effectiveness	--	--	--	1.87 (.81, 4.35), <i>p</i> = .15	.64 (.28, 1.45), <i>p</i> = .28	--

	Probation			Any Placement		
	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p-value	7-yr vs. Pre Exp(B) (CI), p-value	7-yr vs. 1 <sup>st</sup> -yr Exp(B) (CI), p-value	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p-value	7-yr vs. Pre Exp(B) (CI), p-value	7-yr vs. 1 <sup>st</sup> yr Exp(B) (CI), p-value
<b>Pennsylvania</b>						
<b>Site 1</b>	.88 (.59, 1.33), <i>p</i> = .55	.30*** (.18, .49)	.30*** (.18, .51)	1.08 (.54, 2.15) <i>p</i> = .84	.48** (.21, 1.08), <i>p</i> = .01	.37* (.16, .88), <i>p</i> = .02
<b>Site 2</b>	0.19** (.05, .69), <i>p</i> = .01	1.16 (.54, 2.52), <i>p</i> = .71	5.79** (1.62, 20.75), <i>p</i> = .007	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Site 3	1.49 (.81, 2.76), <i>p</i> = .20	0.50* (.25, 1.01), <i>p</i> = .05	0.35** (.17, .72), <i>p</i> = .004	0.62 (.29, 1.32), <i>p</i> = .22	0.53 (.22, 1.28), <i>p</i> = .16	0.78 (.29, 2.06), <i>p</i> = .61
<b>Louisiana</b>						
<b>Site 1</b>	2.50*** (1.55, 4.11)	1.02 (.64, 1.62) <i>p</i> = .94	0.41** (.25, .70) <i>p</i> = .001	0.37*** (.22, .63)	0.48** (.28, .82), <i>p</i> = .08	1.25 (.68, 2.30), <i>p</i> = .47
Site 2	0.23** (.08, .64), <i>p</i> = .005	0.10*** (.04, .28)	0.45* (.23, .89), <i>p</i> = .02	3.44* (1.19, 9.92) <i>p</i> = .02	1.39 (.42, 4.56), <i>p</i> = .59	0.39* (.15, 1.01), <i>p</i> = .05
Overall	1.18 (.93, 1.48), <i>p</i> = .17	0.55*** (.43, .69)	0.45*** (.35, .57)	0.75 (.53, 1.06), <i>p</i> = .10	0.56** (.39, .81), <i>p</i> = .002	0.76 (.51, 1.12), <i>p</i> = .16
Implementation Effectiveness <sup>b</sup>		.41*** (.27, .62)			2.74*** (1.25, 3.80)	
Cohort X Imp Effectiveness	1.56 (.87, 2.79), <i>p</i> = .13	2.18** (1.25, 3.80), <i>p</i> = .006	--	.38* (.17, .85), <i>p</i> = .02	.70 (.29, 1.66), <i>p</i> = .42	--

*Note.* Exp(B) = hazard ratio-effect size; CI = Confidence Interval. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post-implementation. The first two columns within each disposition category used the pre-implementation cohort as the reference group; the third column used the 1<sup>st</sup> year cohort as the reference group. Covariates included in the models were identical to those listed under Table 10.

<sup>a</sup> Indicates cells that did not apply to the site or where frequencies were too small for analyses.

<sup>b</sup> Implementation effectiveness analyses were conducted only for the regressions defining the pre-implementation cohorts as the reference group. Results for the Implementation Effectiveness variable are from the third block (includes the interaction term). \*\*\**p* = /< .001.

At the site-level, the results indicated that most sites either sustained or improved their reform efforts for reducing the severity of dispositions. PA Site 1 continued to improve in the 7<sup>th</sup> year as use of probation and placement dispositions significantly decreased, consent decrees significantly increased from the 1<sup>st</sup> year, and youth were almost three times as likely to receive an informal disposition than they were at baseline. PA Site 3 improved as there was no change in dispositions during their first year of implementation but use of consent decrees significantly increased and probation dispositions significantly decreased by the 7<sup>th</sup> year (youth were half as likely to receive probation in the 7<sup>th</sup> year of implementation as youth before the YLS/CMI was implemented). In the 7<sup>th</sup> year, LA Site 1 sustained its significant reduction in use of placements compared to pre-implementation and cut its use of probation dispositions to less than half the rate at baseline as they increased informal processing. LA Site 2 was the only site to have a sharp increase in placement dispositions after implementation of their RNA in the 1<sup>st</sup> year, but they significantly reduced placement dispositions back to baseline by the 7<sup>th</sup> year. This site also improved by significantly decreasing reliance on use of probation as they made more informal options available. PA Site 2 was the only site to have a small regression by significantly increasing reliance on probation over consent decrees by the 7<sup>th</sup> year.

**Impact of Initial Implementation Effectiveness.** Table 11 provides the Exp(B) and confidence intervals (CIs) for the initial implementation effectiveness variable (effective implementer sites were the reference group) and for the Cohort X Implementation Effectiveness interaction terms at the last block of the moderated logistic regression models. These regression models compared both the 1<sup>st</sup> year and 7<sup>th</sup> year cohorts to the pre-implementation cohort for each disposition category. As shown in Table 11, initial

implementation effectiveness significantly interacted with cohort (time) in its effect on the impacts of the RNA and RNR for probation (7<sup>th</sup> year vs pre-implementation) and placement dispositions (1<sup>st</sup> year versus pre-implementation). These analyses could not be conducted for informal dispositions because these options were not available for the first two cohorts at the two ineffective implementer sites.

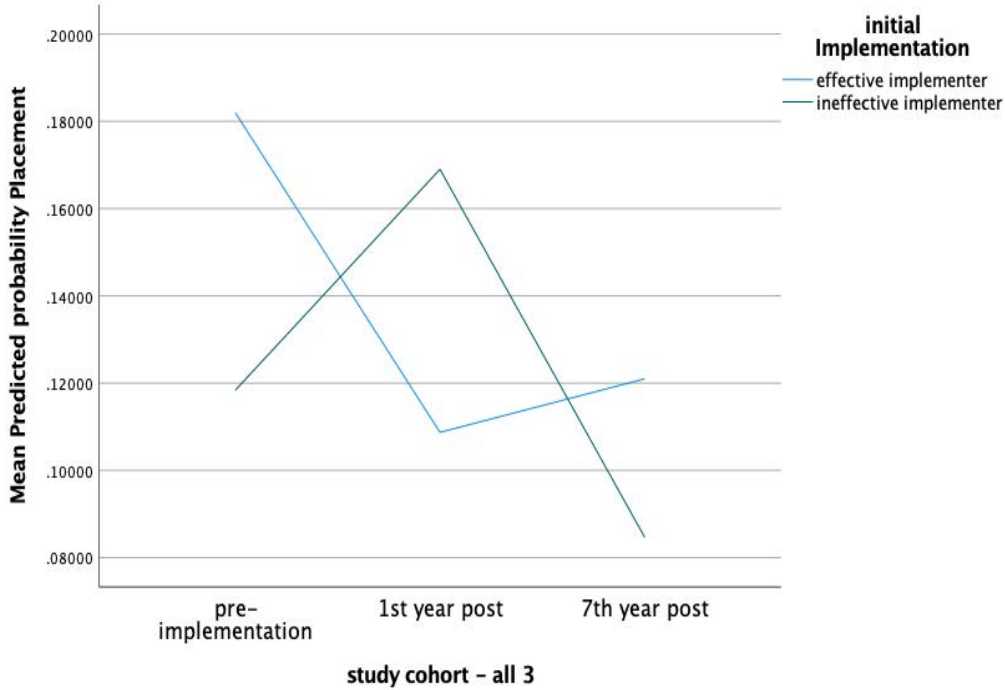
Graphing the interaction terms led to two primary findings. First, as expected, the initially ineffective sites improved considerably by the 7<sup>th</sup> year with respect to reducing their use of more restrictive dispositions. For example, the ineffective implementer sites had an increase in placements initially in the 1<sup>st</sup> year of implementation but dropped their placement dispositions considerably by the 7<sup>th</sup> year (see Graph 1). Second, the initially effective implementation sites saw an impact on reductions in placement dispositions quickly but took longer to see a reduction in probation dispositions (see Graphs 2 and 3). Within Pennsylvania only, for consent decrees it seemed effective implementers stayed consistent over time whereas the initially ineffective implementer greatly increased their use of this less formal disposition by the 7<sup>th</sup> year.

# Interactions Between Cohorts and Initial Implementation Effectiveness in Disposition

## Decisions

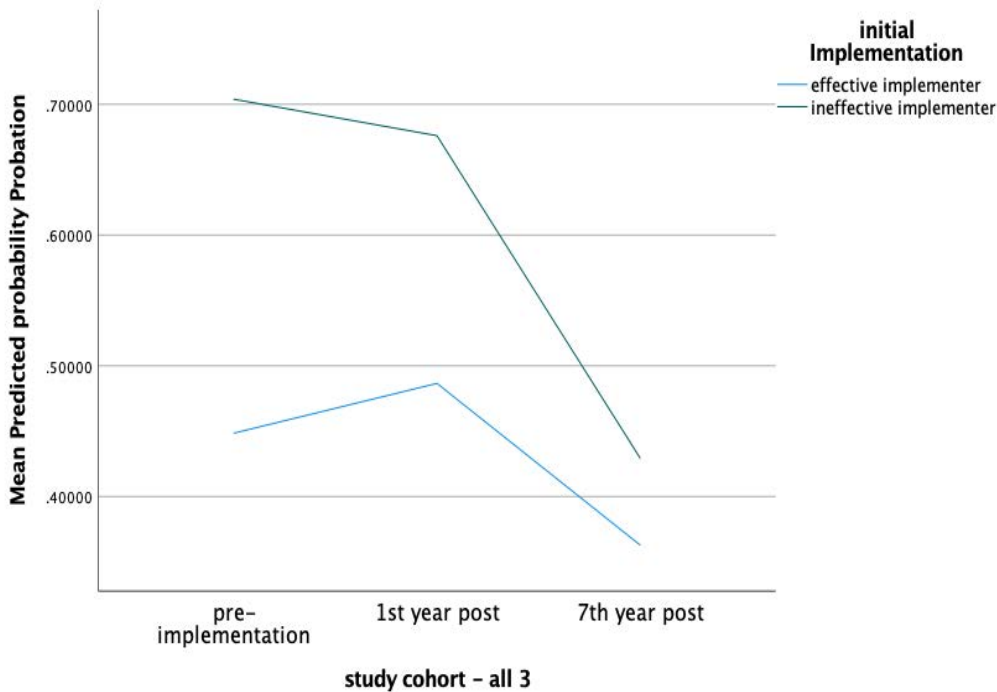
### Graph 1

Placement Dispositions (n = 1711)



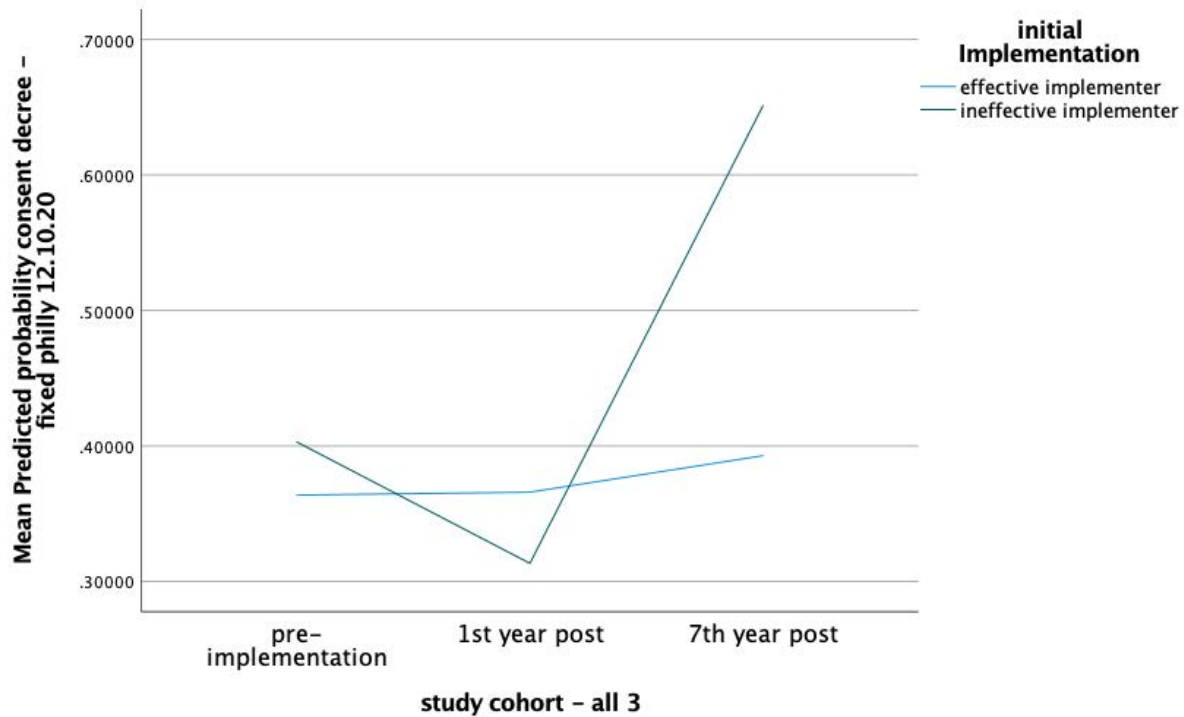
### Graph 2

Probation Dispositions (n = 2008)



### Graph 3

Consent Decree Dispositions (Pennsylvania Sites Only;  $n = 1299$ )



**Adherence to the Risk Principle.** The next question was whether the sites were following the risk principle in disposition decisions. Overall, for the 7<sup>th</sup> year cohort ( $n = 661$  youth with a risk assessment) there was a significant association between disposition severity and risk level ( $\chi^2(6) = 117.12$ ;  $V = .30$ , CI: .25, .35,  $p < .001$ ) such that high-risk youth had a significantly higher probability of receiving a placement disposition (25.97%) than moderate (12.23%) or low risk youth (3.85%;  $V = .24$ ,  $p < .001$ ). Similarly, low-risk youth had a significantly higher probability of receiving an informal disposition (39.70%) than moderate or high-risk youth (13.70% and 9.11%, respectively;  $V = .31$ ,  $p < .001$ ). There was not a significant association between risk level and consent decree dispositions. Finally, there was a significant association between risk level and probation such that high (53.25%) and moderate (46.52%) risk youth were significantly more likely to receive

probation than low risk youth (24.04%;  $V = .25$ ,  $p < .001$ ).

The more important question for this study was whether sites applying the risk principle to disposition decisions within their first year of implementation sustained or improved that practice, and whether sites that did not apply the risk principle in the 1<sup>st</sup> year were applying it now. Based on findings from the RNAJP study, in the 1<sup>st</sup> year of implementation, all sites but PA Site 3 had at least some dispositions that significantly correlated with risk level. In LA Site 1, dispositions of state commitment were positively correlated with risk level. In LA Site 2, probation dispositions were most likely to be given to low-risk youth and placement dispositions to moderate risk youth. In PA Site 1, all dispositions were correlated with risk in the expected direction. In PA Site 2, placement dispositions were more likely to be given to high-risk youth.

Table 12 provides results from chi-squares examining associations between risk level and dispositions by site for the 7<sup>th</sup> year cohort. Two sites improved because some or more disposition types were associated with risk level in the expected direction in their 7<sup>th</sup> year compared to the first year. Two sites sustained the associations between risk level and disposition decisions between the 1<sup>st</sup> and 7<sup>th</sup> years. One site regressed because it went from its most severe dispositions being reserved for the highest risk youth to no disposition type being correlated with risk levels in the 7<sup>th</sup> year.

**Table 12***Association Between Disposition Categories and Risk Level in the 7<sup>th</sup> Year Cohort*

	Informal	Consent Decree	Probation	Placement	Cramér's V; (95% CI), p	Compared to 1 <sup>st</sup> year
Pennsylvania						
<b>Site 1 (n=209)</b>	-	no	+	+	.48 (.35, .62)***	Improved <sup>b</sup>
<b>Site 2 (n=99)</b>	no	no	no	-- <sup>a</sup>	.21 (.15, .39), <i>p</i> = .39	Sustained <sup>c</sup>
Site 3 (n=104)	-- <sup>a</sup>	+	+	-- <sup>a</sup>	.19 (.11, .40), <i>p</i> = .16	Improved <sup>d</sup>
Louisiana						
<b>Site 1 (n=180)</b>	no	-- <sup>a</sup>	no	no	.04 (.04, .20)	Regressed <sup>e</sup>
Site 2 (n=69)	no	-- <sup>a</sup>	no	+	.32 (.17, .56), <i>p</i> = .009**	Sustained

*Note.* Sites in bold were those with initially effective implementation. - = probability of risk levels significantly negatively associated within disposition category (the preferred finding for informal and consent decree). + = probability of risk levels significantly positively associated within disposition category (the preferred finding for probation and placement).

<sup>a</sup> Indicates cells that did not apply to the site or where frequencies were too small for analyses.

<sup>b</sup> Listed as improved because most placements were high risk youth by the 7<sup>th</sup> year, whereas they were placing many moderate risk youths in the 1<sup>st</sup> year.

<sup>c</sup> Listed as sustained because placements were the only significant correlation with risk in the 1<sup>st</sup> year but there were too few for analyses in the 7<sup>th</sup> year, and associations between risk level and disposition all trended in the right direction.

<sup>d</sup> Listed as improved due to the significant association between risk level with both consent decrees and probation when there was no association with any disposition in the 1<sup>st</sup> year.

<sup>e</sup> Listed as regressed because, there was no correlation between risk level and disposition decisions in the 7<sup>th</sup> year, whereas placement dispositions had been related to risk in the first year.

\*\*\**p* = /< .001.

***Placements: Rates at Any Point During Supervision***

As mentioned, rates of placements were examined along three different outcomes. The first outcome was whether youth received an *out-of-home placement at disposition* (counting secure and residential placements), which was presented in Table 11. Use of placement dispositions decreased significantly from the pre-implementation to the 7<sup>th</sup> year cohort or were sustained because they already were low at baseline (the pre-implementation cohort). This next section addresses results for the placement outcomes related to the likelihood of receiving a



placement over the course of youths' supervision. As noted, 38 youth across all cohorts were lost at follow-up and excluded from these analyses, with the most exclusions being in the 7<sup>th</sup> year cohort (pre-implementation = 13, 1<sup>st</sup> year cohort = 8, 7<sup>th</sup> year cohort = 17).

**Changes in Rates of Placements Over Time.** Table 13 provides the base rates of youth receiving at least one placement at any point during supervision, after adjusting for within-site differences in youth characteristics between cohorts using GLM analyses. Table 14 provides the results of the logistic regressions comparing rates of placements between cohorts. The first two columns within each placement category in Table 14 display the odds of the respective cohort (1<sup>st</sup> year or 7<sup>th</sup> year cohorts) receiving a placement relative to the pre-implementation cohort. The third column within each category displays the odds of youth in the 7<sup>th</sup> year cohort receiving at least one placement compared to the 1<sup>st</sup> year cohort.

As demonstrated in Table 14, by the 7<sup>th</sup> year, the likelihood of receiving a *delinquency* placement decreased significantly in two sites, and the odds of receiving *any* placement decreased significantly in three sites. In both LA Site 1 and PA Site 1, the odds of youth receiving a delinquency placement at some point by the 7<sup>th</sup> year significantly decreased to less than half of their baseline ( $\text{Exp}[B] = .46$ ) and  $\text{Exp}[B] = .39$ , respectively. In addition, both sites had significant reductions in their placement rates in the 7<sup>th</sup> year cohort as compared to their 1<sup>st</sup> year cohort. This pattern of reduction in placements also was consistent for any out-of-home placements, where both sites had even larger effect sizes. PA Site 2 also significantly reduced use of any out-of-home placements by the 7<sup>th</sup> year. Both ineffective implementer sites did not have any significant changes in placement rates.

**Table 13***Frequency of Youth Receiving a Delinquency or Any Placement and Baserates at Any Point During Supervision by Site and Cohort*

	Delinquency Placements During Supervision						Any Placements During Supervision					
	Pre		1 <sup>st</sup> Year		7 <sup>th</sup> Year		Pre		1 <sup>st</sup> Year		7 <sup>th</sup> Year	
	n	% (SE)	n	% (SE)	n	% (SE)	n	% (SE)	n	% (SE)	n	% (SE)
Pennsylvania												
<b>Site 1 (n = 221)</b>	37	9.57% (0.02)	41	9.59% (0.02)	26	4.54% 0.02	55	19.00% (0.03)	58	18.61% (0.03)	29	6.55% (0.02)
<b>Site 2 (n = 104)</b>	5	2.85% (0.02)	14	10.80% (0.03)	9	3.10% (0.02)	18	14.66% (0.04)	20	17.50% (0.04)	13	5.19% (0.02)
Site 3 (n = 108)	42	37.84% (0.06)	42	38.89% (0.06)	51	47.95% (0.06)	50	45.47% (.06)	52	49.35% (.06)	59	58.28% (.06)
Louisiana												
<b>Site 1 (n = 205)</b>	76	39.38% (0.04)	61	30.52% (0.03)	53	19.35% (0.03)	88	46.74% (0.04)	70	35.60% (0.04)	63	24.33% (0.04)
Site 2 (n = 92)	32	33.05% (0.05)	33	36.14% (0.06)	32	37.50% (0.06)	36	38.76% 0.06	44	51.66% (0.06)	40	45.85% (0.06)
Overall	192	23.35% (.02)	191	24.29% (.02)	171	17.76% (.02)	247	31.96% (.02)	244	32.91% (.02)	204	21.21% (.02)

*Note.* SE = standard errors. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post-implementation. Cells represent the marginal means and standard errors produced from GLM after accounting for site-specific covariates. Length of follow-up was controlled in every analysis and other covariates differed by site: PA Site 1—White race, history of child welfare involvement, and evidence of an Axis I diagnosis; PA Site 2—no covariates; PA Site 3—history of child welfare involvement; LA Site 1—history of violent offense and outpatient mental health treatment ever; LA Site 2—evidence of Axis I diagnosis; Overall—history of violent offense, evidence of an Axis I diagnosis, and history of child welfare involvement.

**Table 14**

*Odds of Receiving Placements Over Time and Implementation Effectiveness (Logistic Regressions – Exp(B))*

	Delinquency Placements During Supervision			Any Placements During Supervision		
	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p value	7-yr vs. Pre Exp(B) (CI), p value	7-yr vs. 1 <sup>st</sup> -yr Exp(B) (CI), p value	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p value	7-yr vs. Pre Exp(B) (CI), p value	7-yr vs. 1 <sup>st</sup> yr Exp(B) (CI), p value
<b>Pennsylvania</b>						
<b>Site 1</b>	1.00 (.57, 1.77) <i>p</i> = 1.00	.39* (.19, .78) <i>p</i> = .01	.40* (.20, .80) <i>p</i> = .01	.97 (.59, 1.61) <i>p</i> = .92	.25*** (.13, .47)	.29*** (.16, .55)
<b>Site 2</b>	4.12* (1.29, 13.20) <i>p</i> = .02	1.30 (.39, 4.35) <i>p</i> = .67	.27* (.09, .78) <i>p</i> = .02	1.24 (.57, 2.69) <i>p</i> = .60	.40* (.17, .96) <i>p</i> = .04	.26* (.10, .67) <i>p</i> = .01
Site 3	1.05 (.55, 1.99) <i>p</i> = .89	1.54 (.79, 3.00) <i>p</i> = .20	1.37 (.70, 2.67) <i>p</i> = .36	1.17 (.61, 2.25) <i>p</i> = .64	1.60 (.81, 3.18) <i>p</i> = .18	1.43 (.70, 2.95) <i>p</i> = .33
<b>Louisiana</b>						
<b>Site 1</b>	.68 (.43, 1.05) <i>p</i> = .08	.38*** (.23, .62)	.51* (.30, .85) <i>p</i> = .01	.63* (.41, .97) <i>p</i> = .04	.37*** (.23, .60)	.53* (.32, .87) <i>p</i> = .01
Site 2	1.15 (.60, 2.19) <i>p</i> = .68	1.24 (.61, 2.53) <i>p</i> = .55	1.32 (.62, 2.80) <i>p</i> = .48	1.69 (.89, 3.21) <i>p</i> = .11	1.32 (.66, 2.66) <i>p</i> = .43	.92 (.44, 1.94) <i>p</i> = .83
Overall	1.05 (.81, 1.38) <i>p</i> = .70	.71* (.54, .94) <i>p</i> = .02	.63* (.47, .85) <i>p</i> = .002	1.04(.81, 1.34) <i>p</i> = .74	.57*** (.44, .75)	.51*** (.39, .68)
Implementation Effectiveness <sup>b</sup>		1.03 (.65, 1.62) <i>p</i> = .91			1.30 (.84, 2.01) <i>p</i> = .25	
Cohort X Imp Effectiveness <sup>b</sup>	.73 (.40, 1.35) <i>p</i> = .32	.31*** (.17, .57)	--	.50* (.27, .90) <i>p</i> = .02	.21*** (.11, .38)	--

*Note.* Exp(B) = hazard ratio-effect size; CI = Confidence Interval. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post-implementation. The first two columns within each disposition category used the pre-implementation cohort as the reference group; the third column used the 1<sup>st</sup> year cohort as the reference group. Covariates included in the models were identical to those for Table 13.

<sup>a</sup> Indicates cells that did not apply to the site or where frequencies were too small for analyses.

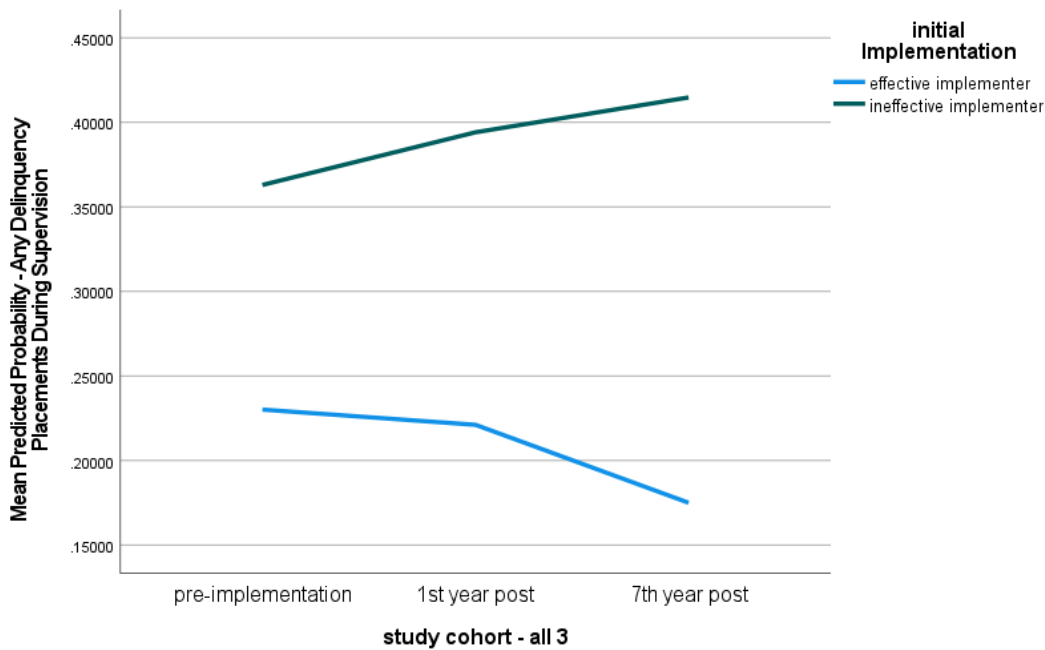
<sup>b</sup>Implementation effectiveness analyses was only conducted for the regressions defining pre-implementation cohorts as the reference group. Results for the Implementation Effectiveness variable are from the third block (includes the interaction term).

\*\*\**p* = /< .001.

**Impact of Initial Implementation Effectiveness.** There were significant interactions between initial implementation effectiveness and cohort on the impacts of RNA and RNR implementation on the likelihood of being placed at some point (see Table 14). The significant interactions indicated that, for both delinquency placements (see Graph 4) and any placements (see Graph 5), the initially effective sites continued to have significant reductions in their placement rates compared to their baseline and, in some cases compared to their first year of implementation as well. Alternatively, the initially ineffective implementers did not have any significant changes (maintained).

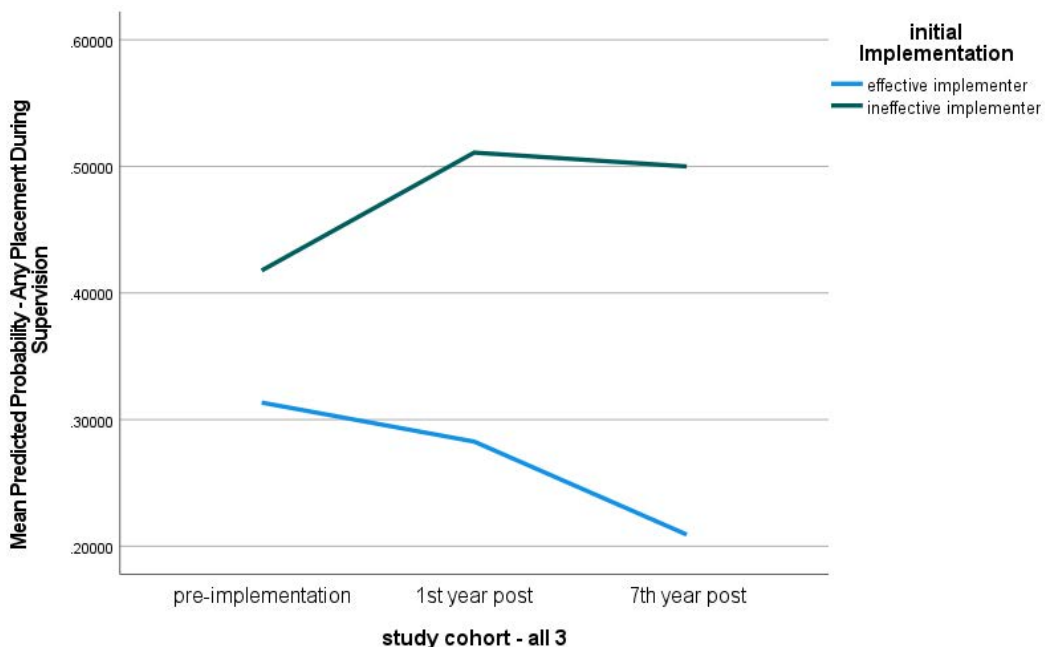
**Graph 4**

*Initial Implementation Effectiveness Interaction in the Likelihood of Receiving a Delinquency Placement (n = 2154)*



## Graph 5

*Initial Implementation Effectiveness Interaction in the Likelihood of Receiving Any Out-of-Home Placement (n = 2154)*



**Adherence to the Risk Principle.** Originally, in the 1<sup>st</sup> year cohort, placement rates were significantly correlated with youths' risk levels in every site except PA Site 3. Of note, in LA Site 2, although risk level was correlated with placements in their first year, a large percentage of these placements were given to moderate risk youth (70%). Table 15 provides the findings for the 7<sup>th</sup> year cohort, which indicated two PA sites improved in their adherence to the risk principle, one PA site sustained its strong adherence to the risk principle, and both LA sites regressed. PA Sites 1 and 2 had the strongest adherence to the risk principle in that only 4.8% to 0 low risk youth received placements in either category. These sites also were able to maintain some high-risk youth in the community (an improvement for PA Site 1, which previously placed

all their high-risk youth), and PA Site 1 decreased its number of moderate risk youth placed (16 in the 1<sup>st</sup> year vs. 11 in the 7<sup>th</sup> year). PA Site 3 also improved from the 1<sup>st</sup> year of implementation when placements were not associated with risk level but were positively correlated with risk level by the 7<sup>th</sup> year; however, a significant percentage of low risk (29.45%) and moderate risk (69.65%) youth still received a delinquency placement.

In LA Site 1, there was no significant difference between youth at different risk levels and their likelihood of receiving any placement; 39.13% of low-risk, 34.29% of moderate risk, and 35.42% of high-risk youth received any placement. There also was no significant association between risk level and secure placements. This is in sharp contrast to the 1<sup>st</sup> year of their SAVRY implementation when risk was significantly related to placements. LA Site 2 placed over 40% of their low-risk youth (most of whom were in a delinquency placement) and 80% of their moderate risk youth, both of which were large increases from their 1<sup>st</sup> year of implementation (20% and 70%, respectively).

**Table 15**

*Association Between Receiving a Delinquency Placement or Any Placement Over the Course of Supervision and Risk Level in the 7<sup>th</sup> Year Cohort*

	Association Delinquency	Cramér's V; 95% CI	Association Any	Cramér's V; 95% CI	Sustained?
Pennsylvania					
<b>Site 1 (n = 205)</b>	+	.42 (.31, .66)***	+	.55 (.40, .71)***	Improved <sup>a</sup>
<b>Site 2 (n=97)</b>	+	.31 (.17, .54)**	+	.36 (.25, .58)**	Sustained <sup>b</sup>
Site 3 (n=101)	+	.44 (.28, .61)***	+	.44 (.28, .62)***	Improved <sup>c</sup>
Louisiana					
<b>Site 1 (n=176)</b>	no	.03 (.02, .24)	no	.03 (.02, .21)	Regressed <sup>d</sup>
Site 2 (n=69)	+	.37** (.18, .58)	+	.37** (.19, .56)	Regressed <sup>e</sup>

*Note.* CI = Confidence Interval. + = probability of risk levels significantly positively associated within placement category. Sites in bold were those with initially effective implementation.

<sup>a</sup>Listed as improved because fewer high risk and fewer moderate risk youth were placed, and they continued to place a very low percentage of low-risk youth.

<sup>b</sup>Listed as sustained because they continued to not place any low-risk youth and to place less than half of their high-risk youth in the 7<sup>th</sup> year.

<sup>c</sup>Listed as improved because there was no correlation with risk level in the 1<sup>st</sup> year.

<sup>d</sup>Listed as regressed because there was no association between risk level and any type of placement decisions in the 7<sup>th</sup> year but there was significant, positive relationship in the 1<sup>st</sup> year.

<sup>e</sup>Listed as regressed because every high-risk youth and a high percentage of low-risk youth received a delinquency placement in the 7<sup>th</sup> year.

\*\*\* $p \leq .001$ .

### ***Youth Outcomes: School and Employment***

There were 90 youth in the 7<sup>th</sup> year cohort for whom school and employment data at the end of supervision could not be obtained. We were unable to compare changes in youths' grades for the remaining 640 youth because the data at intake and/or at the end of supervision proved to be unreliable. Table 16 provides results at intake and at the end of the study for the 7<sup>th</sup> year cohort overall for data that were obtainable. There was significant improvement in school attendance and school performance during or by the end of juvenile justice supervision. There was not a significant difference in school enrollment, but this was partially due to more youth

being unenrolled by the end of the study period because they were working on a GED, had obtained a GED (1.7% at intake vs. 3.8% at the end of the study period), or graduated high school (1.7% at intake vs. 8.4% at the end of the study period). There were some small increases in the numbers of youth enrolling in college by the end of supervision (from 4 at intake to 20 at the end of supervision). Employment data were only available for 213 youth at both time points, but there was significant improvement with more youth being employed part- or full-time by the end of the study.

**Table 16**

*Changes in School and Employment Status Between Intake and End of Supervision (or end of study) in the 7<sup>th</sup> Year Cohort Overall (n = 641)*

	Intake n (%)	End n (%)	Paired n $\chi^2$ (df), p-value <sup>a</sup>
Enrolled in School	599 (93.59%)	560 (89.17%)	n = 580
Not applicable (graduated, GED)	9 (1.41%)	44 (7.01%)	51.17(1); p = .32
Total n	640	628	
Type of School			
Not enrolled	32 (5.00%)	24 (3.74%)	
Enrolled in regular school	435 (67.97%)	384 (59.91%)	
Enrolled in alternative school	119 (18.59%)	123 (19.19%)	
Home schooled	30 (4.69%)	27 (4.21%)	
Enrolled in vocational school	11 (1.72%)	16 (2.50%)	
Enrolled in college	4 (.63%)	23 (3.59%)	
Not applicable (graduated, GED)	9 (1.41%)	44 (6.86%)	
Totals n	640	641	
Other status if not in school			
Dropped out	12 (1.88%)	7 (1.11%)	
Expelled	9 (1.41%)	0 (0.00%)	



Enrolled in vocational school	11 (1.72%)	16 (2.54%)	
Graduated HS	11 (1.72%)	53 (8.41%)	
GED attained	2 (.31%)	14 (2.22%)	
GED in progress	9 (1.41%)	10 (1.59%)	
Not applicable (enrolled in school)	584 (91.54%)	530 (84.13%)	
Total n	638	630	
School Attendance (if applicable)			n = 477
Sporadic	201 (33.17%)	53 (9.11%)	49.90(1); p < .001
Regular	369 (60.89%)	460 (79.04%)	
Not applicable (Out of school)	36 (5.95%)	69 (11.86%)	
Total n	606	582	
School Performance (if applicable)			n = 450
Poor/Bad (Below C's)	228 (38.58%)	67 (13.84%)	63.91(1); p < .001
Average/Good (≥ C's)	329 (55.67%)	417 (86.16%)	
Not applicable	34 (5.75%)	0 (0.00%)	
Total n	591	484	
Employment			McNemar-Bowker
Not employed – not looking	126 (20.72%)	87 (15.59%)	n = 213
Not employed – looking	57 (9.38%)	41 (7.35%)	24.00(6); p = .001
PT or Volunteer	99 (16.28%)	115 (20.61%)	
Working FT	8 (1.32%)	18 (3.23%)	
Not applicable (too young, in school, disability)	318 (52.30%)	297 (53.23%)	
Total n	608	558	

*Note.* Valid percents were used to discount youth for whom data were missing. End of supervision data was missing for 134 youth.

<sup>a</sup> Paired tests of association included only youth with data at both time points and excluded youth for which the variable was not applicable. P-values were generated from McNemar's test for paired categorical variables.

\*\*\*p <= .001.

Table 17 presents findings by site, indicating the number of youths who had data at both time points and whether there was significant improvement. These analyses should not be

compared between sites because improvement depended on baseline performance. For example, LA Site 1 was the only site with significant improvement in school enrollment; however, this site had the most youth who were unenrolled at the time of their adjudications. Most sites had significant improvement in youths' school attendance and performance by the end of their juvenile justice involvement, or the end of the follow-up period, whichever came first. Improvement in employment could not be examined by site because many youths were rated as too young to be employed at both time points (see Table 16).

**Table 17**

*Improvement in Youth Outcomes Between Intake and the End of Supervision (or the Study) by Site: 7<sup>th</sup> Year Cohort (n cases with data at both time points and change)*

	Enrolled in School n; change	School Attendance n; change	School Performance n; change	Employment t n; change
Pennsylvania				
<b>Site 1</b>	193; ns	171; +	181; +	131; +
<b>Site 2</b>	85; ns	66; +	50; +	64; ns
Site 3	94; ns	57; +	32; --	7; --
Louisiana				
<b>Site 1</b>	159; +	141; +	144; +	6; --
Site 2	49; ns	36; ns	43; +	5; --

*Note.* Sites in bold were those with initially effective implementation. The n in each cell was the number of cases with the variable recorded both at intake at and the end of supervision.

+ = significant improvement based on McNemar test or McNemar-Bowker test for employment data

-- = too few subjects to conduct analyses

ns = no significant change

## **Question 2: Comparing Recidivism Rates Across Cohorts**

The recidivism analyses excluded 118 youth because they were either lost at follow-up (n = 86 total; pre-implementation = 38, 1<sup>st</sup> year cohort = 35, 7<sup>th</sup> year cohort = 13) or records indicated they were in a restricted placement for the entire study period (n = 34 total; pre-implementation = 14, 1<sup>st</sup> year cohort = 10, 7<sup>th</sup> year cohort = 10). The 7<sup>th</sup> year cohort had the fewest youth excluded.

### ***Changes in Rates of Recidivism Over Time***

Table 18 displays the baserates for both categories of recidivism by site and by cohort. The baserates were based on marginal means calculated from GLM analyses accounting for differences in cohort characteristics and length of follow-up. Overall, the baserates for any recidivism did not appear to have significant shifts from the 1st-year to the 7th-year cohorts. Table 19 reports the odd ratios comparing recidivism baserates between cohorts from the Cox regressions, which were conducted within each site and for the overall sample for both any and violent recidivism separately. Two sites had significant reductions in recidivism by the 7<sup>th</sup> year cohort, one of which cut recidivism in half after their 7<sup>th</sup> year of implementation compared to their 1<sup>st</sup> year—LA Site 2. This is notable because LA Site 2 was an ineffective implementer initially and had the lowest adherence to their RNA policy and to RNR principles of any site in the 7<sup>th</sup> year. PA Site 1 had a substantial reduction in both any and violent recidivism in their 1<sup>st</sup> year of implementation. PA Site 2 did not have a significant change in recidivism, but they had a very low baserate at baseline, which they sustained.

**Table 18***Recidivism Frequencies and Base Rates by Site and Cohort*

	Any Recidivism						Violent Recidivism					
	Pre (n = 678)		1 <sup>st</sup> Year (n = 685)		7 <sup>th</sup> Year (n = 707)		Pre (n = 678)		1 <sup>st</sup> Year (n = 685)		7 <sup>th</sup> Year (n = 707)	
	n	% (SE)	n	% (SE)	n	% (SE)	n	% (SE)	n	% (SE)	n	% (SE)
Pennsylvania												
<b>Site 1<sup>a</sup></b>	71	32.86% (.03)	36	16.79% (.03)	34	16.85% (.04)	26	11.27% (.02)	11	4.85% (.01)	15	6.04% (.02)
<b>Site 2</b>	14	19.18% (.05)	14	18.88% (.05)	18	17.85% (.04)	3	4.09% (.02)	4	5.49% (.03)	9	8.76% (.03)
Site 3	34	35.56% (.05)	24	22.48% (.04)	25	22.84% (.04)	10	9.79% (.03)	7	6.51% (.03)	7	6.12% (.02)
Louisiana												
<b>Site 1</b>	31	16.37% (.03)	70	38.49% (.04)	86	32.89% (.04)	16	8.12% (.02)	23	12.303% (.03)	44	13.79% (.03)
Site 2	35	41.73% (.06)	39	43.52% (.07)	27	25.88% (.05)	10	11.33% (.03)	7	7.90% (.03)	7	7.85% (.03)
Overall	185	27.35% (.02)	183	26.91% (.02)	190	26.82% (.02)	65	8.89% (.01)	52	7.54% (.01)	82	9.98% (.01)

*Note.* SE = standard errors. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post-implementation. Cells represent the marginal means and standard errors produced from GLM after accounting for site-specific covariates. Covariates differed by site: PA Site 1 any recidivism – mental health outpatient treatment history, violent recidivism – White race, evidence of any Axis I diagnosis; PA Site 2 – no covariates; PA Site 3 any recidivism – living arrangement, violent recidivism – none; LA Site 1 – prior history of violent offense, an Axis I diagnosis, and age at first offense; LA Site 2 any recidivism – evidence of any Axis 1 diagnosis, any substance abuse treatment ever; violent recidivism - none.

<sup>a</sup> Outpatient mental health treatment ever was a significant covariate in PA Site 1 but was not included in analyses due to missing data.

**Table 19**

*Odds of Recidivism Over Time and Implementation Effectiveness (Cox regressions – Exp(B))*

	Any Recidivism			Violent Recidivism		
	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p value	7-yr vs. Pre Exp(B) (CI), p value	7-yr vs. 1 <sup>st</sup> -yr Exp(B) (CI), p value	1 <sup>st</sup> yr vs. Pre Exp(B) (CI), p value	7-yr vs. Pre Exp(B) (CI), p value	7-yr vs. 1 <sup>st</sup> yr Exp(B) (CI), p value
Pennsylvania						
<b>Site 1<sup>a</sup></b>	.49*** (.32, .72)	.48** (.29, .80) p = .005	.98 (.55, 1.71), p = .93	.43* (.21, .87), p = .02	.50* (.26, .97), p = .04	1.30 (.58, 2.93), p = .53
<b>Site 2</b>	1.03 (.49, 2.17), p = .93	.85 (.42, 1.72), p = .66	.82 (.41, 1.65), p = .58	1.40 (.31, 6.26), p = .66	2.02 (.55, 7.45), p = .29	1.43 (.44, 4.67), p = .55
Site 3	.62 (.37, 1.05), p = .08	.61 (.36, 1.03), p = .06	.98 (.56, 1.72), p = .94	.71 (.26, 1.90), p = .49	.67 (.25, 1.80), p = .43	.97 (.34, 2.77), p = .96
Louisiana						
<b>Site 1</b>	2.55*** (1.67, 3.90)	2.67*** (1.75, 4.07)	1.01 (.72, 1.41), p = .96	1.51 (.80, 2.87), p = .20	1.82* (1.00, 3.30), p = .05	1.16 (.67, 1.98), p = .60
Site 2	1.34 (.80, 2.25), p = .27	.70 (.41, 1.20) p = .20	.54* (.30, .96), p = .04	.80 (.30, 2.13), p = .65	.80 (.30, 2.14), p = .65	1.00 (.35, 2.84), p = .99
Overall	1.16 (.72, 1.87) p = .53	1.65 (1.03, 2.66) p = .04	.95 (.75, 1.20), p = .69	1.16 (.48, 2.80) p = .74	1.42 (.62, 3.23) p = .41	1.26 (.87, 1.82), p = .23
Implementation Effectiveness <sup>b</sup>		.78 (.56, 1.09) p = .15			1.53 (.83, 2.81) p = .17	
Cohort X Imp Effectiveness <sup>b</sup>	1.15 (.71, 1.84), p = .57	1.64* (1.02, 2.64), p = .04	1.37 (.83, 2.26), p = .21	1.16 (.48, 2.79), p = .75	1.35 (.59, 3.13), p = .48	1.16 (.48, 2.79), p = .75

*Note.* Exp(B) = effect size ; CI = Confidence Interval. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post implementation. Covariates included in the models were identical to those listed under Table 18.

<sup>a</sup>Due to the high rate of missing data for this variable, analyses were conducted with and without mental health outpatient treatment history included as a covariate. Inclusion of mental health treatment history resulted in the same pattern of results with a smaller effect size for the 7<sup>th</sup> year cohort. Results were reported from this model even though over 100 cases were missing.

\*\*\*p = /< .001.

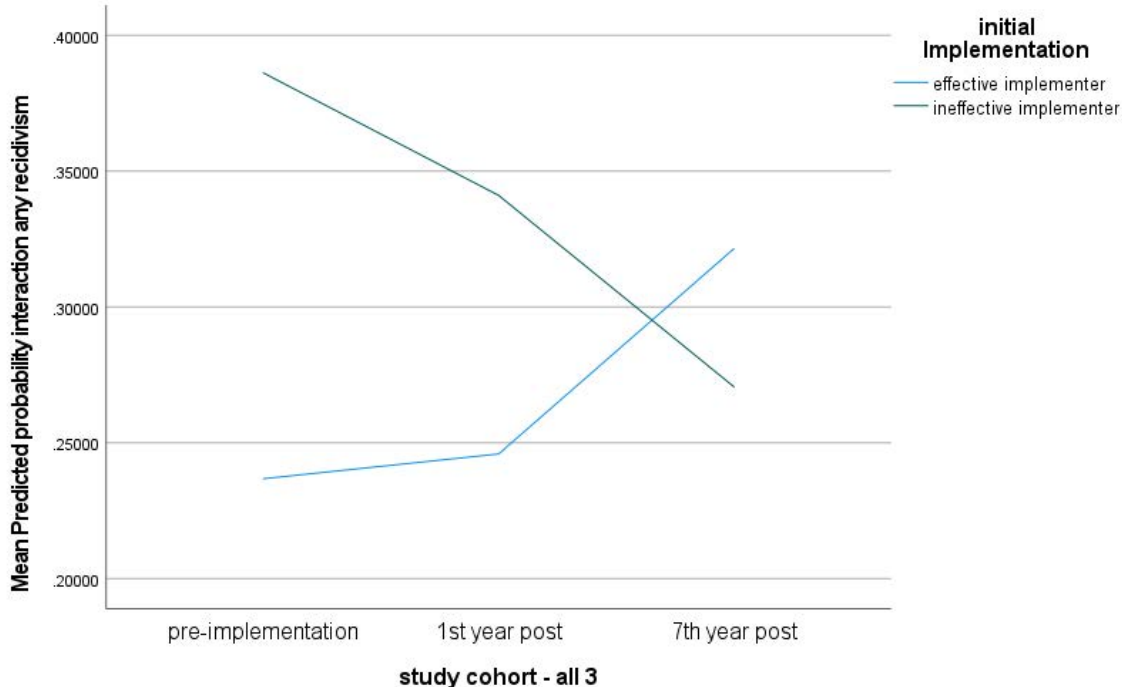
Unfortunately, LA Site 1 more than doubled their rate of recidivism in the 1<sup>st</sup> year post-implementation and maintained this higher rate into their 7<sup>th</sup> year. Moreover, this site almost doubled its rate of violent recidivism ( $\text{Exp}[B] = 1.81$ ) in the 7<sup>th</sup> year, compared to their baseline. This may be explained by the fact LA Site 1 experienced a very large increase in their percentage of high-risk youth in the 7<sup>th</sup> year. The significant shift in the first year of implementation is contrary to what was reported in the RNAJP study, which found no difference in recidivism rates. Investigation of the data indicated the difference from the RNAJP study was a result of shortening the follow-up period from an average 13 months (RNAJP study) to 7 months in the current study. As such, the recidivism rates reported in the RNAJP study for the pre-implementation sample were much higher than the 16.34% reported in Table 18.

### ***Impact of Initial Implementation Effectiveness***

The results provided in Table 19 indicate there was a significant interaction between initial implementation effectiveness and cohort (time), but it was not in the expected direction. Graph 6 plots the predicted probabilities from the Implementation Effectiveness X Cohort interaction, indicating the ineffective implementers decreased their recidivism rates in the 7<sup>th</sup> year, whereas the effective implementers increased their rates. This pattern for the effective implementers was largely due to LA Site 1. The other two effective implementers' probabilities of reoffending declined or were maintained into the 7<sup>th</sup> year. An important finding from Graph 6 was also that the ineffective implementers initially had much higher rates of recidivism than the three effective sites, suggesting the pattern in the 7<sup>th</sup> year may have been due, at least in part, to regression to the mean. In other words, the ineffective implementers had more room for improvement.

## Graph 6

*Interaction Between Cohorts and Initial Implementation Effectiveness in Any Recidivism (n = 2154)*



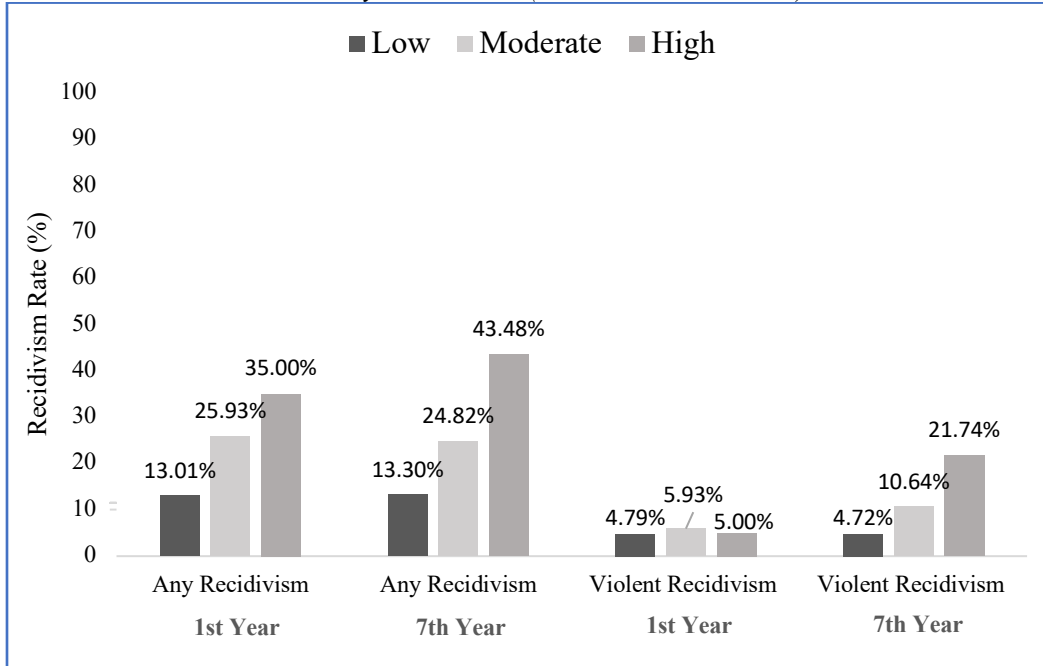
### ***Recidivism and Risk Level***

In the RNAJP study, we found the risk-needs assessments significantly predicted recidivism for the 1<sup>st</sup> year cohort. It was important to determine whether the risk-needs assessments also significantly predicted recidivism for the 7<sup>th</sup> year cohort. For the 7<sup>th</sup> year cohort, YLS/CMI Total Scores were significantly related to new petitions after taking time at risk into account ( $\beta = .68$ ,  $SE = .16$ ,  $Exp[B] = 1.97$  [CI = 1.45 – 2.68],  $p < .001$ ); and were significantly related to violent reoffending ( $\beta = .80$ ,  $SE = .24$ ,  $Exp[B] = 2.22$  [CI = 1.40 – 3.51],  $p = .001$ ). Analyses using YLS/CMI risk levels rather than total scores also were significant. The SAVRY risk ratings also significantly predicted any ( $\beta = .34$ ,  $SE = .14$ ;  $Exp[B] = 1.40$ ; CI = 1.07, 1.83;  $p = .013$ ) and violent recidivism ( $\beta = .70$ ;  $SE = .21$ ;  $Exp[B] = 2.01$ ; CI = 1.34, 3.00;  $p = .001$ ). Graph 7 visually demonstrates the strong association between recidivism and YLS/CMI risk level in Pennsylvania in both cohorts. Graph 8 visually demonstrates that the association between

recidivism and SAVRY risk levels were much stronger in the 1<sup>st</sup> year of implementation than in the 7<sup>th</sup> year indicating a potential problem with the validity of POs' SAVRYs.

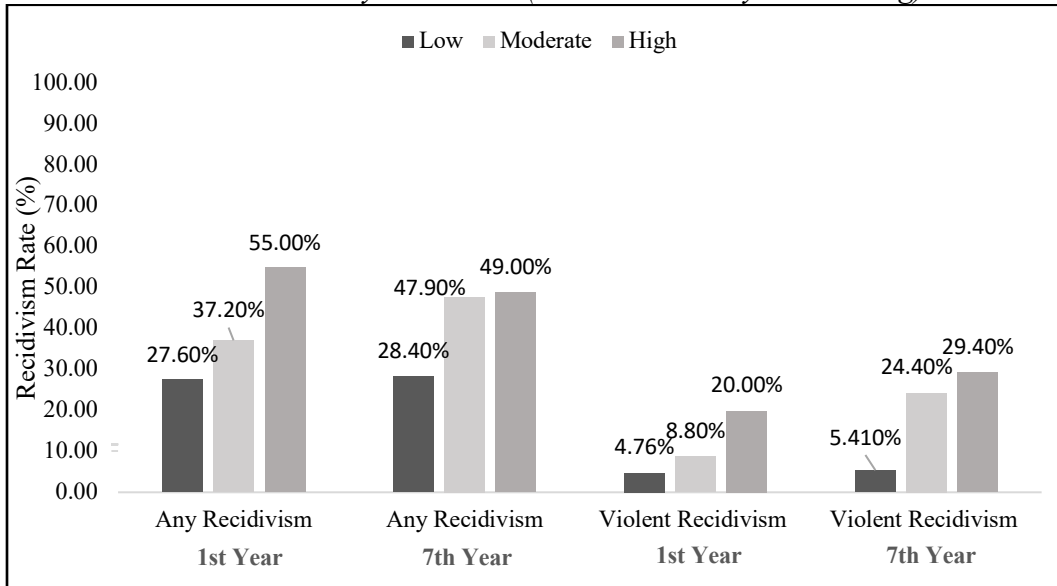
**Graph 7**

*PA Sites Recidivism Rates by Risk Level (YLS/CMI Risk Level) and Cohort*



**Graph 8**

*LA Sites Recidivism Rates by Risk Level (SAVRY Summary Risk Rating) and Cohort*





## SUMMARY OF IMPACT-LEVEL OUTCOME FINDINGS

Prior to interpreting the findings, it is important to note that it would be inappropriate to compare the magnitude of changes in rates of outcomes (e.g., placements, recidivism) across sites because of the variable follow-up periods. Rather, the objective was to compare sites on their within-site rates of change across cohorts. Another important consideration is that results of the pre-implementation and 1<sup>st</sup> year cohort comparisons will not match the original RNAJP study perfectly because a) we had to shorten most of the follow-up periods, b) we adjusted the placement categories to separate restricted (delinquency) placements from other placements, and c) we were stricter in the current study regarding what offenses constituted recidivism (e.g., excluded violations).

### Youth Samples

- In Louisiana Site 2, very few youths were rated as high-risk on the SAVRY in the 7<sup>th</sup> cohort, significantly fewer than the 1<sup>st</sup> cohort, resulting in considerably more low risk youth in the 7<sup>th</sup> year cohort. The leadership at this site believed the results were a sign of lack of good supervision and booster training on the SAVRY rather than a true increase in adjudications for low-risk youth.
- Documentation of some psychosocial history characteristics of youth appears to have improved across all probation offices over the past seven years, making some aspects of propensity-score matching to earlier cohorts difficult.

### Changes in System Response-Related Outcomes

- Informal Processing: Four out of five probation offices increased rates of youth being handled informally or by consent decree by their 7<sup>th</sup> year of implementation. The only probation office that did not appear to increase its rates of informal processing was

because most of their informal youth were not in the study. Informal processing was only partially related to risk level (low risk youth were more likely than others to receive a consent decree in PA Site 3).

- Disposition Severity: All but one probation office sustained or improved their practices of favoring use of less severe dispositions seven years after implementation. Overall, most youth in the 7<sup>th</sup> year cohort had a lower likelihood of receiving a disposition that involved a placement and received less restrictive dispositions than youth did seven years prior.
- Placements: Three of the five sites had significant reductions in the rates of youth receiving a delinquency and/or any placement in the 7<sup>th</sup> year of implementation and no sites significantly increased their placement rates. Two of the sites with reductions had started reducing their placements by the 1<sup>st</sup> year and simply continued to do so into the 7<sup>th</sup> year. One site with a very low placement rate at baseline had a spike in placements during their 1<sup>st</sup> year of implementation but essentially went back to their low baseline by the 7<sup>th</sup> year. Overall, placement rates significantly decreased in the 7<sup>th</sup> year cohort.
- Initial Implementation Effectiveness and Dispositions: As expected, initial implementation effectiveness affected the impacts of RNA and RNR on disposition outcomes. Effective implementers saw a striking reduction in the probability of youth being given a placement disposition in the first year, while ineffective implementers did not see a decline until their 7<sup>th</sup> year. The intervention did not have an impact on probation dispositions in any sites until the 7<sup>th</sup> year. The initially ineffective implementers had larger reductions in use of probation than the effective implementers. The use of consent decree also greatly increased in the ineffective implementer site in Pennsylvania in the 7<sup>th</sup> year,

whereas these fewer formal dispositions had already increased by the 1<sup>st</sup> year for the effective sites.

- Initial Implementation Effectiveness and Placements: With respect to placements over the course of supervision, initially ineffective implementers did not appear to improve over time, whereas effective implementers continued to have gains in their reductions of placement rates. This finding was contrary to the hypothesis that initially ineffective implementers would see significant reductions by their 7<sup>th</sup> year of implementation.
- Consistency with Risk Principle: Consistency with the risk principle in disposition and placement decisions was generally positive. Four sites either sustained or improved their consistency with the risk principle with respect to disposition decisions but one site regressed. Interestingly, informal processing and consent decree decisions were rarely significantly associated with youths' level of risk, but probation and placement decisions generally were. Consistency with the risk principle in placement decisions over the course of supervision was very strong in Pennsylvania but regressed in Louisiana. In Louisiana, there was a significant increase in the absolute percentage of low-risk youth being placed in both sites.

## **Youth Outcomes**

- We were unable to compare rates of improvement in youth outcomes before versus after implementation of an RNA and RNR because we could not obtain reliable youth outcome data for the pre-implementation and 1<sup>st</sup> year post-implementation cohorts.
- There were significant positive changes in youth education status among the 7<sup>th</sup> year cohort over the course of the study. More youth graduated high school, were enrolled in college, or had obtained a GED by the end of the study or the end of their supervision,

whichever came first. School performance and attendance improved significantly in every site that had sufficient data to conduct these analyses. Employment status significantly improved in one site. Employment outcomes could not be examined in other sites due to the high rates of youth who were too young to be employed.

## **Recidivism**

- YLS/CMI and SAVRY risk levels continued to be significantly predictive of both any and violent recidivism across sites in the 7<sup>th</sup> year. However, the SAVRY moderate and high-risk youth groups in the 7<sup>th</sup> year cohort had similar recidivism rates (see Graph 8) indicating probation officers may not have been completing the instrument with fidelity.
- There were significant reductions in recidivism by the 7<sup>th</sup> year following implementation in only two sites; one of which was an initially ineffective implementer. This ineffective implementer also had the lowest proportion of youth rated moderate or high-risk.
- The pattern of the Implementation Effectiveness X Cohort interaction indicated that, the ineffective implementers initially had much higher rates of recidivism than the three effective sites at baseline and after their 1<sup>st</sup> year of implementation. Therefore, they had more room for improvement.

## **Limitations**

A few important limitations may affect the interpretation of these impact-level findings. First, all results reported for the cohorts overall across sites should be interpreted with caution because these findings did not control for nesting within sites. Thus, overall cohort findings would be weighted towards the sites with the most youth cases (i.e., PA Site 1 and LA Site 1). Second, PA Site 3 was one unit of a large office and the first implementer within that office. Early in this study, the unit was dissolved. In order to obtain the same type

of youth in the 7<sup>th</sup> year cohort that we would have received from that unit if it were still in operation, we gathered all new intakes from the same probation officers who were still handling youth from the same geographic location. Third, the youth education and employment outcomes could only be examined for youth who stayed with the probation agency and would have excluded youth sent to OJJ or who spent a lot of time in a placement near the end of their supervision. This means these analyses were missing a lot of the higher-risk youth,

There were some limitations to the recidivism analyses.<sup>2</sup> First, the follow-up periods were relatively short for most sites. Second, we calculated each youth's time at-risk based on their first release date from a placement but did not account for time spent in subsequent placement stays, which may have posed some limitations in predicting recidivism for higher risk youth. This may not have been a significant limitation because often if youth go back into a placement, it is because they already reoffended. We think the influence of both limitations was likely minimal because the SAVRY and YLS/CMI risk levels still significantly predicted recidivism; however, the limitations may have watered down effect sizes. We were unable to obtain adult recidivism data for the 7<sup>th</sup> year cohort in LA Site 1. There were 49 youth in this cohort who would have aged out of the juvenile system during the follow-up period and could have received an adult charge.

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<sup>2</sup> The fact we could not obtain recidivism data for expunged cases in the pre-implementation and 1<sup>st</sup> year cohorts was not a limitation because we were able to determine which youth had been expunged (less than 40) and excluded them from the recidivism analyses.

### **SECTION 3: COST-EFFECTIVENESS: METHOD AND RESULTS**

This is the first study to examine the cost-effectiveness of risk-needs assessment and risk-need-responsivity by comparing both total costs and rates of effectiveness within probation departments before and after implementation. The design of this cost-effectiveness study was unique and rigorous in two additional ways. First, we estimated costs using a rigorous bottom-up method, which is the preferred approach when the design involves multiple sources of costs and there is an expectation that most of the resources used will vary by individual (Henrichson & Galgano, 2013). We expect resources to vary for individual youth when risk-need-responsivity is implemented with fidelity because low risk youth should get less supervision and programming than moderate or high-risk youth. Before implementation, youth may have received the same amount of programming and supervision regardless of their risk levels or needs. The bottom-up method in this study involved first identifying each of the outputs (e.g., court hearings, placement, community-based services) that could reasonably be expected to change in frequency before and after implementation. Next, we obtained the cost of each of these outputs, multiplied by the dosage of the output for each specific youth (length and intensity of supervision, length of placements, frequency of services received) and aggregated these costs within each cohort.

The second manner in which this study was rigorous was that it examined cost-effectiveness over time. Many cost-effectiveness studies are trial-based and only cover a limited time horizon. As Cohen and Reynolds (2008) noted, this can be problematic if the intervention had many upfront expenditures and also had benefits that may extend well-beyond the study period. As the intervention-level outcomes in this study indicated, many probation offices continued to improve their outcomes beyond the first year of implementation. In one site, the improvements equated to

increased effectiveness. In some sites, improvements in their 7<sup>th</sup> year of implementation may have equated to increased cost-savings (e.g., decreased placement rates).

We applied several steps to ensure costs between the different time points in this study were comparable. First, the costs for each cohort were inflated to 2017 rates for equitable comparison across the years. Second, if the payer shifted across the years (e.g., most of Louisiana’s community-based services were covered by managed care organizations in 2017 instead of the state juvenile justice agency) we applied the 2017 rates to the earlier cohorts. Third, if legislative changes or other systematic factors completely unrelated to the RNA or RNR implementation would have led to an uptick or decrease in a particular output, we did not include the output for the specific site(s). For example, the number of dispositional review hearings increased in Pennsylvania between the 1<sup>st</sup> and 7<sup>th</sup> years of implementation due to legislative changes, which would result in increased costs associated with court time but was completely unrelated to implementation of evidence-based practices in probation. Lastly, if we were lacking reliable data for a particular output within any cohort for a particular site, we did not include the output for any of the cohorts within that site. The technical appendices submitted with this report provide a breakdown of all costs included within each site along with notes justifying the exclusion of costs where applicable.

## **Measures and Procedures**

The investigators gathered only costs that were covered by the respective juvenile justice agencies (local and state) or by Medicaid. This study does not account for costs covered by the state child welfare or education systems and did not count costs covered by non-profit or volunteer agencies or by families, which were few. The study also did not count costs of programming covered by grant funding (e.g., some community-based services), with the

exception of the costs of the risk-needs assessment and risk-need-responsivity implementation, which was covered by the John D. and Catherine T. MacArthur Foundation. We included these expenditures because of the importance of the information to other agencies considering adoption of risk-needs assessment and it is essential for estimating the cost-effectiveness of risk-need-responsivity generally.

The PI obtained operational cost data and the costs of any contracted services for each site in the administrator interviews (see Appendix A). The information gathered during these interviews also included the payers of each service and placement, typical length of court hearings, details of any services performed in-house, risk-needs assessment related costs, and staff salaries. Overall, the types of costs fell within three broad categories, as described here.

#### ***Risk-Needs Assessment Implementation Costs***

The calculation of fixed costs for the risk-needs assessment implementation included the following: RNA trainings for probation officers and stakeholders conducted by paid trainers or state-level employees, other reform-related trainings that could affect probation officers' case management skills (e.g., RNR training, training in probationer supervision models and case planning, the Carey Guides), costs of RNA manuals for all staff, and any licensing or data programming costs to integrate the RNA into electronic case management systems. The bulk of these costs were consumed in the first year, but all relevant trainings received from 2010 to 2017 were included in the 2017 costs. The training costs included stipends provided to probation officers who were master trainers and hourly salaries plus benefits for state employees who conducted trainings for the respective site. No sites had increased their number of probation officers in order to implement their RNA and RNR procedures. Thus, there were no other staff salaries to include in the fixed costs. We did not include costs for probation officer time spent in



trainings. We divided the fixed costs by the number of youths in each cohort during which the cost was incurred (e.g., ongoing trainings were factored into the 7<sup>th</sup> year cohort costs) to generate a rate to use per case.

Some expenditures associated with the implementation were calculated at the youth level. This included per case administration costs charged by the instrument publishers of the SAVRY and YLS/CMI for assessments conducted both at intake and in reassessments. In addition to the instrument fee, we added probation officer time to the cost of each reassessment by multiplying the average number of hours that POs reported they needed to conduct reassessments (obtained by PO interviews, generally one hour or less) by the average hourly salary across POs in the respective site. Total reassessment costs were calculated at the youth level based on each youths' number of reassessments received. We did not include costs for probation officer time involved in the initial assessments at intake. In the RNAJP study, once probation officers were comfortable administering the RNA (within approximately eight months), the amount of time they reported for conducting an initial risk-needs assessment was comparable to the amount of time they had spent gathering information for their intakes or pre-disposition assessments prior to implementation. However, the reassessment costs were included because this expense would not have existed if the offices had not implemented a risk-needs assessment instrument.

### ***Operational Costs***

The operational cost outputs included court hearings where applicable, any in-house services (including specialty courts), electronic monitoring, and the costs of supervision by a probation officer. We did not include costs of community service because the costs were not variable across the years in any site, given community service was either free or simply covered through

one probation officer's salary. Some operational cost outputs (i.e., in-house classes, electronic monitoring) were added to the fixed cost amount divided across all youth in the particular cohort within the site. Other operational costs were tracked at the youth-level based on what the youth received as follows:

- **Court hearings:** We counted the number of hearings youth received following their initial disposition, including probation violations. The only hearings included for Pennsylvania sites were probation violation hearings due to the legislative change instituting regular, mandatory dispositional review hearings. We were unable to find a Louisiana-specific cost estimate for court hearings. Therefore, we used court hearing cost estimates produced by Lehigh County Juvenile Probation in Pennsylvania for both states and adjusted for differences in the time involved in Louisiana court hearings as reported by the administrators.
- **Community supervision:** Community supervision by a probation officer for youth on probation or consent decree were calculated assuming one-hour contacts (1.5 hours when contacts were very infrequent to account for home and school visits). We based estimates for each youth on the number of contacts prescribed for the youths' supervision level as specified in each office's policy. Thus, supervision costs were estimated as the average, site-specific field probation officer's hourly pay X number of contacts for each youth's level of supervision X the number of days youth were on supervision. For the pre-implementation cohort, we estimated that all supervised youth received 2.5 to 3 contacts per month because each office started all youth on the same level of supervision in this cohort.

### ***Community-Based Services and Placements***

Consistent with the bottom-up approach, all service and placement costs were calculated at the youth-level based on what each youth actually received. For each youth, we

obtained administrative data on the type of services and placements received, the provider agency, and the start and end dates of the service or placement over the entire follow-up period. The researchers defined *services* as rehabilitation or treatment-oriented services including mental health counseling, evaluations, evidence-based practices (e.g., cognitive-behavioral therapy, multi-systemic therapy), anger management, life skills, classes (e.g., victim awareness), other community-based services referred by the probation office, and treatment or rehabilitation-oriented placements (e.g., residential treatment, mental health inpatient facilities, detox and drug and alcohol placements).

Because many placements were included in the total service costs, the total placement-only costs primarily included shelters and delinquency-related placements run by the state, county, or a private agency, including correctional placements. Services and placements were either contracted by the probation office, the state juvenile justice agency in Louisiana, or were covered by Medicaid. The steps involved in estimating service and placement costs are summarized in Appendix H. Briefly, we used per diem costs for placements, one-time costs for some services (e.g., psychological evaluations, class), and weekly or daily costs for other services depending on the dosage. We calculated per diem rates for county-based detention and Office of Juvenile Justice secure placements by obtaining the annual operational costs for each facility in 2017 and dividing by 365 days and the number of beds (see technical appendices) in order to generate a per youth-cost using a bottom-up approach that was created consistently across sites. This differs from a top-down approach whereby the per diem rate for each youth would have been based on the number of youths in these facilities at any given time, which would result in per diem rates that increased whenever jurisdictions placed fewer youth. Costs were not included for services from volunteers (e.g., faith-based services) or non-profit agencies.

In order to get accurate cost estimates for services and placements, it was necessary to know the length of time youth spent in each (duration). For youth who were still actively attending a service or placement at the close of the study, the end date of each service was the end of the follow-up period. When end dates were missing for youth who were not still actively attending a service or placement at the close of the study, we estimated the duration by imputing data based on the average length of time spent in each particular provider agency's service or placement by other youth who successfully completed and had a recorded end date.

### **Data Analyses**

Analyses comparing costs over time were conducted by creating a sum total cost for every youth in the sample based on all the outputs and aggregating the costs by cohort. This enabled use of statistical approaches that adjusted for significant differences between cohorts within each site to make the matched groups more equitable along characteristics that were associated with costs (e.g., prior mental health treatment or child welfare involvement). An Analysis of Covariance (ANCOVA) tested for significant cost differences between cohorts within each site after controlling for site-specific covariates and variability in lengths of follow-up. We report the marginal means from the ANCOVAs to adjust for differences between the cohorts. Effectiveness was defined as changes in the rates of success, meaning the proportion of youth within each cohort who did not recidivate as quantified by the inverse of the adjusted recidivism baserates provided earlier in Table 16 ( $1 - \text{recidivism baserate}$ ).

Graph 9 provides a visual from Cohen and Reynolds (2008) to explain the potential associations between cost and effect. Quadrant A (Dominated) is clearly a poor result whereby costs increase and the effectiveness, success in this case (rate of no recidivism), is less. Quadrant D (Dominant) is clearly a strong, positive result whereby costs decrease, and effectiveness



intervention compared to business as usual. A common approach is to generate an Incremental Cost-Effectiveness Ratio (ICERs) calculated by dividing the difference in total costs (incremental costs) between the intervention (in this case, the respective post-implementation cohort) and a comparison (in this case, the pre-implementation cohort) by the difference in effect (incremental effect = rate of no recidivism - success). The formula to examine the cost-effectiveness of the implementation of a RNA and RNR in the first year was as follows:

$$(\text{Cost}_{1\text{st year}} - \text{Cost}_{\text{pre}}) / (\text{rate of no recidivism [success]}_{1\text{st year}} - \text{rate of no recidivism}_{\text{pre}})$$

The formula to examine the cost-effectiveness of the implementation in the 7th year was:

$$(\text{Cost}_{7\text{th year}} - \text{Cost}_{\text{pre}}) / (\text{rate of no recidivism [success]}_{7\text{th year}} - \text{rate of no recidivism}_{\text{pre}})$$

ICERs for the 1st year include the bulk of expenditures for implementation of the RNA and RNR and only a limited period for observing gains in effectiveness. ICERs for the 7th year include only expenditures for sustaining strong implementation and would account for increased gains in effectiveness and/or in cost-savings that were realized over time. It would not be appropriate to compare the 7th year cohort to the 1st year cohort because the ICER should only be calculated following an intervention. The ICER is difficult to interpret in this case because there is not a documented ICER that would be considered acceptable versus outstanding or poor.

Therefore, we focus more attention on the general pattern of results for each site and the quadrant in which the sites fall.

## RESULTS

Table 20 reports the adjusted means for the average costs per youth from the point of intake or adjudication (depending on the site) to the end of their disposition or the end of the study, whichever came first. Adjusted means were produced by ANCOVAs comparing the post-implementation cohorts to the pre-implementation cohorts within each site as well as the

base rates of success produced from data provided in recidivism Table 16 (1 – recidivism base rates). Most sites had at least one youth who was missing a placement or service end date for an uncommon service or placement, making their estimated duration and associated cost exceptionally high cost. Because our estimates were unreliable in these cases, we conducted analyses both with and without these outliers included and reported results for both in Table 20. The outliers were as follows: a) PA Site 1 had one 7<sup>th</sup> year youth missing a release date from a secure facility, b) PA Site 2 had one 1<sup>st</sup> year youth missing an end date from a residential treatment stay, and c) PA Site 3 had one pre-implementation and two 1<sup>st</sup> year-post youths missing end dates for stays in the state’s secure correctional facility.

Table 20 provides the average costs per youth for each cohort, the effectiveness for each cohort, the ICER, and the quadrant from Graph 9 for each site. These results indicated the association between costs and effectiveness varied across sites and no site had significant changes in both outcomes. The pattern of spending across cohorts varied by site, with most having the highest spending in their first year of implementation, as expected. With respect to costs, PA Site 2 had significant cost-savings by the 7<sup>th</sup> Year. Costs trended down for the other two PA sites and trended up for the two LA sites; however, these changes were not significant. With respect to effectiveness, two sites significantly increased (PA Site 1 and LA Site 2), one significantly decreased (LA Site 1), and the other three sites did not have appreciable changes.

**Table 20***Costs, Rates of Success, and Cost-Effectiveness per Cohort*

	Average Costs per Youth (marginal means)			Base Rates of Success (non-recidivism; marginal means)			ICER (change in cost/change in effect)		Quadrant
	Pre-imp M (SE)	1st year M (SE)	7 <sup>th</sup> year M (SE)	Pre-imp	1st year	7 <sup>th</sup> year	1 <sup>st</sup> year vs. Pre	7 <sup>th</sup> year vs. Pre	
Pennsylvania									
<b>Site 1</b>	\$11,290 (\$1,472)	\$9,976 (\$1,458)	\$ 8,597 (\$1,479)	67.14%	83.21%***	83.15%**	-\$1,313/.160 -\$8173	-\$2,692/.160 -\$16,816	
Minus 1 outlier	\$11,304 (\$1,450)	\$9,956 (\$1,436)	\$ 8,033 (\$1,460)				-\$1,348/.160 -\$8389	-\$3,272/.160 -\$20,435	F
<b>Site 2</b>	\$19,061 (\$1,938)	\$15,305 (\$1,958)	\$4,374 <sup>a</sup> (\$1,995)***	80.82%	81.12%	82.15%	-\$3,756/.003 -\$1,252,013	-\$14,687/.013 -\$1,104,250	
Minus 1 outlier	\$18,986 (\$1,890)	\$14,291 (\$1,923)	\$4,533 <sup>a</sup> (\$1,948)***				-\$4,695/.003 -\$1,565,009	-\$14,454/.013 -\$1,086,731	H
Site 3	\$23,566 (\$2,973)	\$24,729 (\$2,994)	\$21,809 (\$3,142)	64.44%	77.52%	77.16%	\$1,163/.131 \$8888	-\$1,757/.127 -13,814	ns
Minus 3 outliers	\$22,496 (\$2,480)	\$21,270 (\$2,509)	\$21,145 (\$2,605)				-\$1,225/.131 -\$9368	-\$1,351/.127 -\$10,620	
Louisiana									
<b>Site 1</b>	\$11,365 (\$1,536)	\$10,473 (\$1,524)	\$11,653 (\$1,582)	83.66%	61.71%***	66.93%***	-\$891/-.220 \$4061	\$288/-.167 -\$1722	E
Site 2	\$7,612 (\$1,618)	\$9,539 (\$1,596)	\$8,043 (\$1,657)	58.27%	56.48%	74.12%*	\$1,927/-.018 -\$107,668	\$431/.159 \$2718	F

*Note.* Pre-imp = pre-implementation cohort, 1<sup>st</sup> year = 1<sup>st</sup> year cohort, 7<sup>th</sup> year = 7<sup>th</sup> year cohort, M = Mean, SE = standard error, ICER = Incremental Cost-Effectiveness Ratio, Quadrant = refers to quadrant of the cost X recidivism Table; ns = non-significant. Sites in bold were those with effective implementation in the 1<sup>st</sup> year post-implementation. For costs, cells represent the marginal means and standard errors after accounting for covariates using Analysis of Covariance. For rates of success, cells represent the marginal means for



recidivism rates produced from GLM after accounting for site-specific covariates (see Table 19). Covariates differed by site: PA Site 1 – mental health outpatient treatment history, child welfare history; PA Site 2 – evidence of an Axis II disorder; PA Site 3 - number of prior offenses and evidence of child welfare history; LA Site 1 – mental health outpatient treatment history, child welfare history; LA Site 2 – evidence of an Axis I disorder.

<sup>a</sup> The 7th year cohort significantly differed from the pre-implementation cohort; Model  $R = .20$  (SE = \$19,800)  $F\Delta(1, 201) 22.69$ ,  $p < .001$ .

\* $p = .05$ , \*\* $p = /< .01$ , \*\*\* $p = /< .001$ .

Because no site had significant change in both costs and effectiveness, arguably it is not necessary to calculate a cost ratio (ICER). Moreover, these ratios are difficult to interpret so we focus instead on the pattern of findings. Both the PA 1 and the LA 2 Sites became significantly more effective (more success) without significant changes in costs. Although it was not significant, it was notable that PA 1 had an average reduction in costs per youth by \$2,692 by the 7<sup>th</sup> year. Thus, PA 1 is in the Dominant quadrant. PA Site 2 had a steady and significant cost-savings since implementation while also sustaining their low recidivism rate. Thus, PA Site 2 also was in the Dominant quadrant. LA Site 1 had a significant reduction in success without a change in costs, suggesting they fell closer to the Dominated quadrant. Lastly, PA Site 3 was the only site to not have significant changes in either outcome, but they were trending in the right direction on both fronts, reducing costs while increasing success.

### **SUMMARY OF FINDINGS: COST-EFFECTIVENESS**

On balance, results of the cost-effectiveness analyses were positive. Two sites had significant increases in success (reductions in recidivism) with no increased cost, and one site had considerable cost-savings while sustaining a low recidivism rate. One of these three sites with positive results, one was a poor implementer initially but achieved effectiveness by the 7<sup>th</sup> year. The other two sites had positive outcomes in their first year that just continued to improve by the 7<sup>th</sup> year. PA Site 3 was trending in the right direction, but its rate of change has been gradual and thus, it is not achieving significant changes yet. LA Site 1 on the other hand, may benefit from examining where it is allocating resources in order to improve outcomes.

Since most sites did not have significant decreases in costs by their 7<sup>th</sup> year but were trending towards cost-savings, we examined whether they were reallocating their expenditures. Much can be learned from PA Site 2, which had an average cost-savings of over \$14,500 per

youth by their 7<sup>th</sup> year of implementation. This probation office had higher fixed costs than any other site because they invested in considerable staff and supervisor training as well as routine quality assurance and quality supervision protocols. The largest cost-savings for this site was in expenditures for community services and out-of-home, treatment-oriented placements while they shifted to greater reliance on probation officers to do needs-based case planning. This site has always maintained a very low rate of placements, despite the fact its rate of high-risk youth is comparable to the rest of Pennsylvania. This office also had the least turnover among its probation officers and the strongest adherence to RNR of any office.

Aside from PA Site 2, in every other probation office, there was significant cost-savings in the number of supervision contacts, but few other expenditures were reduced. LA Site 1 was one exception where they decreased costs of secure placements, but this was balanced out by large increases in costs of services. It is notable that none of the sites significantly increased costs within their first year of implementation, which conceivably would be the most expensive year because it is the year that sites paid for the bulk of the intervention.

It is important to note that the costs per youth reported in this study will not directly map onto these probation departments' total costs. This is because we only tracked costs that could reasonably be expected to change, and we defined costs in a manner that would enable measuring that change over time. Thus, the cost-savings reported here will not translate into actual budgetary changes for a probation office in some cases, especially offices that maintain a detention facility. Many costs of running a facility do not change regardless of the amount of youth in the facility. Probation offices also may not see huge shifts in spending when they maintain all of their probation officers, unless they invest in the professional development of their probation officers and leverage them to save costs in other areas (i.e., community services).

Where the cost-savings is likely to be the most noticeable to a probation office's budget following implementation of RNR is in per diem costs of delinquency-related placements, contracted services, and Medicaid services. These costs only shift if these resources are reserved for higher risk youth and services are aligned with dynamic risk factors. Moreover, these costs only shift if probation offices procure services that charge by case or session rather than using blanket contracts, which frequent in PA Site 3 and LA Site 2.

### **Limitations**

There were a few limitations in the cost-effectiveness procedures that affect the interpretation of results. First, we did not include all the costs of the initial implementation of the intervention (risk-needs assessment) in the 7<sup>th</sup> year cohort's cost data. Instead, we included in the 7<sup>th</sup> year cohort all of the trainings and intervention-related costs that occurred from the 2<sup>nd</sup> year to 7<sup>th</sup> year. Second, we were unable to include some costs uniformly in every site (e.g., electronic monitoring). Thus, sites should only be compared in terms of their pattern of findings rather than their absolute dollars. The following costs could not be obtained and were not included in the cost analyses:

- Community-based services for youth supervised on probation by the Louisiana Office of Juvenile Justice (OJJ). This would have had the largest impact on cost estimates for LA Site 1, which had 22 youth on OJJ probation at some point, with a significantly lower number in the 1<sup>st</sup> year cohort than in the other two cohorts. LA Site 2 only had three youth total who were served by OJJ probation.
- Costs of drug testing were not available for the pre-implementation and 1<sup>st</sup> year cohorts in most sites, and therefore, were not included for any sites.

- Costs of supervision were estimated based on every youth's starting level of supervision and did not account for changes in supervision level over time. Most youths' level of supervision was likely stepped down following their first reassessment. The supervision costs only counted youth who had a disposition or a revised disposition of probation or a consent decree and did not account for the savings in probation contact costs if these youth spent any time in a placement later.
- We did not have probation violation data for LA Site 1's 7<sup>th</sup> year cohort so these costs were not included in any LA Site 1 cohorts.
- As noted, we did not include the expense of court hearings other than probation violations for any Pennsylvania sites due to legislative changes in the frequency of dispositional reviews.

## PUTTING IT ALL TOGETHER

The intention of this multi-level, multi-site study was to examine the long-term sustainability and impacts of risk-needs assessment (RNA) and risk-need-responsivity (RNR) implementation among juvenile probation offices that followed a fairly comprehensive implementation protocol (Vincent, Guy, & Grisso, 2012). In addition, this study was designed to a) examine whether differences existed in the impacts within probation offices that had strong and effective implementation initially versus those who did not, and b) cost-effectiveness. Tables 21 and 22 summarize the findings for each of the five probation offices.

### **Sustainability of Practice: Implementation Outcomes**

Both states continued to administer their risk-needs assessment seven years after its implementation. Moreover, both states maintained progressive reform efforts after implementing their RNA in 2009 to different degrees. It was clear that Pennsylvania had more resources than Louisiana to continue to be innovative (making continual adjustments to fit the needs of a continually changing environment). The PA Juvenile Court Judge's Commission is an entity that provides considerable resources, information, training and data management to the county-run probation offices. As such, it provides opportunities that the probation offices in Louisiana have not had. For example, it has supported the use of a master trainer model for the YLS/CMI and for case planning across the state, in addition to other training opportunities such as training in the Carey Guides, which teach probation officers how to conduct needs-based contacts, as well as other skills. The average officer and supervisor in Pennsylvania received considerably more training hours over the past seven years than the average officer or supervisor in Louisiana. Moreover, Pennsylvania probation officers received booster trainings twice a year and the

highest performing sites also had routine quality assurance procedures. In Louisiana, only one site implemented booster training, which was annual, and quality assurance procedures.

Overall, every site except LA Site 2, significantly improved their adherence to their risk-needs assessment administration policy and the majority of probation officers reported strong adherence to use of their RNA in most case management-related decisions. The policy in LA Site 2 was the most challenging to execute because the SAVRY was to be administered post-adjudication and pre-disposition in every case, with no exceptions (there was room for exceptions in other offices). This policy requires the court's cooperation by agreeing to bifurcate hearings so probation officers can complete the SAVRY in-between hearings. According to the administrators at this site, the turnover in their judges resulted in less bifurcation of hearings, which in turn resulted in poorer adherence to completion of the SAVRY pre-disposition. However, the court changes cannot explain the decline in LA Site 2's proportion of youths receiving a SAVRY while under supervision and do not explain the clear degradation quality of the SAVRY risk ratings (only 2 youth were identified as high-risk). Both of these regressions in practice appeared to be a result of more lax checks and balances in the office in general. This explanation was confirmed by the administration's interpretation the findings of this study.

PA Site 3 had the strongest improvement in adherence to completing their RNA prior to disposition because they had a significant policy change that enabled the YLS/CMI to be completed pre-adjudication as opposed to post-adjudication/pre-disposition. Nonetheless, PA Site 3 also had the lowest reports of adherence to use of their RNA in decisions. Based on probation officer reports, the low adherence to RNR was because they felt that the judges were not bought into the YLS/CMI or to their recommendations, as opposed to a lack of interest in RNR by probation officers.

The probation officer interview results suggest improvement may be needed across all sites in use of their RNAs in recommendations regarding how to respond to youth who commit probation violations. However, results are difficult to interpret. Every office had a graduated response matrix officers were should use to guide their decisions about how to handle violations or what to recommend to the court. These matrices include risk level from each office's RNA as an essential part of selecting the best response. It is unclear whether probation officers did not consider the fact their RNAs were directly tied to their response matrices when responding to our interview questions about probation violations or if they simply were not using their graduated response matrices. The latter explanation is plausible, at least in the Louisiana sites, where the administrators indicated they were unsure how closely their officers adhered to these matrices.

Surprisingly, findings pertaining to implementation-level outcomes made it clear that positive impacts were not necessarily attributed to whether probation offices adhered to their policies for the intervention (RNA and RNR). Table 21 summarizes the implementation-level outcomes and Table 22 summarizes the impact-level outcomes of each site in the 7<sup>th</sup> year of their implementation according to whether they improved, sustained/maintained, or regressed from their 1<sup>st</sup> year of implementation. An essential consideration when interpreting these results is that within-site rates of improvement were all dependent on the particular site's baseline (pre-implementation) and their 1<sup>st</sup> year performance, which varied across sites. PA Site 2, for example, had already hit its ceiling for improvement in many areas by its first year.



**Table 21**

*Summary of Implementation-Level Outcomes (Adherence to Intervention Reform) by Site for Their 7<sup>th</sup> Year Post-Implementation*

	Administer RNA	RNA Administer Pre-Dispo	POs Report Use of RNR <sup>a</sup>	Disposition Related to Risk	Placements Related to Risk	Recidivism Related to Risk <sup>b</sup>	Reform Type
<b>Pennsylvania</b>							
<b>Site 1</b>	Improved	Improved	Average	Improved	Improved	Sustained	Innovative
<b>Site 2</b>	NA	NA	High	Sustained	Sustained	Sustained	Innovative
Site 3	Improved	Improved	Low	Improved	Improved	Improved	Recently Established
<b>Louisiana</b>							
<b>Site 1</b>	Improved	Improved	Average	Regressed	Regressed	Slight Regress	Temporary
Site 2	Regressed	Regressed	Average	Sustained	Regressed	Maintained <sup>c</sup>	Resident

NA = not applicable

<sup>a</sup> Use of RNR was based on PO interviews of their use of the SAVRY or YLS/CMI in disposition recommendations, service referral decisions and supervision level. Sites listed as average were those where roughly 50% to 60% of the POs directly or indirectly mentioned use of their RNA in disposition and service recommendations.

<sup>b</sup> Whether recidivism was related to risk differs from the other implementation outcomes listed, which refer to use of the risk-needs assessment in decisions. Whether the risk level on the instruments was related to recidivism in the expected direction would be considered a measure of fidelity to completion of the instrument as opposed to fidelity to procedures.

<sup>c</sup> The terms sustained and maintained both indicate where rates of outcomes did not change but maintained indicates continuation of a relatively poor outcome and sustained indicates continuation of a relatively positive outcome.

**Table 22***Summary of Outcomes by Site for Their 7<sup>th</sup> Year Post-Implementation*

	Adherence to RNA Policy	Informal Processing Rates	Dispositions Types	Placement Rates	Youth Outcomes	Public Safety (Recidivism)	Cost-Effectiveness
<b>Pennsylvania</b>							
Site 1	Improved	Improved	Improved	Improved	3 out of 4	Improved	Effective, no increased cost
Site 2	N/A	Sustained	Regressed	Improved	2 out of 4	Sustained	Sustained effectiveness, cost-savings
Site 3	Improved	Maintained <sup>a</sup>	Improved	Maintained	1 out of 4	Maintained	No change in effectiveness or cost
<b>Louisiana</b>							
Site 1	Improved	Improved	Improved	Improved	3 out of 4	Regressed	Ineffective, no change in cost
Site 2	Regressed	Improved	Improved	Maintained	1 out of 4	Improved	Effective, no increased cost

N/A = not applicable

<sup>a</sup>As a reminder, the terms sustained and maintained both indicate where rates of outcomes did not change but maintained indicates continuation of a relatively poor outcome and sustained indicates continuation of a relatively positive outcome.

As Table 21 reflects, with the exception of probation officers reports about their adherence to RNR principles in PA Site 3, all three probation sites in Pennsylvania either improved or sustained their implementation-level outcomes. This includes adherence to the risk principle in case management-related decisions. Moreover, as shown in Table 22, with the exception of placement and recidivism rates in PA Site 3, which was the slowest site to establish the intervention, the Pennsylvania sites improved or sustained their strong impact-level outcomes compared to their first year of implementation. Thus, in the case of Pennsylvania, good implementation-level outcomes were tied to strong impact-level outcomes. Two of these sites would be classified as having sustained, innovative reform. PA Site 3 was really just ramping up in their implementation effort and, therefore, hard to classify into a category of reform.

The connection between adherence to the intervention and impact-level outcomes was messier in Louisiana. Both of these sites had regression in adherence to the risk principle and LA Site 2 also had significant regression in adherence to completion of the SAVRY. LA Site 1 fell into the temporary reform category because use of the SAVRY in decisions was initially strong but started to fade. LA Site 2 fell into the resident reform category because they never really established the intervention in all areas of their practice. Nonetheless, both sites still had improvement in some of the impact-level outcomes measured by this study, including a significant reduction in recidivism accomplished by LA Site 2 in its 7<sup>th</sup> year of implementation. The explanation for this unpredictable finding relates to system partners, as will be explained later, and the manner in which we measured impact-level outcomes. Although both LA Sites had significant reductions in use of more restrictive dispositions and increases in informal processing, most of these decisions were unrelated to youths' risk levels. Moreover, the significant reduction in placement rates in LA Site 1's 7<sup>th</sup> year of implementation was ostensibly

positive, but unfortunately, low-risk youth were just as likely to end up in any placement (40%) as high-risk youth (40%). LA Site 2 continued to place relatively high rates of youth, a high proportion of which was low-risk, and yet had a significant recidivism reduction. Thus, the positive outcomes found in both of these sites could not be attributed to adoption of RNR but may be attributed to innovative reforms using other approaches, as will be described later.

### **Sustainability of Impacts: System-Responses, Youth Outcomes, and Recidivism**

With respect to informal processing, possibly the most positive finding from this study was the significant increase in frequency of informal processing in most sites (Table 9), particularly where informal processing decisions were not being made at these post-adjudication points before. Another positive finding was reductions in the severity of other dispositions, which occurred at all but one site. The exception was PA Site 2, which had an increase in probation dispositions and a reduction in consent decrees.

Decisions about which youth would be handled informally were not significantly related to risk in the expected direction in any site. Most sites had changes in their district attorneys from their 1<sup>st</sup> year of implementation. This was positive because the new district attorneys were largely bought into the idea of handling youth informally whenever possible. However, this had little to do with results of any risk assessment. For the other dispositions, the PA sites sustained or improved the associations between dispositions and youths' risk levels but dispositions at the Louisiana sites had little association with youth's risk levels. According to administrators at the Louisiana sites, both had relatively new judges. The new judges rarely bifurcated hearings and therefore, did not allow time for a SAVRY to be conducted before their decision was made. Moreover, these judges may have been told about the SAVRY and RNR by the probation offices at some point but were not sufficiently indoctrinated into the evidence-based practice. The result

was dispositions that did not take risk or dynamic risk factors into account. Conversely, all the Pennsylvania judges attend conferences and trainings where RNR is common language.

With respect to placements at any point during supervision, all of the initially effective implementers continued to have significant reductions in placement rates, or sustained low placement rates, for both secure and restricted settings and for any out-of-home placements in general. The two ineffective implementer sites did not significantly decrease their rates but also did not increase their rates. Placement decisions were significantly correlated with youths' risk in all Pennsylvania sites. Unfortunately, both Louisiana sites were placing a significant proportion of their low-risk youths in the 7<sup>th</sup> year of implementation. Again, administrators at both sites felt this was the result of a combination of new judges who were more willing to use detention as a deterrent than the previous judges, and probation officers not consulting their graduated response matrices to make recommendations following probation violations.

With respect to positive youth outcomes, within the 7<sup>th</sup> year cohort there were clear patterns of improvement in school attendance and performance across the board. Employment outcomes significantly improved in PA Site 1 but there were too few youths of employment age to examine employment outcomes in other sites. The findings were all positive but without measures of improvement in youth outcomes at the pre-implementation stage, the findings cannot be linked to implementation of RNR. Moreover, many youths in the 7<sup>th</sup> year cohort were still under supervision by the end of the study and so may have simply improved their educational performance and attendance due to being monitored. Lastly, we were unable to measure these outcomes for youth who were committed to OJJ or were in a placement towards the end of the study, meaning the analyses did not capture the highest-risk youth.

Findings related to recidivism rates were less positive than expected. Our hypothesis that recidivism reduction was not evident in the 1<sup>st</sup> year of implementation because it is a longer-term outcome was only supported in LA Site 2. PA Site 1 also had a significant reduction in recidivism in its 7<sup>th</sup> year of implementation, but they actually accomplished this in their first year and simply continued to improve. As mentioned previously, the recidivism reduction in LA Site 2 was a surprise because this site had the poorest implementation-level outcomes and was the least likely to have improvements in other impact-level outcomes. After conversations with administrators at LA Site 2, we believe the best explanations for their effectiveness were a) this site had one of the highest recidivism rates at baseline and, therefore, had more room for improvement than other sites, and 2) the creation and execution of an assessment and referral center. The assessment and referral center is a place law enforcement and parents can bring youth who are getting into trouble and often times the situation can be mediated, or youth can be connected to appropriate services following their screening without ever being charged or petitioned. The center is open day and night and is a preferred alternative to taking youth to detention. According to administrators, when they discovered their new judges had a tendency to use detention and handle youth formally, probation encouraged increased use of their referral center. They referred to this as an adaptive and innovative leadership strategy to ‘work around’ the issues occurring in their courts. The process of using this center greatly decreased arrests and petitions in the parish.

LA Site 1 had a significant increase in recidivism in their 1<sup>st</sup> year, which was maintained into their 7<sup>th</sup> year. There are a couple likely explanations for this. First, this site had the lowest recidivism rate at baseline so there was more room for an increase. Second, this site had the shortest, average follow-up period (seven months) of all the sites and the district attorneys started

petitioning youth faster during the 1<sup>st</sup> and 7<sup>th</sup> year cohort years than in the pre-implementation cohort year. Thus, arrests may not have actually increased, but petitions (recidivism measure) did increase due to the faster rates of processing.

### **Cost-Effectiveness of Implementation**

Overall, the cost-effectiveness findings suggested risk-needs assessment paired with the RNR approach is a relatively low-cost intervention that can maximize outcomes by reallocating resources. This is a particularly important practice as we move into an era where resources are scarce. This is the first study to report the cost-effectiveness of implementation of risk-needs assessment and risk-need-responsivity using actual youth-level data from before and after implementation of these practices. PA Site 2 had significant cost-savings immediately in its first year that they sustained. The sites with reductions in recidivism did not have to increase their costs to achieve these results. As sites increased time spent on assessments and potentially costs of community-based services, they decreased costs spent on supervision contacts and placements. Although the findings were generally positive, the hypothesis that all sites would significantly cut costs after implementing the RNR approach was not realized. This may be because most sites increased costs of community-based services and may not have been limiting services to only those that addressed youth's criminogenic needs. Moreover, although placement rates were decreasing, which would theoretically lead to a cost-savings, youth were spending more time in placement and the costs of placements increased.

### **IMPLICATIONS FOR POLICY, PRACTICE, AND FUTURE RESEARCH**

All sites continued to use their RNA over the past eight to seven years from their initial implementation and most continued to improve their adherence to the RNA and RNR evidence-based practices over time. This is a positive finding and may be attributed to a) the consistent

support for reform efforts in the states during the first five or so years of this effort, much of which was initiated by the MacArthur Models for Change Initiative, and b) the initial comprehensive implementation processes followed by these sites.

This study's implementation-level and impact-level findings from RNA and RNR implementation led to some important implications for effective implementation of risk-needs assessment and risk-need-responsivity in dispositional planning. These implications reinforce findings from implementation science regarding the key drivers of strong and sustained implementation, namely competence, leadership, and organizational drivers (Fixsen et al., 2019):

- Justice agencies must leverage competency and leadership drivers to develop strategies for managing turnover in staff and leadership without risking sustainability of evidence-based practices. The site that showed the most regression, both in fidelity to its RNA (meaning the validity of the completed RNAs seemed to be degrading) and in fidelity to the site's policies and use of the risk principle, also had the most turnover in leadership and probation staff. In addition to having written policies and procedures that fully integrate evidence-based practices (organizational driver), executing training and booster training protocols, on-going coaching procedures for staff and supervisors (competency drivers), and a system for quality assurance and accountability are essential (organizational drivers).
- Maintaining the buy-in of key stakeholders into any evidence-based practice is an essential strategy for sustainability and these efforts must be on-going. It is clear that in the two most successful sites in Pennsylvania, routine promotion of the approach throughout the state juvenile justice system played a large part. This includes frequent presentations about the YLS/CMI and RNR at state judges' conferences. In addition to



issues related to turnover in staff, the significant regression in adherence to the risk principle found in the Louisiana sites were in areas of decision-making under the primary control of the courts. Both offices had turnover in their judges since 2010, resulting in more formal processing and use of detention with youth. Administrators in LA Site 1 indicated they had informed their new judge about the SAVRY early in her onboarding but felt hearing about the importance of the SAVRY and RNR from other judges in the state would have been much more beneficial.

- Initial ineffectiveness does not mean later ineffectiveness. It was clear that the initial quality and effectiveness of implementation of the RNA and RNR intervention influenced the sustainability of practices and impacts seven years later. One of the initially ineffective sites had a change in leadership that led to great improvement in their implementation of the YLS/CMI. As noted earlier, it takes two to four years after adoption of a practice before agencies tend to have the practice implemented to the point where there is an impact on the consumer. In the case of PA Site 3, the change in leadership was an effective driver of better implementation.
- PA Site 2, with its strong implementation and intervention outcomes, as well as significant cost-savings, exemplifies the value of investing in supervisor training, routine coaching of staff, routine quality assurance of both RNAs and case plans, and integration of adherence to evidence-based practice into probation officer performance reviews.
- Juvenile justice agencies, technical assistance providers, and research partners should work together to standardize documentation around employment, education and other important outcomes for the youth (e.g., prosocial activities, community engagement, prosocial identity) who have contact with the system. This would enable more rigorous

research to be conducted on whether juvenile justice agencies are achieving positive youth outcomes.

- One next step to improving the impacts of RNA and RNR implementation is for justice agencies to implement routine quality assurance and data-tracking of their need-to-service matching process. There is good evidence that matching services to youths' dynamic risk factors leads to reductions in recidivism (e.g., Vieira et al., 2009). In addition, it is possible most sites did not cut their costs like PA Site 2 because youth were getting more services than they needed. Tracking need-to-service match data is challenging for justice agencies, particularly when most agencies still do not have a comprehensive method for tracking service data. Good data tracking and matching may require a research department or partnering with a university.
- Another area for improvement that may equate to reduced costs is the application of RNR principles to the system's response to youth who commit probation violations. This is the area where probation officers reported the weakest adherence to RNR principles, and hearings for probation violations appeared to increase in almost every site. However, it is unclear whether this increase was due to better data tracking because violations are other data points that are not tracked consistently in all probation offices. Another recommendation is that offices leverage competency (supervision/coaching) and operational drivers (e.g., quality assurance protocols) to ensure probation officers are using graduated response matrices to manage violations. It is entirely possible the lack of an association between risk and later placements in Louisiana were a consequence of not using these matrices to make recommendations to the courts. Of course, it is also possible the courts may not have followed the recommendations either way.

The findings also lead to some future directions for research:

- The field would benefit from studies that can disentangle the impact of implementation of a risk-needs assessment versus simply having legal leaders (e.g., assistant district attorneys, judges) who embrace diversion. The three sites that greatly increased informal processing all had new assistant district attorneys. These decisions were unrelated to youths' risk. Thus, another topic for future research is to examine the quality of these diversion decisions as evaluated by rates of recidivism among diverted youth.
- The field would benefit from comprehensive examination of the impacts of juvenile justice interventions and positive youth outcomes, which tend to be overshadowed by recidivism research. We attempted to study some positive outcomes, but it was clear that limitations in the documentation of these outcomes by juvenile justice systems restricts research in this area. As juvenile justice agencies work to implement standards in data tracking for positive youth outcomes, such as increases in protective factors/strengths and improvement in social functioning (e.g., education, employment, civil responsibility), much more research is needed in this area.
- This study did not investigate adherence to the RNR need principle or the quality of need-to-service matching. This area of investigation is a critical next step to explain the success if an agency, or lack thereof, in reducing both recidivism and costs. These studies are labor intensive and costly but are also necessary in order to move the field closer to designing an evidence-based and standardized approach to case planning.
- Another area in need of research is whether application of RNR principles and/or graduated response matrices results in reduced rates of placement, recidivism and costs.

- Lastly, and possibly most importantly, there may be a benefit to randomized control-group designs in this area. The limitation in control-group designs is the fact impacts depend on a variety of factors that are specific to each probation office and the jurisdiction in which it operates (e.g., the philosophy of the ADA, judges, and law enforcement). A good alternative could be randomization of probation officers rather than sites (see Bonta et al., 2011) and strong quasi-experimental, pre-post designs that target sites with high recidivism rates. The lack of a significant impact on recidivism in most of the sites in this study is largely due to their relatively low recidivism rates at baseline.

## REFERENCES

- Andrews, D. A., & Bonta, J. (2003). *The Psychology of Criminal Conduct* (3rd ed.). Cincinnati, OH: Anderson Publishing Company.
- Andrews, D. A., & Bonta, J. (2006). *The Psychology of Criminal Conduct* (4th ed.). Cincinnati, OH: Anderson Publishing Company.
- Andrews, D. A., & Bonta, J. (2010). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy, and Law*, *16*(1), 39–55. <https://doi.org/10.1037/a0018362>
- Andrews, D. A., Bonta, J., & Hoge, R. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior*, *17*(1), 19–52.  
<https://doi.org/10.1177/0093854890017001004>
- Andrews, D. A., & Dowden, C. (2006). Risk principle of case classification in correctional treatment: A meta-analytic investigation. *International Journal of Offender Therapy and Comparative Criminology*, *50*(1), 88–100. <https://doi.org/10.1177/0306624X05282556>
- Barrett, S.B., Bradshaw, C.P., & Lewis-Palmer, T. (2008). Maryland statewide PBIS initiative: Systems, evaluation, and next steps. *Journal of Positive Behavior Interventions*, *10*(2), 105-114. <https://doi.org/10.1177/1098300707312541>
- Bodilly, S. (1998). *Lessons from New American Schools' scale-up phase: Prospects for bringing designs to multiple sites*. Santa Monica, CA: RAND.
- Bonta, J., Bourgon, G., Rugge, T., Scott, T., Yessine, A. K., Gutierrez, L., & Li, J. (2011). An experimental demonstration of training probation officers in evidence-based community supervision. *Criminal Justice and Behavior*, *38*(11), 1127-1148.  
<https://doi.org/10.1177/0093854811420678>
- Borum, R., Bartel, P., & Forth, A. (2006). *Structured Assessment of Violence Risk in Youth*

(SAVRY). Lutz, FL: Psychological Assessment Resources, Inc.

Cohen, D. J. & Reynolds, M. R. (2008). Interpreting the Results of Cost-Effectiveness Studies.

*Journal of American College of Cardiology*, 52(25), 2119-2126

<https://doi.org/10.1016/j.jacc.2008.09.018>

Dishion, T.J., McCord, J., & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist*, 54(9), 755–764.

<https://doi.org/10.1037//0003-066x.54.9.755>

Dowden, C., & Andrews, D.A. (1999). What works in young offender treatment? A meta-analysis. *Forum on Corrections Research*, 11(2), 21-24.

Dowden, C., & Andrews, D.A. (2000). Effective correctional treatment and violent offending: A meta-analysis. *Canadian Journal of Criminology*, 42(4), 449–467.

Dowden, C., & Andrews, D. A. (2004). The importance of staff practices in delivering effective correctional treatment: A meta-analysis of core correctional practices. *International Journal of Offender Therapy and Comparative Criminology*, 48(2), 203-214.

<https://doi.org/10.1177/0306624X03257765>

Durlak, J. (2013). *The Importance of Quality Implementation for Research, Practice, and Policy: ASPE Research Brief*. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, Office of Human Services Policy, U.S. Department of Health and Human Services.

Fabelo, T., Arrigona, N., Thompson, M.D., Clemens, A., Marchbanks, M.P. (2015). *Closer to Home: An Analysis of the State and Local Impact of the Texas Juvenile Justice Reforms*. New York: Council of State Governments Justice Center.

Farrington, D. P. (2007). Advancing knowledge about desistance. *Journal of Contemporary*

- Criminal Justice*, 23, 125-134. <https://doi.org/10.1177/1043986206298954>
- Fixsen, D. L., Blase, K. A., & Van Dyke, M. K. (2019). *Implementation practice & science*. Active Implementation Research Network.
- Flores, A. W., Lowenkamp, C. T., Holsinger, A. M., & Latessa, E. J. (2006). Predicting outcome with the Level of Service Inventory-Revised: The importance of implementation integrity. *Journal of Criminal Justice*, 34(5), 523–529. <https://doi.org/10.1016/j.jcrimjus.2006.09.007>
- Gatti, U., Tremblay, R., & Vitaro, F. (2009) Iatrogenic effect of juvenile justice. *The Journal of Child Psychology and Psychiatry*, 50(8), 991-998. <https://doi.org/10.1111/j.1469-7610.2008.02057.x>
- Gendreau, P., Smith, P., & French, S. A. (2006). *The Theory of Effective Correctional Intervention: Empirical Status and Future Directions*. In F. T. Cullen, J. P. Wright, & K. R. Blevins (Eds.), *Advances in criminological theory: Vol. 15. Taking stock: The status of criminological theory* (p. 419–446). New Brunswick, NJ: Transaction Publishers.
- Goldstein, N. (2011, April). *A federal perspective on scale-up*. Presented at the Emphasizing Evidence-Based Programs for Children and Youth Forum, Washington, DC.
- Guy, L. S., & Vincent, G. M. (2011, March). *Field interrater reliability of the SAVRY and YLS/CMI with probation officers*. Paper presented at the 2011 annual conference of the American Psychology-Law Society, Miami, FL.
- Guy, L.S., Vincent, G.M., Grisso, T., and Perrault, R. 2015. *Advancing Use of Risk Assessment in Juvenile Probation*. Technical report submitted to the Office of Juvenile Justice and Delinquency Prevention. Available at [www.ncjrs.gov/pdffiles1/ojjdp/grants/249155.pdf](http://www.ncjrs.gov/pdffiles1/ojjdp/grants/249155.pdf).
- Haas, S. M., & DeTardo-Bora, K. A. (2009, Spring). Inmate reentry and the utility of the LSI-R

in case planning. *Corrections Compendium*, 11-16, 49-52.

<https://www.jrsa.org/pubs/forum/full-articles/inmate-reentry.pdf>

Hawkins, J.D., Herrenkohl, T.I., Farrington, D.P., Brewer, D., Catalano, R.F., Harachi, T.W., & Cothorn, L. (2000). *Predictors of Youth Violence: Juvenile Justice Bulletin*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Hoge, R. D., & Andrews, D. A. (2006). *Youth Level of Service/Case Management Inventory: User's manual*. North Tonawanda, NY: Multi-Health Systems.

Juvenile Justice and Delinquency Prevention Act. 2 U. S.C. § 5633 (a)(11) (2006).

Leve, L.D. & Chamberlain, P. (2005). Association with delinquent peers: Intervention effects for youth in the juvenile justice system. *Journal of Abnormal Child Psychology*, 33(3), 339-347. <https://doi.org/10.1007/s10802-005-3571-7>

Lipsey, M. W. (2009). The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims & Offenders*, 4(2), 124-147. <https://doi.org/10.1080/15564880802612573>

Loman, S.L., Rodriguez, B.J., & Horner, R.H. (2010). Sustainability of a targeted intervention package: First step to success in Oregon. *Journal of Emotional and Behavioral Disorders*, 18(3), 178-191. <https://doi.org/10.1177/1063426610362899>

Miller, J., & Maloney, C. (2013). Practitioner compliance with risk/needs assessment tools. *Criminal Justice and Behavior*, 40(7), 716-736. <https://doi.org/10.1177/0093854812468883>

Moffitt, T. E., & Caspi, A. (2001). Childhood predictors differentiate life-course. Persistent



- and adolescence-limited antisocial pathways among males and females. *Development and Psychopathology*, 13(2), 355 - 375. [https://doi.org/ 10.1017/S0954579401002097](https://doi.org/10.1017/S0954579401002097)
- Mulvey, E.P., Steinberg, L., Piquero, A.R., Besana, M., Fagan, J. et al. (2010). Trajectories of desistance and continuity in antisocial behavior following court adjudication among serious adolescent offenders. *Development and Psychopathology*, 22(2), 453-475. <https://doi.org/10.1017/S0954579410000179>
- National Research Council. (2013). *Reforming Juvenile Justice: A developmental approach*. Washington, DC: The National Academics Press. <https://doi.org/10.17226/14685>
- Olver, M. E., Stockdale, K. C., & Wormith, J. S. (2009). Risk assessment with young offenders: A meta-analysis of three assessment measures. *Criminal Justice and Behavior*, 36(4), 329-353. <https://doi.org/10.1177/0093854809331457>
- Olver, M. E., Stockdale, K. C., & Wormith, J. S. (2014). Thirty years of research on the Level of Service Scales: A meta-analytic examination of predictive accuracy and sources of variability. *Psychological Assessment*, 26(1), 156–176. <https://doi.org/10.1037/a0035080>
- Romani, C. J., Morgan, R. D., Gross, N. R., & McDonald, B. R. (2012). Treating criminal behavior: Is the bang worth the buck? *Psychology, Public Policy, and Law*, 18(1), 144-165. <https://doi.org/10.1037/a0024714>
- Seigle, E., Walsh, N., & Weber, J. (2014). *Core Principles for Reducing Recidivism and Improving Other Outcomes for Youth in the Juvenile Justice System*. New York: NY. Council of State Governments Justice Center.
- Shook, J. L., & Saari, R. C. (2007). Structured decision making in juvenile justice: Judges' and probation officers' perceptions and use. *Children and Youth Services Review*, 29(10), 1335-1351. <https://doi.org/10.1016/j.chilyouth.2007.05.008>

Singh, J. P., Grann, M., & Fazel, S. (2011). A comparative study of violence risk assessment tools: A systematic review and metaregression analysis of 68 studies involving 25,980 participants. *Clinical Psychology Review, 31*(3), 499-513.

<https://doi.org/10.1016/j.cpr.2010.11.009>

Slavin, R. E., & Madden, N. A. (2000). Research on achievement outcomes of success for all: A summary and response to critics. *Phi Delta Kappan, 82*(1), 38–40, 59–66.

[http://elinks.dialog.com/servlet/LinkManager.StarLinksDirector?issn=0031-](http://elinks.dialog.com/servlet/LinkManager.StarLinksDirector?issn=0031-7217&vol=82&issue=1&page=38&epage=40&year=2000&lm=false&rel=v3&userid=AAWDK&publ=openURL8303011&aulast=Slavin&pf_id=0&app=EDUCAT&snr=20110607_162350_342f8_d&db=ERIC&title=Phi+Delta+Kappan&atitle=Research+on+Achievement+Outcomes+of+Success+for+All%3A+A+Summary+and+Response+to+Critics.)

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[\(Full text available at SFX\)](http://elinks.dialog.com/servlet/LinkManager.StarLinksDirector?issn=0031-7217&vol=82&issue=1&page=38&epage=40&year=2000&lm=false&rel=v3&userid=AAWDK&publ=openURL8303011&aulast=Slavin&pf_id=0&app=EDUCAT&snr=20110607_162350_342f8_d&db=ERIC&title=Phi+Delta+Kappan&atitle=Research+on+Achievement+Outcomes+of+Success+for+All%3A+A+Summary+and+Response+to+Critics.)

Taylor, J.E. (2005). *Sustainability: Examining the Survival of Schools' Comprehensive School Reform Efforts*. Washington, DC: American Institutes for Research.

Tietenberg, T. (1996). *Environmental and Natural Resource Economics* (4<sup>th</sup> ed.) New York: Harper Collins. Titus Maccius Plautus. (n.d.).

Vieira, T. A., Skilling, T. A., & Peterson-Badali, M. (2009). Matching court-ordered services with treatment needs. *Criminal Justice and Behavior, 36*(4), 385-401.

<https://doi.org/10.1177/0093854808331249>

Viljoen, J. L., Jonnson, M. R., Cochrane, D. M., Vargen, L. M., & Vincent, G. M. (2019). Impact of risk assessment instruments on rates of pretrial detention, postconviction placements, and release: A systematic review and meta-analysis. *Law and Human Behavior, 43*(5), 397-420. <http://dx.doi.org/10.1037/lhb0000344>

- Vincent, G. M., Guy, L. S., Fusco, S.L., & Gershenson, B.G. (2012). Field reliability of the SAVRY with probation officers: Implications for training. *Law and Human Behavior*, 36, 225-236. <https://doi.org/10.1007/s10979-011-9284-2>
- Vincent, G. M., Guy, L. S., Gershenson, B. G., & McCabe, P. (2012). Does risk assessment make a difference? Results of implementing the SAVRY in juvenile probation. *Behavioral Sciences and the Law*, 30(4), 487-505. <https://doi.org/10.1002/bsl.2014>
- Vincent, G.M., Guy, L.S., & Grisso, T. (2012). *Risk assessment in juvenile justice: A guidebook for implementation*. John D. and Catherine MacArthur Foundation.
- Vincent, G. M., Guy, L. S., Perrault, R. T., & Gershenson, B. (2016). Risk assessment matters, but only when implemented well: A multisite study in juvenile probation. *Law and Human Behavior*, 40(6), 683–696. <https://doi.org/10.1037/lhb0000214>
- Vincent, G.M., Paiva-Salisbury, M.L., Cook, N.E., Guy, L.S., & Perrault, R.T. (2012). Impact of risk/needs assessment on juvenile probation officers' decision making. *Psychology, Public Policy, and Law*, 18(4), 549 – 576. <https://doi.org/10.1037/a0027186>
- Wachter, A. (2015). *Statewide Risk Assessment in Juvenile Probation*. JJGPS StateScan. Pittsburgh, PA: National Center for Juvenile Justice.

## **APPENDIX A: ADMINISTRATOR INTERVIEWS**

**Administrator interviews  
RNR-Sustainability Study**

**Changes in Practice Since 2010 (look at list)**

1. **Current # of del probation officers:** \_\_\_\_\_  
  
What is the average caseload? \_\_\_\_\_
2. **How many of your existing probation officers were hired after 2010?** \_\_\_\_\_
3. **How many of your existing probation officers were here in 2010?** \_\_\_\_\_
4. **Has there been any changes in probation officers' job requirements?**  
If yes, explain:
5. **Changes in the structure of probation? *For example, added an intake unit, added/subtracted an intensive probation unit***
6. **Have new services become available for JJ involved youth (e.g., FFT, MST)**  
If yes, explain:
7. **New legislation or state policy that affects the juvenile system (e.g., *changes in the law RE types of crimes, payers of services, assessments mandated, changes in the state JJ office*)?**  
If yes, explain:
6. **Changes in personnel/court personnel:**
  - a. Probation manager –
  - b. Judge –
  - c. District attorney –
  - d. Head of public defender's office –
  - e. Director of juv services –
7. **Have any new screening or assessment tools been adopted since 2010?**  
**Please List the tools and what they are used for:**
8. Have there been any changes in your assessment policy since the original in 2009? (see policy)
9. Have there been any changes to your quality assurance procedures since 2009?
10. Does a supervisor have to routinely review/sign-off on any of the following? How much time is spent on this?

\_\_\_ initial risk assessment (not formal)  
\_\_\_\_\_ reassessments (supervisor)

\_\_\_\_\_ case plans (have to sign)

### **Data Questions/Money**

1. Best way to obtain data on new petitions (recidivism) for your parish? Adult recidivism?
2. Electronic monitoring – do you keep records of how many youth are on EM? Have you noticed any shifts? Do you have cost estimates for EM?
3. What about community services?

### **Training and Staff**

1. Has the office had any training in case planning since the RNR training they received by us as part of Models for Change? If yes, how often, by whom, and how much did it cost?
2. Did you have to hire any new staff in order to implement the risk assessment in 2009/2010? If yes, how many? NO
3. Do new probation officers get formal training on the risk assessment when they are hired?
4. Does your office hold booster trainings on the risk assessment? If so, how often and how long does it take?
5. Probation officers – are there different levels/job titles with different salary structures? Salaries based off performance – step increases can be made annually

### **Costs Related to Assessments**

6. How much did it cost you to add the SAVRY/YLS to your existing electronic case management system? How many programmer hours? Licensing fee? Did you have to pay for any upgrades?
7. Who pays for your risk assessment administrations? What has been the cost per year?
8. PA only –are you purchasing updated YLS 2.0 manuals for each staff? Who is covering the cost?

### **Youth Supervision and Court Hearings**

9. What is the current policy for supervision level? Do the PO's stick to this policy?

10. Does drug testing frequency differ by level of supervision? If not, how is the frequency determined? What is the best way for us to obtain # of drug tests given and costs? How is it tracked?
11. Does every probation violation have a court hearing?
12. How many types of hearings would the risk assessment be expected to affect (meaning the risk assessment is conducted prior to these hearings and may help you or the court decide whether to proceed with the case)? (need amount of time spent in each)
  - a. Detention
  - b. Arraignment -
  - c. Adjudication -
  - d. Disposition -
  - e. Very rarely -
  - f. Continued custody -
  - g. Probation violation -

**Placement Costs**

1. Who is the payer for each of these placements: (see placement list)
  - a. Detention -
  - b. State commitment -
  - c. Residential/non-secure/group homes
  - d. Shelter care -
  - e. Are there any other types of placements?
2. If detention is county-run, what type of staff are required to operate the detention facility?
3. If detention is county-run, are there different security levels within the detention facility? What are they?
4. If detention is run by a private provider, what is the per diem rate?

**In-house Services**

List all services provided in-house in 2008, 2009/2010, and 2017. Are these services assigned by case or do all youth on probation get it?

**2008**

Name of service	Level of staff used	# of hours/days
None		

**2009/2010**

Name of service	Level of staff used	# of hours/days
None		

**2017**

Name of service	Level of staff used	# of hours/days

**Service Costs**

Review each county's service provider & type table from 2008 and 2009/2010. For each service, get the payer of the service (e.g., contracted from probation, covered by DHS/Magellan, other). Add any new services for 2017.



## **APPENDIX B: RELEVANT SITE-LEVEL CHANGES SINCE 2010**

## **Relevant Site-Level Changes Occurring Since 2009: Summary of Administrator Interviews**

This is a summary of the relevant changes that occurred at each site since 2010 that may have affected their use of risk-needs assessments or risk-need-responsivity and/or the impacts studied by this project. This information supplements the summary of changes provided in the Relevant Site-Level Changes section of the report. All changes were documented as part of the administrator interviews.

LA Site 1 had the following changes:

- Personnel: They got a new delinquency judge in 2016, a new Assistant District Attorney (ADA), and a new Director of Juvenile Services.
- Court-level changes: The new ADA increased use of post-petition diversion options. Diversion was unsupervised but may involve community service and classes to address 'criminogenic needs' as determined by the crime committed. They started a Family Preservation court and continued to have a drug court and mental health court
- Structural changes in the probation office: They started a specialized human trafficking program within the intensive probation program, started a Family Preservation court, and lost their in-house mental health assessment unit. They still had their mental health and drug courts.
- Changes to services: Their psychological evaluations and counseling for youth in mental health court shifted from being covered in-house by a licensed professional to being covered by Medicaid, which they believed decreased the quality. The availability of evidence-based programs in the community continued to increase.
- Other changes: Adoption of detention center standards in 2013.

LA Site 2 had the following changes:

- Personnel: They got a new probation manager and director of juvenile services (both were supervisors in 2010 so were not new to the office), two new judges, and a new ADA.
- Court-level changes: The Director reported that the new ADA embraced reform efforts and diversion; whereas the ADAs since 2010 had a tendency to adjudicate as many youth cases as possible. One of the new judges tended to put youth in pre-trial detention regardless of results of their detention screening.
- Structural changes to the probation office: They opened an assessment and referral center for minor offenses, particularly drug offenses, where parents or police could bring youth. They believe this center led to increased diversion and decreased police contact. They also lost their mental health court but maintained their drug court.
- Changes to services: None
- Other changes: They adopted the detention center standards in 2013, and changed their drug testing policy to decrease testing.

PA Site 1 had the following changes:

- Personnel: This office had turnover in most of its leadership, including a new Probation Chief, one new judge (out of four), and changes in the ADAs, which the Chief reported to be more collaborative than the prior ADAs.
- Court-level changes: The only changes at the court level involved the legislative changes in Pennsylvania summarized in the Relevant Site-Level Changes section of the report.
- Structural changes to probation office: The office no longer had its own mental health expert on staff and the concept of intensive probation changed to more of an aftercare role.
- Changes to services: They started using some residential drug and alcohol treatment providers more regularly, there was a new residential behavioral health program for girls and a trauma-focused cognitive behavioral program they could access. The International Institute of Restorative Practices (IIRP) implemented a safer schools initiative in high schools from 2013 to 2014 and then in middle schools in 2016. This is not a service probation youth would be referred to but the office believes it may have impacted reoffending and school referrals.
- Other relevant changes: The Probation Chief stated that the job of probation looks different, with the YLS/CMI and motivational interviewing being fully integrated into their work now. They provide the court with very clear YLS/CMI information for each youth on a template but the office never implemented the case plan. The Chief also stated more probation officers embraced graduated response practices now so fewer youth were going to detention automatically after a violation. The ADA generally leaves decisions about informal adjustment to the discretion of probation intake. The supervisors started reviewing all officers' cases to ensure all the services recommended were addressing a criminogenic need on the YLS/CMI.

PA Site 2 had the following changes:

- Personnel: The previous judge presiding over the court for years was replaced with two judges. They got new ADAs and the previously enthusiastic assistant public defender became half-time so youth were more often represented by other public defenders.
- Court-level changes: The changes in the prosecutor's office led to a reduction in use of diversion according to the Probation Chief, who indicated they were 'tougher on crime'. However, the chief mentioned moderate risk youth were occasionally diverted now and the YLS/CMI is completed to determine their services.
- Structural changes to the probation office: The office eliminated their aftercare unit and intensive probation, and increased the number of probation officers in the Youth Aid Panel unit (a diversion practice). The office added a performance-based evaluation of probation officers that included their use of RNR and ability to appropriately match services.
- Changes to services: They started a couple of in-house services, added an alternative to detention service, and a family financial support service. The probation office has

each of its providers fill out a service matrix to indicate what criminogenic needs they address.

- Other relevant changes: Aside from the changes in JCJC grant requirements (offices only received grants if they had the YLS/CMI), the Chief instituted many changes to support best practices in supervision. These included adding graduated responses, reducing drug testing to only youth with drug-related offenses (used to be routine for all youth), and monthly quality assurance procedures whereby supervisors reviewed the YLS/CMIs and case plans for appropriate matching to services.

PA Site 3 had the following changes:

- Personnel: This office had significant changes in leadership, including its Probation Chief and nearly all the deputies. They went from seven delinquency judges to three, one of whom was new, and the head of the public defender's office changed. The office hired a training director to build a more robust onboarding training.
- Court-level changes: The deputy mentioned marijuana was decriminalized and a very active police diversion program was initiated in the schools, both of which were thought to have substantially decreased delinquency referrals to the court. The court initiated a crossover court for youth involved in both the dependency and delinquency system, resulting in an influx in deferred adjudication cases. The increase in dispositional review hearings from the new legislation decreased the number of violation hearings because these would be handled during the dispositional reviews.
- Structural changes to the probation office: Probation had considerable restructuring which included going from eight units to five, one of which was a new GPS unit. They added a juvenile drug court.
- Changes to services: They contracted with a provider for use of a pre-trial and a post-trial evening reporting center to provide alternatives to detention and out-of-home placements and also increased use of GPS.
- Other relevant changes: This office had significant and positive changes in its YLS/CMI policy so it was conducted pre-disposition, there were regular reviews of staff's YLS/CMIs by supervisors, and the standard amounts of contact for supervision levels decreased. However, information from one of the office deputies indicated youth were frequently intensively supervised prior to adjudication and prior to a YLS/CMI being conducted.

## **APPENDIX C: KNOWLEDGE TESTS (SAVRY, YLS/CMI, & RNR)**

### Risk/Need Assessment Test: YLS/CMI

Study ID: \_\_\_\_\_ Office: \_\_\_\_\_ Date: \_\_\_\_\_

1. The YLS/CMI collects \_\_\_\_ pieces of information.
  - a. 39
  - b. 42
  - c. 45
  
2. Which of the following is NOT a subcomponent of the YLS/CMI?
  - a. Family circumstances and parenting
  - b. Education/Employment
  - c. Peer Relations
  - d. Emotional/personal behavior
  
3. When conducting a case-plan using the YLS/CMI, the goals are objectives should be written so that they are measurable and verifiable.
  - a. True
  - b. False
  
4. Which is the strongest risk factor(s) listed below?
  - a. Attitudes/associates
  - b. Self-esteem
  - c. Employment
  - d. Depression
  
5. Which of the following is classified as a minor risk factor?
  - a. Antisocial attitudes
  - b. Drug usage
  - c. Criminal history
  - d. Biological factors
  
6. The professional override section of the YLS/CMI should not be used more than \_\_\_\_ percent of the time unless the staff is working with a specialized caseload.
  - a. 5
  - b. 10
  - c. 15
  - d. 20

7. Part III of the YLS/CMI examines responsivity factors for the youth and is NOT used in the determination of the overall YLS/CMI scores.
  - a. True
  - b. False
  
8. The purpose of the interview for the YLS/CMI is to motivate the juvenile for treatment/intervention.
  - a. True
  - b. False
  
9. A best practice in interviewing for the YLS/CMI is to interview the youth with his/her parents so the parents are aware of the responses of the youth.
  - a. True
  - b. False
  
10. How many defaults are on the YLS/CMI 2.0 instrument?
  - a. 2
  - b. 3
  - c. 4
  
11. The strength box within each subcomponent may be used in the overall scoring of the YLS/CMI?
  - a. True
  - b. False
  
12. Research has shown that family structure (i.e. broken homes, absent father/mother) is a stronger predictor than the relationships within the home.
  - a. True
  - b. False
  
13. Which of the following is NOT a reason why peers are important risk factors?
  - a. Peers may model behavior
  - b. Peers influence our attitudes
  - c. Peers may punish our behavior
  - d. Peers have antisocial personalities

### Risk/Need Assessment Test: SAVRY

Name: \_\_\_\_\_ Office: \_\_\_\_\_ Date: \_\_\_\_\_

1. Critical risk factors are essential to address in the case plan/service plan.
  - a. True
  - b. False
  
2. The SAVRY can be used for assessing youths' risk for serious reoffending as well as their risk for future violence.
  - a. True
  - b. False
  
3. The \_\_\_\_\_ approach helps professionals to identify what information to gather, to consider the most important risk factors for reoffending, to think about ways in which risk can be reduced, and to identify ways in which reoffending can be prevented...
  - a. Actuarial
  - b. Structured professional judgment
  - c. Screening
  - d. Statistical
  
4. The SAVRY can be used to assist professionals in making judgments about a juvenile's risk for delinquency and violence, as well as service planning and monitoring of ongoing progress.
  - a. True
  - b. False
  
5. The SAVRY risk items are rated as:
  - a. Present/Absent
  - b. Low/Moderate/High/Very high
  - c. Low/Moderate/High
  - d. 1/2/3
  
6. Which of the following factors on the SAVRY are based on past behavior or experiences?
  - a. Protective factors
  - b. Historical risk factors
  - c. Social/contextual risk factors
  - d. Individual risk factors



7. After rating the risk and protective factors, the SAVRY provides the evaluator with cut off scores to identify the Summary Risk Rating.
  - a. True
  - b. False
  
8. The SAVRY was designed to assess risk in adolescents between the ages of 12 to 18, but has been demonstrated to be a valid predictor of risk in younger youth.
  - a. True
  - b. False
  
9. The SAVRY was designed to assess risk in adolescents between the ages of 12 to 18, but has been demonstrated to be a valid predictor of risk in older youth.
  - a. True
  - b. False
  
10. Collateral information (for example, file information and juvenile records), in addition to interviews with the youth and a parent, is essential for rating the SAVRY because.....
  - a. The youth and parent may not want to disclose some important information
  - b. The youth and parent may not remember historical information
  - c. File information is easier to refer back to
  - d. A and b above
  - e. All of the above
  
11. The SAVRY allows professionals to code risk and protective factors as “critical items” if the evaluator feels they are particularly relevant to a youth’s level of risk and are essential for
  - a. Case planning
  - b. Selecting priority need areas
  - c. Making the summary risk rating
  - d. All of the above
  
12. Which of the following is NOT a historical risk factor on the SAVRY?
  - a. Exposure to violence in the home
  - b. Poor school achievement
  - c. Poor parental management
  - d. History of violence
  
13. What is the strongest risk factor listed below?
  - a. Negative attitudes/pro-criminal orientation
  - b. Self esteem

- c. Poor school achievement
  - d. Low empathy/remorse
14. Which of the following is NOT a protective factor on the SAVRY?
- a. Resilient personality traits
  - b. Prosocial involvement
  - c. Strong social support
  - d. Community disorganization
15. The SAVRY Summary Risk Rating can be coded as:
- a. Short, Average, Tall
  - b. Low, Moderate, High
  - c. Low, Moderate, High, Very High
  - d. Minimum, Moderate, Maximum
16. Which of the following items is not rated strictly based on a youth's experiences prior to age 12?
- a. Childhood maltreatment
  - b. Exposure to violence in the home
  - c. Early caregiver disruption
  - d. All of the above
17. A protective factor is the opposite of a risk factor.
- a. True
  - b. False

## Risk-Need-Responsivity Knowledge Test

Name: \_\_\_\_\_ Office: \_\_\_\_\_ Date: \_\_\_\_\_

1. The \_\_\_\_\_ helps to identify “what” to target for programming/interventions.
  - a. Risk Principle
  - b. Need Principle
  - c. Responsivity Principle
  - d. Recidivism Principle
  
2. A moderate risk juvenile offender should receive \_\_\_\_\_.
  - a. Moderate levels of treatment/services
  - b. Non-reporting probation
  - c. Monthly drug screens
  - d. Minimal level of treatment/services
  
3. An example of a Risk Principle violation is \_\_\_\_\_.
  - a. Targeting moderate risk/need juveniles for moderate levels of service
  - b. Providing intensive services for low risk/need juveniles
  - c. Providing minimal services for low risk/need juveniles
  - d. Identifying the most intensive services for the highest risk/need juveniles
  
4. Criminogenic needs are important because they identify the juvenile’s treatment targets.
  - a. True
  - b. False
  - c. True, but only in some cases
  - d. Risk assessment cannot be used to identify treatment targets
  
5. Which of the following is NOT one of the top four criminogenic need areas (meaning they are the strongest predictors of reoffending)?
  - a. Behavioral problems/personality traits
  - b. Negative peers
  - c. Mental health
  - d. Poor parental management
  
6. It is important to match youths’ criminogenic needs to the services (or conditions) they eventually receive because....
  - a. It increases the chance of reducing their risk for reoffending
  - b. It conserves resources by giving youth only what they need
  - c. It has the best chance of protecting public safety
  - d. All of the above
  
7. It is okay to give youth services they do not need as long as they are getting something.
  - a. True
  - b. False

8. Which of the following principles describes this statement? “Provide the treatment in a style and mode that is best suited to the juvenile’s learning style and ability.”
  - a. Risk Principle
  - b. Need Principle
  - c. Responsivity Principle
  - d. Treatment Principle
  
9. Which of the following principles describes this statement? “Direct intensive services to the higher risk offenders and minimize services to the low risk offenders.”
  - a. Risk Principle
  - b. Need Principle
  - c. Responsivity Principle
  - d. Treatment Principle
  
10. The proportion of youths meeting criteria for mental health disorders in juvenile justice is much higher than youths in the general adolescent population.
  - a. True
  - b. False
  
11. Mental health is not a risk factor for re-offending but it is important because mental health problems can...
  - a. Impair a youth’s ability to benefit from services aimed at treating their delinquent behavior
  - b. Increase the likelihood of having other risk factors
  - c. Indicate the need for immediate psychiatric treatment
  - d. All of the above
  
12. Agencies that implement the risk, need and responsivity principles in case management practices are more likely to:
  - a. Conserve resources
  - b. Improve youth outcomes (including recidivism rates)
  - c. Decrease rates of youth in secure placements
  - d. All of the above
  
13. Criminogenic needs refer to \_\_\_\_\_.
  - a. Static risk factors
  - b. Targets for intervention or services
  - c. Desire to be a better criminal
  - d. Motivational levels
  
14. Which of the following statements is true regarding risk factors for males and females:
  - a. Overall, the same risk factors are relevant to both males and females
  - b. Male and female offenders are completely different when it comes to risk factors

- c. Risk assessments should not be completed with females
  - d. Risk factors are only slightly similar for male and female offenders
15. Due to personality characteristics, learning styles, and demographic characteristics, offenders may respond differently to the same type of intervention. What is the name of this principle?
- a. Risk principle
  - b. Need principle
  - c. Responsivity principle
  - d. Treatment principle
16. Correctional treatment programs and interventions should target those risk factors related to criminal behavior which can change. What is the name of this principle?
- a. Risk principle
  - b. Need principle
  - c. Responsivity principle
  - d. Treatment principle
17. Agencies that meet the risk, need, and responsivity principles are more likely to be:
- a. Ineffective in reducing recidivism
  - b. Have no effects on reducing recidivism
  - c. Increase recidivism rates of offenders
  - d. Effective in reducing recidivism rates
18. The \_\_\_\_ tells us “how” to target juveniles for effective interventions/programming.
- a. Risk principle
  - b. Need principle
  - c. Responsivity principle
19. What happens if a program or agency does not follow the risk principle?
- a. They will have substantial effects on recidivism
  - b. They will have no effects on recidivism
  - c. They may increase the recidivism rates of low risk offenders
  - d. They will be treating high-risk offenders
20. Which of the following can NOT be considered a responsivity factor?
- a. Culture or ethnicity
  - b. Motivation
  - c. Reading ability
  - d. Antisocial attitudes
21. The best predictor of future behavior is \_\_\_\_\_.
- a. Antisocial personality
  - b. Criminal history
  - c. Self-esteem
  - d. Using drugs

22. Research indicates that the high-risk offenders are better targets for correctional interventions/programming. What is the name of this principle?
- Risk principle
  - Need principle
  - Responsivity principle
  - Treatment principle
23. Motivation and self-esteem are examples of \_\_\_\_\_.
- Risk factors
  - Need factors
  - Responsivity factors
  - Treatment factors
24. When we refer to a youth's criminogenic needs, we are referring to the juvenile's \_\_\_\_\_.
- Static risk factors
  - Dynamic risk factors
  - Low self-esteem
  - Motivational levels
25. The \_\_\_\_ helps us to identify "who" to target for programming/interventions.
- Risk principle
  - Need principle
  - Responsivity principle
26. A high risk/high-need juvenile offender should receive:
- Low levels of treatment/service
  - Moderate levels of treatment/service
  - High levels of treatment/service
  - The death penalty
27. The most effective programs...
- Target low risk offenders for intervention
  - Target high risk offenders for intervention
  - Spend more time with low risk offenders
  - Target offenders' self-esteem
28. A moderate risk juvenile should receive:
- Moderate levels of treatment/services
  - Non-reporting probation
  - Monthly drug screens
  - Minimal levels of treatment/services
29. An example of a risk principle violation is \_\_\_\_\_.
- Targeting moderate risk/need juveniles for moderate levels of service
  - Providing intensive services for low risk/need juveniles

- c. Providing minimal services for low risk/need juveniles
  - d. Identifying the most intensive services for the highest risk/need juveniles
30. Criminogenic needs are important in that they identify the juvenile's treatment targets.
- a. True
  - b. False

## **APPENDIX D: PROBATION OFFICER INTERVIEWS**



**Probation Officer & Supervisor Interview**

ID: \_\_\_\_\_ Probation Office: \_\_\_\_\_

**Gender:** 1. Male      2. Female      Interviewer: \_\_\_\_\_      Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

I am \_\_\_\_\_, a researcher at the University of Massachusetts Medical School. I am conducting this interview as part of a research project your probation department is participating in, the Risk-Needs-Responsivity Sustainability Project, funded by the Office of Juvenile Justice and Delinquency Prevention. I would like to ask you some questions about your experience with using the \_\_\_\_\_ [risk assessment] and your case management practices in general. This should take no more than 40 minutes. Your individual responses will be kept strictly confidential and will be accessible only to members of our research group. Your name is not being recorded anywhere on this interview so we cannot connect your responses back to you. No reference will be made in any oral or written reports that could connect you to this research. Instead, we will report results in general statistics across your probation department. The information you provide will be protected under a federal Privacy Certificate, which prevents identifying information from being accessed by anyone outside of the research team. The Federal law on confidentiality (42 USC 3789g) that applies to this study says that the identifiable data we collect about you can only be used for research purposes, and no other purpose without your consent. Representatives of our UMMS institutional review board and the Office for Human Research Protection (OHRP) may review the research data to ensure that the welfare of participants is protected. This interview is voluntary and you can stop at any time. There will not be any consequences to you or your employment if you choose to not participate.

We are conducting this interview to examine how case management practices evolve over time. Researchers at UMMS interviewed everyone in your probation department years ago when the department first implemented the \_\_\_\_ (SAVRY or YLS/CMI). Just like before, we are NOT personally or financially invested in the outcome. Do you recall if you were interviewed before? \_\_\_\_ (Yes/No) .

Please answer all of the questions to the best of your ability. There are no “right” or “wrong” answers. Since there are some open-ended questions –it goes quicker if I tape some parts of the interview rather than trying to write everything down. I will not get your name on the tape but will instead record your research number. Are you okay with doing this interview and do you mind if I tape it? (GET THEIR RESPONSE – START TAPING IF THEY SAY YES - AND ASK THEM TO REPEAT THEIR CONSENT FOR BEING INTERVIEWED)

**Current position:**

- 1. Probation officer I or II \_\_\_\_\_
- 2. Intake officer \_\_\_\_\_
- 3. Supervisor \_\_\_\_\_
- 4. Other \_\_\_\_\_ *Specify:* \_\_\_\_\_

**How long have you been in your current position at this agency?** \_\_\_\_\_ Years      \_\_\_\_\_ Months

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**RNA QUESTIONS**

- 1) Did you complete a formal workshop training on how to complete the [SAVRY or YLS/CMI] – meaning you were trained by an out-of-state expert? 0. No 1. Yes
  - a. **IF NO**, how were you trained to complete the RNA then? 1. On-the-job training 2. workshop or formal training by another probation officer 3. No training 4. Other (specify)

\_\_\_\_\_  
INTERVIEWER: READ ABOVE OPTIONS

- 2) Have you ever completed a booster training on the [SAVRY or YLS/CMI]? 0. No 1. Yes
- 3) How many trainings on the [SAVRY or YLS/CMI] have you had total, including both your first formal training and any booster trainings - not including on-the-job training)? \_\_\_\_\_
- 4) Have you ever trained anyone else how to conduct the [SAVRY or YLS/CMI]? 0. No 1. Yes
- 5) Have you ever conducted the [SAVRY or YLS/CMI] with a youth? 0. No 1. Yes 2. Reassessments only

**IF NO**, Why haven't you been in a position to conduct the [SAVRY or YLS/CMI]?

\_\_\_\_\_

\_\_\_\_\_

**IF CONDUCTING OR USING THE RISK ASSESSMENT IS NOT PART OF THEIR JOB, MARK N/A & SKIP TO SUPERVISOR QUESTIONS IF APPLICABLE**

- 6) What year did you start conducting the [SAVRY or YLS/CMI]? \_\_\_\_\_
- 7) A. Roughly how many initial assessments would you say you have done up to this point? \_\_\_\_\_  
b. Roughly how many re-assessments would you say you have done up to this point? \_\_\_\_\_

8a) **If the PO has conducted initial assessments** - I am going to ask you about what points in a youth's case processing that you have conducted the [risk assessment], and I am referring to initial assessments only? Do you typically do this at: INTERVIEWER: READ OPTIONS

pre-adjudication/probation intake – 0. No 1. Yes  
post-adjudication/pre-disposition - 0. No 1. Yes  
after disposition 0. No 1. Yes

8b) **If the PO states that he/she has conducted reassessments** – I am interested in what triggers the need to do re-assessments. Do you conduct reassessments every 6 months of a youth's probation 0. No 1. Yes

- bi) after a youth on probation commits a new offense 0. No 1. Yes
- bii) after a youth on probation is charged with a probation violation 0. No 1. Yes
- biii) after a youth is released from detention or another placement 0. No 1. Yes
- biv) Other: \_\_\_\_\_

- 9) **If they do NOT mention probation violations in #8b, ask this question – otherwise just check the right answer:** Is it the policy in your office to conduct a reassessment following a significant probation violation (e.g., new offense, extended awol)? \_\_\_\_\_ 0. No 1. Yes
- 10) Roughly how long does it take you to conduct and rate an initial [SAVRY or YLS/CMI] for a youth, including interviewing the youth/family and review of collateral information? \_\_\_\_\_ hours (**NOTE: This should be entered as hours – if they give you days transform it into hours**) 99. Not applicable
- 11) Roughly how long does it take you to conduct and rate a **reassessment**? \_\_\_\_\_ hours 99. NA
- 12) **If they conduct initial risk assessments**, When you conduct interviews for the purpose of completing the [SAVRY or YLS/CMI] – do you INTERVIEW: READ OPTIONS:
- Interview the Parent and Youth together
  - Interview the Parent and Youth separately
  - Interview them together for part of the interview and separately for part of the interview

### Disposition

- 1) Are you asked to make recommendations to the court about youths' **dispositions**? Meaning specifically whether the youth should be handled formally or informally, and whether the youth should be sent to a placement (including detention) or supervised in the community?  
0. No 1. Yes 99. NA
- 2) **a) IF YES to 1**, What information do you consider in your disposition recommendations? What factors or issues are most important? 99. NA  
**(answer will be typed)**  
**(interviewers check)** Did the PO mention using the RNA? 0. No 1. Yes
- b) IF YES to 1**, Roughly, what percentage of the time does the judge go with your disposition recommendation? \_\_\_\_\_
- 3) **IF YES TO 1** – For the next few questions about disposition recommendations, please respond on a 7-point scale, with 0 = Never and 7 = Always

How often do you.....

- 3a. .... make a recommendation that corresponds with the youth's level of risk on the [SAVRY or YLS/CMI]? \_\_\_\_\_
- 3b. .... make a more restrictive recommendation than the youth's level of risk indicates? \_\_\_\_\_  
(if answer is 4 or above – ask for an example of a situation where they would make a more restrictive recommendation)
- 3c. .... make a less restrictive recommendation than the youth's level of risk indicates? \_\_\_\_\_  
(if answer is 4 or above – ask for an example of a situation where they would make a less restrictive recommendation)
- 3d. .... make a recommendation without consulting the RNA? \_\_\_\_\_
- 3e. On a scale of 0 (not at all useful) to 7 (extremely useful), how useful do you find the [SAVRY or YLS/CMI] to be for disposition recommendations? \_\_\_\_\_

- 4) In your county, can the results of the [SAVRY or YLS/CMI] have any impact on the decision to handle youth informally or divert them? (For example, by giving youth an informal adjustment, consent decree, unsupervised probation, or option to participate in a diversion program). 0. No 1. Yes 9. Don't know  
 Explain (**type answer**):

**Treatment and Services/Case Planning**

1) Now I am going to ask you about referrals to **services or programs and making case plans**? By “services”, I mean treatment related services such as life-skills courses, cognitive behavioral therapy, mentoring programs, etc. I am not referring to things one might consider to be sanctions like electronic monitoring or community service. Which answer best describes your situation:

- 0. Services are determined by the judge w/o my recommendation
- 1. Services are determined by the judge with my recommendation
- 2. The services and case plan are determined completely by me
- 3. Sometimes services in the case plan are determined completely by me, it depends on the judge

1a) (**IF 0 or 1 above**) Do you have the ability to suggest additional services or activities to the youth and/or their parents that are not included in the probation conditions?

- 0. No
- 1. Yes, but I rarely do (*if they say yes, prompt them by asking if they do it rarely or frequently*)
- 2. Yes, and I frequently do

2. What type of information do you use to determine which services, programs, or activities the youth should have in their case plan? What are the most important factors for making these decisions? (**type answer**)

(**interviewer**) Did they mention using the RNA? 0. No 1. Yes

3) For the next few questions pertaining to your service recommendations and case planning, please respond on a 7-point scale, with 0 = Never and 7 = Always (or put NA)

**When you have input into the services or programming youth receive**, how often do you....

3a. .... target the criminogenic needs identified by the RNA (for example, peer relations, disruptive behavior/personality, family/parenting, education/employment)? \_\_\_\_\_

3b. .... disregard some criminogenic needs that are identified by the RNA? \_\_\_\_\_  
 (if answer is 4 or above – ask for an example of a situation where they would disregard the RNA needs)

3c. .... target needs that are not identified by the RNA? \_\_\_\_\_  
 (if answer is 4 or above – ask for an example of a situation where they would target unidentified needs)

3d. .... make a decision/recommendation about services without consulting the RNA? \_\_\_\_\_

3e. On a scale of 0 (not at all useful) to 7 (extremely useful), how useful do you find the RNA to be for case planning? \_\_\_\_\_

4) Have you seen your probation department’s service matrix? 0. No 1. Yes

a) **If yes**, have you used it to identify appropriate services for any youth on your caseload?  
0. No 1. Yes 2. I used to but I don't anymore 99. NA

b) If no, why don't you use it? (**type response**)

5) Do you use some form of written or computerized case plan to record services that youth are receiving or are referred to? 0. No 1. Yes

a) **If yes**, Is your case plan structured, at least in part, according to the criminogenic need areas on your risk assessment instrument? 0. No 1. Yes 9. Don't know

6) Do you make decisions or recommendations about the **level of supervision** youth will receive while on probation? 0. No 1. Yes

a) **If YES**, What kind of information do you use to decide what **level of supervision** a youth needs? (**type answer**)

Did they mention using the RNA? 0. No 1. Yes

**7) For the next few questions pertaining to supervision level, please respond on a 7-point scale, with 0 = Never and 7 = Always**

How often do you assign.....

8a. ....a supervision level that corresponds with the youth's risk level on the RNA? \_\_\_\_\_

8b. .... a more restrictive level of supervision than the youth's risk level on the RNA indicates? \_\_\_\_\_  
(if answer is 4 or above – ask for an example of a situation where they would make a more restrictive recommendation)

8c. ....a less restrictive level of supervision than the youth's risk level on the RNA indicates? \_\_\_\_\_  
(if answer is 4 or above – ask for an example of a situation where they would make a less restrictive recommendation)

8d. ...the supervision level without consulting the RNA? \_\_\_\_\_

8e. On a scale of 0 (not at all useful) to 7 (extremely useful), how useful do you find the RNA to be for making decisions about youth's supervision level? \_\_\_\_\_

### **Probation violations**

1) a) Are you asked to make recommendations to the court about the best response to **a youth who committed a probation violation or a new charge while on probation**? 0. No 1. Yes

b) **IF YES**, What information do you consider in your recommendations about probation violations? What do you see as the most important factors? (**this will be typed**)

Did they mention using the RNA? 0. No 1. Yes

**2. IF YES TO 1** – For the next few questions pertaining specifically to your use of the RNA in probation violations or when handling youth on probation who receive new charges, please respond on a 7-point scale, with 0 = Never and 7 = Always

How often do you.....

2a. ... make a recommendation that corresponds with the youth's risk level on the [SAVRY or YLS/CMI]? \_\_\_\_\_

2b. .... make a more restrictive recommendation than the youth's level of risk indicates? \_\_\_\_\_  
(if answer is 4 or above – ask for an example of a situation where they would make a more restrictive recommendation)

2c. .... make a less restrictive recommendation than the youth's level of risk indicates? \_\_\_\_\_  
(if answer is 4 or above – ask for an example of a situation where they would make a more restrictive recommendation)

2d. ....make a recommendation without consulting the [SAVRY or YLS/CMI]? \_\_\_\_\_

2e. On a scale of 0 (not at all useful) to 7 (extremely useful), how useful do you find the [SAVRY or YLS/CMI] to be for determining the best response to a probation violation? \_\_\_\_\_

3. Is there someone in your office you can go to if you have questions about how to use the [SAVRY or YLS/CMI] in a particular case. For example, what the disposition recommendation should be or what are the most appropriate services in a case? 0. No 1. Yes

**DEMOGRAPHIC INFORMATION Now I would like to get a few details about you:**

**What is your age?** \_\_\_\_\_

**How many years and months have you been working with justice-involved youth?** \_\_\_\_\_ Years  
\_\_\_\_\_ Months

**Highest grade or degree completed?** \_\_\_\_\_

**How would you define your Race?:** 0 - White 1 - Black/African American 2 - Asian 3 - East Indian

4 - American Indian/Alaska Native 5 - Middle Eastern 6 - Pacific Islander/Native Hawaiian 7 - Other (specify: \_\_\_\_\_)

**Your Ethnicity?:** 0 Non-Hispanic 1 Hispanic

**APPENDIX E: RATER FILE CODING SHEET & PROBATION OFFICER'S EXIT SHEETS**

**Probation Status Report –Parish Juvenile Services**

**Client Name:** \_\_\_\_\_  
**Start Date:** \_\_\_\_\_

**Petition(s):** \_\_\_\_\_  
**End Date:** \_\_\_\_\_

**School/Employment Status at Disposition**

**School Status**

- Enrolled in regular school
- Enrolled in alternative school
- Enrolled home school
- Enrolled in vocational training
- Enrolled College
- Not enrolled

**School Grade**

- Grade \_\_\_\_\_ (13+ if in college)
- Vocational school
- Graduated high school
- GED in progress       GED attained
- Dropped out       Expelled
- Not applicable

**IEP - Current**

- No     Yes

**Special Education- Current**

- No     Yes

**Special Education- Ever**

- No     Yes

**Ever Failed a Grade**

- No     Yes

**Current School Attendance**

- Sporadic
- Regular/good
- Suspended/expelled
- NA (not in school)

**Current School Performance**

- Poor
- Average/Good

**School and Employment Status at Case Closure**

**School Status**

- Enrolled in regular school
- Enrolled in alternative school
- Enrolled home school
- Enrolled in vocational training
- Enrolled College
- Not enrolled

**School Grade**

- Grade \_\_\_\_\_ (13+ if in college)
- Vocational school
- Graduated high school
- GED in progress       GED attained
- Dropped out       Expelled
- Not applicable

**IEP - Current**

- No     Yes

**Special Education- Current**

- No     Yes

**Special Education- Ever**

- No     Yes

**Ever Failed a Grade**

- No     Yes

**Current School Attendance**

- Sporadic
- Regular/good
- Suspended/expelled
- NA (not in school)

**Current School Performance**

- Poor
- Average/Good



NA

**Employment status**

- Working full-time > min wage
- Working full-time (min wage)
- Working part-time > min wage
- Working part-time (min wage)
- Work intermittently (under the table, etc.)
- Unemployed-in school
- Unemployed - disability
- Unemployed-looking
- Unemployed-not looking
- Volunteer

**SAVRY Risk Score at Disposition**

- Low
- Moderate
- High

**Placement at Disposition**

- Parent(s)
- Family/Guardian
- Foster Care/DCFS
- OJJ

NA

**Employment status**

- Working full-time > min wage
- Working full-time (min wage)
- Working part-time > min wage
- Working part-time (min wage)
- Work intermittently (under the table, etc.)
- Unemployed-in school
- Unemployed - disability
- Unemployed-looking
- Unemployed-not looking
- Volunteer

**SAVRY Risk Score at Case Termination**

- Low
- Moderate
- High

**Placement at Case Termination**

- Parent(s)
- Family/Guardian
- Foster Care/DCFS
- OJJ

**Programs Completed**

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**Probation Officer:** \_\_\_\_\_

## **DEMOGRAPHIC & PSYCHOSOCIAL HISTORY (SPSS: Youth Information File)**

Get information from Pre-disposition report or social history in youths' files unless otherwise specified

PersonSubjectID: \_\_\_\_\_ FileNumber (PersonFileNumber): \_\_\_\_\_

PersonDateofBirth: \_\_/\_\_/\_\_ SiteID: 12 Testgroups = 3

ZipCode (intakeResidentialZipCode): \_\_\_\_\_ PO Name: \_\_\_\_\_ (assign IDs later)

PreDispositionReport or Social History Date: (IntakePreDispositionReportCompletionDate):

\_\_/\_\_/\_\_

Gender (PersonGenderCodeID): 293=Female 294=Male

Race(PersonRaceCodeID): 270=White 271=Black 272 = East Indian 273= Asian 274=Native American

275=Bi-raical 276=Other 999 = Unknown

Ethnicity(PersonEthnicityCodeID): 2=Non-Hispanic 269=Hispanic 999 = Unknown

Age at the adjudication that got them into the study (Age): \_\_\_\_\_

### **Mental Health/Substance Abuse**

Outpatient MH treatment EVER (rintakeMentalHealthOutPatientEvercodeID): 0=Missing 1=Yes 2=No

Psychiatric/MH Hospitalization EVER (psych\_hospever): 0=No 1=Yes 999 = Unk

Outpatient Substance Abuse Treatment EVER (rintakeSAOutPatientEverCodeID): 0=Missing 1=Yes 2=No

Any Current or Past Diagnoses (list all): (Diagnoses) 999 = Unknown

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AxisI\_any: 0=No 1=Yes 999=Unk AxisII\_any: 0=No 1=Yes 999=unk Substance\_any: 0=No 1=Yes 999=unk

### **Child Welfare**

Current Living Arrangement (RLivingArrangement): 1 = Both parents 2 = Single parent 3= Other relative

4 = Institution/residential place 5 = Other, specify: \_\_\_\_\_ 999 = Unknown

History of child welfare involvement (incl current, substantiated or unsubstantiated)

(IntakeOcsHistoryCodeID):

1070=No child welfare 1022=Informal only 1069=Formal involvement 1148=Parental rights terminated

1149=Youth adopted 999 = Unknown

Current child welfare placement (rintakeOcsPlacementCurrentCode): 1=Yes 2=No 0=Missing

Any Child Welfare (OCSHistory): 0=No 1=Yes 999 = Unknown

Type of Medical Coverage (get from case plan): 1020=Private 1066=Medicaid 1067=CHIPS

1068=Other, specify: \_\_\_\_\_ 999=unk

### **School & Work**

School Status At Adjudication (SchoolStatus\_adj)(get from case plan): 1=Enrolled – college 2=Enrolled - regular sch 3=Enrolled - alternative sch 4=Enrolled - Voc Training 5=Home schooled 6=Not enrolled 999=unk

Current Grade at Adjudication (CurrentGrade-adj)(get from case plan): Grade - \_\_\_\_\_ (use 13+ for college) 99=NA 999=unk

**School Grade at Adjudication (SchoolGrade\_adj)**(get from case plan): 1=Vocational school 2=grad HS 3=GED Attained 4=GED in progress 5=Dropped out 6=Expelled 99=Not applicable 999=unk

**Ever Failed a Grade (RGradeFailure):** 0=No 1=Yes 999 = Unknown

**Current School Attendance (RSchoolAttend)** (get from data sheet): 0=out of school (expelled/drop out/suspended) 1=Sporadic 2=Regular/good 99=Not applicable (graduated or GED) 999=unknown

**Current School Performance (RSchoolPerf)** (get from data sheet): 0=Poor/Bad (below C's) 1-Average/Good (≥C's) 99=NA 999=unknown

**IEP– Current** (get from data sheet): 0=No 1=Yes 99=NA 999=unknown

**Special Education- Current (IntakeSpecialEducationFlag)**(get from data sheet): 0=No 1=Yes 99=NA 999=unk

**Employment status at Adjudication (Employ\_intake)** (get from data sheet):

1=Working full-time > min wage 2=Working full-time (min wage) 3=Work full-time (wage unk)  
4=Working part-time > min wage 5=Working part-time (min wage) 6=work part-time (wage unk)  
7=Work intermittently (under the table, etc) 8=Volunteer  
9=Unemployed-in school/too young 10=Unemployed-disability  
11=Unemployed-looking 12=Unemployed-not looking

### **Arrest History (Youth Information File)**

The following are the variables we need to get from each youth's arrest history. You will find this in IJIS under "Case History" or look for a print out of their juvenile record in their probation file.

**Age at first offense (age1st\_off)** (based on age at arrest-earliest): \_\_\_\_\_

**# of prior arrests/petitions (newpriorchrgs)** count all prior times youth has received a petition – base this on the # of new petition dates –not the # of offenses (youth can receive a petition for multiple offenses at same time). Do not count the offenses for which the person was just a witness (check that in file): \_\_\_\_\_

**Any prior violent offenses (anyviol\_past)** (petitions or adjudications; use Appendix A to define violent. If this is youths first offense – code this as 0): 0=No 1=Yes (at least one violent) 999=unk

**Prior OJJ Commitment EVER (PriorOJJ\_any):** 0=No 1=Yes 99= NA (first time offender) 999 = Unknown

Refers to the youth actually physically having been in OJJ

**Current Offense and Hearings (Youth Information File)** Get from "Case History" screen in IJIS

**For EVERY offense related item below - enter ONLY the Most Serious Offense Based on Severity Scale** (e.g., if there are multiple charges that were adjudicated on the same date – code only the most serious offense, even if the charges were from different dates). **Offense Severity Scale (use Appendix A to id the category of offense)**

1= Homicide/att. Murder	2= Major sex offense	3= Robbery/ Kidnap
4= Assault/point firearm/minor sex crime	5= Uttering threats	6= B & E
7= Theft Over/under	8= Arson	9= Weapons offence
10= Drug Offenses/	11 = Misc/Driving Offenses	
12 = Revocation or Breach of probation (serious enough to result in charge or motion to modify)		

13 = Status Offenses (incl. Truancy, ungovernable, curfew violations)

*The following info is based on the CURRENT offense – the adjudication that got them included in the study*

**Referral date (CaseReferralDate.1) (mm/dd/yyyy):** \_\_\_/\_\_\_/\_\_\_ *(When police referred them to the court)*

**Petition Date (CasePetitionDate.1) (mm/dd/yyyy):** \_\_\_/\_\_\_/\_\_\_

**Petition Most Serious Offense (CasePetitionMostSeriousOffense.1):**

\_\_\_\_\_ **Petition Severity Category (PetitionCat.1):** \_\_\_\_\_ *Offense Severity Scale 1–13*

**Adjudication Date (CaseAdjudicationDate.1) (mm/dd/yyyy):** \_\_\_/\_\_\_/\_\_\_

**Adjudication - Most Serious (CaseAdjudicationMostSeriousOffense.1):**  
\_\_\_\_\_ *(write)*

**Adjudication Severity Category (AdjudicationCat.1):** \_\_\_\_\_ *Offense Severity 1-13*

**Adjudication type (CaseAdj\_ClassCodeID.1):** 24=Felony 341=Misdemeanor 343=Status-FINS  
1217=Sex off

If uncertain whether felony/misdemeanor code unknown

**Most serious adj offense a non-violent felony? (nonviol\_felony.1)** 0=Other 1=non-viol felony

**Most serious adj offense violent? (appendix A) (viol\_off.1)** 0=non-violent or status offense  
1=violent

**Adjudication Result (AdjudicationResult.1):** 0 = not guilty 1 = dismissed/withdrawn 2 =  
warned/released

3=nolle prosequere 4 = deferred adjudication 5 = refer to other agency 6=informal  
adjustment/diverted 7=consent decree 8 =adjudicated-FINS 9=adjudicated-delinquent  
10=transfer to adult court 11=other 12=deferred adj w/interim probation

**Pre-Disposition Report Ordered (CasePreDispositionReportOrderedCodeID.1):** *check 24-hour  
contact sheet* 1106=yes 1107=No 99=NA

**Disposition Date: (mm/dd/yyyy):** \_\_\_/\_\_\_/\_\_\_ *sometimes this will be on the same date as the  
adjudication*

**Were They Sent to Detention Pre-adjudication? (CaseDetainedFlag.1):** 0=Unchecked 1=Checked  
*(check detention screen – may state Johnny Gray Jones)*

**Disposition (CaseComment.1):** \_\_\_\_\_  
*(Write out the exact disposition)*

**Most Serious Disposition (PrimaryDisposition.1):** \_\_\_\_\_ (0 to 15)

*Enter the Code for the Most Serious/Primary Disposition – from Appendix B*

- *\*\*\*if there was a pre-trial detention and the disposition was “detention –time served” – the primary  
disposition would be detention.*

- **\*\*for suspended sentences, write out the actual disposition: e.g., the judge orders 6 months in detention, but suspends that sentence unless the individual violates probation and gives the individual 15 days in detention with 2 years probation → to select most serious disposition - use what actually happened. In the case above, it should be 15 days detention + 2 years probation. Detention would be in the CaseDispositionPrimaryCodeID.1 field.**
- *If disposition is ‘continued’ –means person was already serving a sentence and it is just continued – use the code for the actual disposition they are serving*
- *If disposition is charges dismissed upon completion- code unsupervised-informal as primary disposition.*

**Disposition judge name (clntakeDispositionJudge.1): \_\_\_\_\_** (write name of judge)

**Any Subsequent Hearing? (CaseHearingSubsequentScheduledCodeID.1):** 1106=Yes  
1107=No 99=NA

*For ‘subsequent hearings’ include ONLY hearings initially following the disposition hearing (within 90 days) – generally will be revised dispositions or motions to modify. Don’t include probation violations or disposition reviews or other types of hearings*

**For each of motion to modify/revised disposition, provide the following information in the table below.**

<b>Hearing Date (CaseHearingDate.1)</b>	<b>Hearing Type (CaseHearingTypeCodeID)</b> <i>1136=Revised Disposition/ Motion to Modify 1137=Evaluation&amp;Placement 1245=Other, specify</i>	<b>Revised Dispo (RevisedDispo_text - write out)</b> <i>Write out the new disposition if there was a revised disposition for the CURRENT adjudication only (do not use this if there was a probation violation) Or Write “not changed”</i>	<b>Revised Dispo Category (RevisedDispo.1)</b> <i>Same categories as Primary disposition. 0 to 15 (not continued)</i>

**Probation Start Date (ProbationDate):** \_\_\_/\_\_\_/\_\_\_ (first date youth placed on probation. If youth put in a placement first – this would be the date they were released and put on probation. In Supervision Plan)

**Starting Level of Probation Supervision (first\_level):** 205 = Maximum 358=Moderate 360=Minimum  
1263=intensive 1441=non-reporting/diverted 1447 = placement

**1<sup>st</sup> Date Level Changed:** \_\_\_/\_\_\_/\_\_\_

**2<sup>nd</sup> Supervision Level (second\_level):** same codes as above w/no placement

*Enter the first level of supervision youth received the first time they were placed on probation. For many youth – this will be right after disposition. For those sent to a placement at disposition, you will enter the*

level of supervision they received when they were first placed on probation. Get from 'Case/Supervision Plan')

**Youth Comments (youth\_comments):** \_\_\_\_\_ Enter any additional comments regarding variables in the youth information file and provide any additional explanations for the data entered (e.g., explanation of missing information, note participation in restorative justice program, or drug court if not included within disposition/revised disposition).

**SAVRY SCREEN (Use SAVRY File to enter all SAVRY Items) UPDATE UNTIL END OF DATA COLLECTION PERIOD** Enter the SAVRY's from the probation files. Enter only SAVRYs from the current adjudication date forward.

**PersonSubjectID:** \_\_\_\_\_ **FileNumber (PersonFileNumber):** \_\_\_\_\_ **SiteID: 12**  
**Testgroups = 3**      **CaseAdjudicationDate.1** \_\_\_/\_\_\_/\_\_\_ **CaseDispositionDate.1**  
\_\_\_/\_\_\_/\_\_\_

**DataEntry Date: (SV\_DataDate):** \_\_\_/\_\_\_/\_\_\_ (date data entered)

**SAVRY Missing (SAVRYMiss):** 0=SAVRY done 1=Missing (should have been completed, but not in case file) 99=Not applicable (e.g., diversion case, transfer)

**SAVRY Administration Date(SAVRYDate):** \_\_\_/\_\_\_/\_\_\_ (date on SAVRY form)

**SAVRY Reason:** 1 = Initial & pre-disposition      2 = initial & post-disposition      3 = reassessment 6-mth  
4 = reassessment –new offense      5 = reassessment- other      6 = close-out

**PO completing assessment (SAVRYProbationOfficer):** \_\_\_\_\_ (enter full name of PO)

**Enter ALL SAVRY Items (including Critical case), risk level, etc into SAVRY file. Enter all items – starting with overall risk level, each risk factor and whether the factor is critical, protective factors, and additional factors.**

**For all subsequent SAVRY's you will start a new row in this file – always enter the youth's PersonSubjectID**

**PLACEMENT SCREEN (Placement SPSS File) UPDATE UNTIL END OF DATA COLLECTION PERIOD**

*This section should list ALL placements the youth received from the date of the youth's disposition (or intake decision if PA) to the end of their sentence. **There should NOT be any placements included here that occurred before the youth's first adjudication UNLESS the youth received pre-trial detention and then a disposition of 'time served' – in this case, these detention dates should be included.** Enter one placement per row, per youth. Youth with more than one placement will be entered on multiple rows – always include PersonSubjectID*

**SAVRY comment:** \_\_\_\_\_  
**PersonSubjectID:** \_\_\_\_\_ **FileNumber (PersonFileNumber):** \_\_\_\_\_ **SiteID: 12**  
**Testgroups = 3**      **CaseAdjudicationDate.1** \_\_\_/\_\_\_/\_\_\_ **CaseDispositionDate.1**  
\_\_\_/\_\_\_/\_\_\_

**Data Entry Date (P\_DataDate):** \_\_\_/\_\_\_/\_\_\_ (last date data entered)

**Start Placement start and end dates:** *Indicate Start & end date of placement*

**Placement Agency:** *enter the exact agency/provider or facility*

**Placement Type (PlacementTypeCodeID):**

- |  |                                      |                        |
|--|--------------------------------------|------------------------|
| <b>1 = OJJ =Non-Secure FINS facility</b>                       | <b>2= OJJ – non-secure delinq</b>    | <b>3=Secure Adult</b>  |
| <b>5 = OJJ-probation</b>                                       | <b>383=Foster care</b>               | <b>384=Boot camp</b>   |
| <b>385=Residential Treatment facility (PA-only) w/relative</b> | <b>386=Group home</b>                | <b>387=foster care</b> |
| <b>388=sex offender treatment (unspec)</b>                     | <b>1077=MH – Inpatient</b>           | <b>1078=OJJ</b>        |
| <b>1266=Wilderness camp (PA only) –inp/resid</b>               | <b>1267=Youth Forestry (PA)</b>      | <b>1268=Drug/alc</b>   |
| <b>1271=OJJ secure (PA-YDC) youth dev center</b>               | <b>1273=Private secure (PA only)</b> | <b>1274=open</b>       |
| <b>1275=Shelter (Johnny Gray Jones) agency (OCS)</b>           | <b>1276=Other</b>                    | <b>1277=Other</b>      |
| <b>1278=Youth Challenge/Youth Academy</b>                      | <b>1279=Detention</b>                |                        |

**Change Reason (PlacementChangeReasonCodeID):** *Reason they changed/released placement.*

380=moved to another placement 381=successful completion 382=unsuccessful completion 1153=new offense 1154=AWOL 1264=Other

**PlacementComment:** *Enter any comments to help clarify if necessary*

Start Date	End Date	Placement Agency	Placement Type Code	Change Reason	Comment

**SERVICES SCREEN (FILE IS UPDATED UNTIL END OF DATA COLLECTION PERIOD)**

*Enter all of the following for each service received and/or referred (from case plan) for the length of the youth’s probation. Services will need to be continually added to this screen and the status of services will need to be updated. Just like the placement screen – enter each service for each youth on a new row and make sure to put the PersonSubjectID on every row. This information will be in ‘Case Plan’ or ‘Case Notes’ NOTE: If a youth received any form of inpatient service (e.g., Mental Health or substance abuse) it should be entered BOTH as a service here AND as a Placement on the Placement Screen*

PersonSubjectID: \_\_\_\_\_ FileNumber (PersonFileNumber): \_\_\_\_\_ SiteID: 12  
 Testgroups = 3 CaseAdjudicationDate.1 \_\_\_\_/\_\_\_\_/\_\_\_\_ CaseDispositionDate.1  
 \_\_\_\_/\_\_\_\_/\_\_\_\_

Data Entry Date (S\_DataDate): \_\_\_\_/\_\_\_\_/\_\_\_\_ (date data entered in service file)

Start Service Date/Referral Date: start of service (or date referred) End Service Date: end of service

Service Agency: Name of the agency that administered the service

Service Description: Provide a description of the service (e.g., anger management, mental health counseling, mental health evaluation, tutoring) as specific as possible (Do NOT include EM, drug testing). DO include community service. Include drug court as a service when youth is enrolled in service and enter ALL services received through drug court. Do NOT include drug court as a service for youth who receive drug court services without being enrolled in drug court.

Service Type (ServiceCat4Needs): Provide the needs category of service received – try to base this on the case plan. In this case – not applicable means the youth shouldn't be getting services because they were diverted or minor sanction

- 0 = no services                      1=not applicable                      2=aftercare/case mgmt.                      3=anger management
- 4=multi-systemic therapy                      5=life skills                      216=Mental/behavioral health
- 397=education/employment                      1156=disruptive behavior                      1157=substance abuse
- 1158=family/parenting                      1159=medical                      1280=peer relations
- 1281=independent living                      1282=leisure/activities                      1283=other
- 1432=attitudes/orientation

Service status (ServiceStatusCodeID): status of service at time data entered (continually updated)

- 215= active (in service)    398= referral pending    400=terminated-unsuccessful    401= sporadic participation
- 743=terminated successful    744=service never received (not youth's fault)    745=refused to attend service    1285=Other

Service Comment Enter a comment if anything needs clarification

Start Date	End Date	Service Agency	Service Description	Service Type (code)	Service Status

Electronic Monitoring: Get information about EM from minutes or 'case plan'

Electronic monitoring? (EM):    0=no                      1=yes                      99=NA                      999=unknown

EMStartDate: \_\_\_\_/\_\_\_\_/\_\_\_\_                      EMEndDate: \_\_\_\_/\_\_\_\_/\_\_\_\_



**PROBATION VIOLATIONS AND OTHER HEARINGS (FILE IS UPDATED TO END OF DATA COLLECTION PERIOD)**

Enter the following information for each probation violation – but only enter probation violations for which there was a hearing. Probation violations will need to be continually added to this screen– enter each probation violation for each youth on a new row and make sure to put the PersonSubjectID on every row. Not sure where this information will be. **Do not** code PVs with no hearing and no disposition. **Do** code PVs that do not have a hearing, but receive services

PersonSubjectID: \_\_\_\_\_ FileNumber (PersonFileNumber): \_\_\_\_\_ SiteID: 12  
 Testgroups = 3 CaseAdjudicationDate.1 \_\_\_\_/\_\_\_\_/\_\_\_\_ CaseDispositionDate.1  
 \_\_\_\_/\_\_\_\_/\_\_\_\_

Data Entry Date (PV\_DataDate): \_\_\_\_/\_\_\_\_/\_\_\_\_ (date data entered in PV file)

PV\_Date (date charged with violation) PVHearing\_Date (date of hearing –may be same as PV\_Date)

PV\_Reason: For now write out the reason. We may make codes later.

PV\_Disposition: This is the outcome or punishment for the probation violation.

0=none/dismissed 1=moved to higher level of supervision 2=go on EM 3=more services  
 4=detention  
 5= commit to OJJ 6=Other, specify: \_\_\_\_\_

PV\_Comments: enter any info – including other specify

PV_Date	PVHearing_Date	PV_Reason	PV_Dispo (code)	PV_Comment

**Other Hearings**

Enter all the following information for other types of hearings the youth received – mainly, continued custody, and motions to modify that were WELL after the initial disposition date. **Do not code drug court hearings.**

H\_Hearing\_Date (date of hearing)

H\_Hearing\_Type: For now write out the type of hearing. We may make codes later

H\_Reason: For now write out the reason and any comments. We may make codes later.

H\_Disposition: This is the outcome or punishment for the probation violation.

0=none/dismissed 1=moved to higher level of supervision 2=go on EM 3=more services  
 4=detention  
 5= commit to OJJ 6=Other, specify: \_\_\_\_\_

H_Hearing Date	H_Hearing_Type	H_Reason	H_Dispo (code)

**TERMINATION DATA SCREEN (TERMINATION FILE)**

PersonSubjectID: \_\_\_\_\_ FileNumber (PersonFileNumber): \_\_\_\_\_ SiteID: 12

Testgroups = 3 CaseAdjudicationDate.1 \_\_\_/\_\_\_/\_\_\_ CaseDispositionDate.1 \_\_\_/\_\_\_/\_\_\_

Data Entry Date (DataDate): \_\_\_/\_\_\_/\_\_\_ (last date data entered – keep updating this as needed)

CaseCensoredOutCodeID: 1=expunged 1425=No 1433=death 1434=interstate compact 1435=courtesy supervision

1436=lost at follow-up

'Case Censored Out': \_\_\_\_\_ Specify the reason for the censoring

CaseClosedDate: \_\_\_/\_\_\_/\_\_\_ (Date probation ended/sentence over)

**School Status At Termination (SchoolStatus\_terminate)(get from case plan):** 1=Enrolled – college  
2=Enrolled - regular sch 3=Enrolled - alternative sch 4=Enrolled - Voc Training 5=Home schooled  
6=Not enrolled 999=unk

**Current Grade at Termination (CurrentGrade-terminate)(get from case plan):** Grade - \_\_\_\_\_ (use 13+ for college) 99=NA 999=unk

**School Grade at Termination (SchoolGrade\_terminate)(get from case plan):** 1=Vocational school  
2=grad HS 3=GED Attained 4=GED in progress 5=Dropped out 6=Expelled 99=Not applicable 999=unk

**Ever Failed a Grade (RGradeFailure\_term):** 0=No 1=Yes 999 = Unknown

**Current School Attendance (RSchoolAttend\_term) (get from data sheet):** 0=out of school (incl expelled) 1=Sporadic 2=Regular/good 999=unkown

**Current School Performance (RSchoolPerf-Term) (get from data sheet):** 0=Poor/Bad (below C's)  
1-Average/Good (≥C's) 99=NA 999=unknown

**IEP at Termination (IEP-Term) (get from data sheet):** 0=No 1=Yes 99=NA  
999=unknown

**Special Education at Termination (SpecEd-Term)(get from data sheet):** 0=No 1=Yes 99=NA  
999=unk

**Employment status at Termination (Employ\_term) (get from data sheet):**

1=Working full-time > min wage 2=Working full-time (min wage) 3=Work full-time (wage unk)  
4=Working part-time > min wage 5=Working part-time (min wage) 6=work part-time (wage unk)

7=Work intermittently (under the table, etc) 8=Volunteer

9=Unemployed-in school/too young 10=Unemployed-disability

11=Unemployed-looking 12=Unemployed-not looking

**Drug Testing:** Try to get the number of drug tests during their probation period. Info may be in case notes or the monitor sheets. Tally the total number of drug tests administered.

**NumberDrugTests:** \_\_\_\_\_

### **Defining Social History Variables**

**Current Living Situation** – If youth was adopted – put both parents or one parent (these selections can include step-parents and adopted parents – not just biological). If youth is currently in foster care – select “Other”. Please make a note on the coding form if this is “adopted” or “foster care”. Group home would be considered a 4 for residential placement

**History of Child Welfare Involvement:** Generally if one’s parental rights were terminated, that also means the youth has had formal involvement/dependency. In these cases, code “parental rights terminated” because it is a higher bar.

**Outpatient Mental Health Treatment** - Examples of outpatient MH treatment include: MH counseling/group, day treatment, partial programs, and psychotherapy. MH Day Treatment Programs, Partial Programs, or from the school assistance program are also included. If a youth is on psychiatric medication, this does not necessarily qualify them for having had MH outpatient treatment in the past. Medication could have been prescribed by a general doctor. For EVER – code yes if the youth received any of these at any point in their life. For CURRENT – code yes if the youth was participating in any of these at the time of intake.

**Psych\_hospover** – Refers to Inpatient MH treatment and includes acute care, MH hospitalizations, psychiatric hospitalizations. Code yes if this has occurred at any point in the youth’s life.

**Outpatient Substance Abuse Treatment** - Examples of SA treatment include, but are not limited to: AA, NA, drug and alcohol counseling (group and individual), SA Day Treatment Programs, Partial Programs and specific substance abuse programs in the county. For EVER – code yes if the youth received any of these at any point in their life. For CURRENT – code yes if the youth was participating in any of these at the time of intake. In most cases, if a youth has had residential/inpatient substance abuse treatment (including detox), they also will have had outpatient treatment – either because it was attempted BEFORE the youth ever went to inpatient OR because they received aftercare substance abuse services upon release.

**Residential/Inpatient Substance Abuse Treatment Ever:** Includes detox, sober house, any inpatient SA facility

### **Diagnoses Codes**

Axis I = major mental illnesses – bipolar, schizophrenia, depression, adjustment disorder, ADD/ADHD, PTSD

Axis II = personality disorders and conduct disorder

Substance use disorder – any alcohol or substance use diagnosis

### **History of Child Welfare Involvement**

Child welfare investigations/claims are handled by the Department of Human Services (DHS). We are only interested in claims filed for the youth's family if it directly involved the youth –not other siblings in the home. If the social summary does not explicitly state that the claim/investigation was filed on behalf of another youth living in the home, you can assume that it was filed for the youth in our sample

The "History of child welfare involvement Item" asks for detailed information if it is available. "Informal" involvement only would mean that the child welfare agency may have received a referral about the family at some point but never made any formal action (unsubstantiated claim/closed case). Formal involvement would include dependency cases or situations where the youth was ever removed from the home. If you know child welfare was involved at some point but do not know how serious it was – circle "some involvement but not sure if formal/informal".

The "History of child welfare involvement recoded" item simply asks for a yes or a no – any type of involvement is a 'yes'. This should be coded as YES if the social history mentions that a claim/investigation was made in relation to the youth in our sample – regardless if it was substantiated (formal) or unsubstantiated (informal). Code as 'no' if child welfare involvement was never mentioned by the JPO or it was not mentioned specifically but there is no reason to believe child welfare was ever involved with the family. Otherwise this is 'unsure'.

The second set of questions refer to whether the youth was ever placed out of the home due to child welfare involvement ever in the past or currently. If Currently is circled yes – than "Ever" should also be circled yes.

**School Grade at adjudication** – if youth is still high school, this would be coded as "99 – not applicable".

**Supervision Level (Calcasieu only)** – Because supervision level can be overwritten in the system as it changes – we agreed "First\_level" will be filled out based on the current level and Jacee will provide the date she recorded the data.

**APPENDIX F: YOUTH DEMOGRAPHIC TABLES (PRE-IMPLEMENTATION AND  
1<sup>ST</sup> YEAR COHORTS)**

*Youth Characteristics Overall and by Site for the Pre-Implementation and 1<sup>st</sup> Year Post-Implementation Cohorts*

**Pre-Implementation Cohort**

	Overall (N = 730)	LA S1 (n = 205)	LA S2 (n = 92)	PA S1 (n = 221)	PA S2 (n = 104)	PA S3 (n = 108)	Statistics
<b>Gender</b>							
% Female	26.03%	29.27%	25.00%	29.41%	21.15%	18.52%	$\chi^2(4) = 6.93, p = .140,$ $V = .10 [.06, .18]$
<b>Race</b>							
% African American/Black	51.37%	86.83%*	55.43%	21.27%*	10.58%*	81.48%*	$\chi^2(8) = 332.89, p < .001,$ $V = .48 [.44, .52]$
% White	41.51%	12.68%*	41.30%	59.73%*	86.54%*	15.74%*	
% Other	7.12%	0.49%*	3.26%	19.00%*	2.88%	2.78%	
% Latinx	8.36%	0.49%*	0.00%*	22.17%*	5.77%	4.63%	$\chi^2(4) = 82.91, p < .001,$ $V = .34 [.27, .40]$
Age at Study Start (at time of referral or adjudication)	$M = 15.54$ $SD = 1.77$	$M = 15.01^c$ $SD = 1.69$	$M = 15.00^c$ $SD = 2.18$	$M = 15.79^d$ $SD = 1.77$	$M = 15.93^d$ $SD = 1.51$	$M = 16.11^d$ $SD = 1.32$	$F(4, 729) = 12.68, p < .001,$ $\eta^2 = .065 [.03, .10]$
<b>Index Offense Category</b>							
% homicide	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
% major sex offense	2.06%	2.44%	5.43%	0.46%	2.88%	0.93%	
% robbery or kidnap	3.30%	0.00%	5.43%	1.83%	1.92%	12.04%	
% assault/arson intent	23.76%	26.34%	16.30%	26.94%	11.54%	30.56%	
% threats or harassment	3.57%	0.00%	1.09%	5.48%	6.73%	5.56%	
% minor sex offense	.55%	0.00%	0.00%	0.91%	0.96%	0.93%	
% theft/break & enter/fraud	22.53%	19.51%	23.91%	29.68%	16.35%	18.52%	--
% arson	.14%	0.00%	1.09%	0.00%	0.00%	0.00%	
% weapons offense	4.40%	5.85%	5.43%	3.65%	3.85%	2.78%	
% drug offense	11.40%	5.85%	7.61%	13.24%	15.38%	17.59%	
% miscellaneous offenses	17.03%	20.49%	3.26%	17.81%	26.92%	11.11%	
% violation	.41%	0.49%	2.17%	0.00%	0.00%	0.00%	
% status offense	8.93%	19.02%	28.26%	0.00%	0.00%	0.00%	

% Violent Index Offense	29.04%	28.78%	27.17%	28.96%	16.35%*	43.52%*	$\chi^2(8) = 100.90, p < .001,$ $V = .26 [.21, .33]$ $F(4, 729) = 36.26, p < .001, \eta^2 = .167$ [.12, .21]
Age at First Offense	$M = 14.44$ $SD = 2.07$	$M = 13.73^c$ $SD = 1.70$	$M = 12.91^c$ $SD = 2.68$	$M = 15.27^d$ $SD = 1.85$	$M = 15.01^d$ $SD = 1.61$	$M = 14.83^c$ $SD = 1.78$	
% Any Violent Priors	18.90%	26.83%*	22.83%	8.60%*	1.92%*	37.96%*	$\chi^2(4) = 69.79, p < .001,$ $V = .31 [.26, .37]$ $F(4, 729) = 23.80, p < .001, \eta^2 = .116$ [.07, .16]
Mean # of Prior Offenses <sup>b</sup>	$M = 1.15$ $SD = 1.69$	$M = 1.58^c$ $SD = 1.68$	$M = 2.05^c$ $SD = 2.44$	$M = 0.58^d$ $SD = 1.17$	$M = 0.44^d$ $SD = 1.13$	$M = 1.39^c$ $SD = 1.67$	
% Any Axis I Diagnosis	14.93%	15.61%	18.48%	8.60%*	36.54%*	-- <sup>a</sup>	$\chi^2(4) = 51.65, p < .001,$ $V = .23 [.21, .37]$
% Any Axis II Diagnosis	10.68%	7.80%	21.74%*	12.67%	13.46%	-- <sup>a</sup>	$\chi^2(4) = 23.81, p < .001,$ $V = .19 [.14, .27]$
% Prior or Current Outpatient Mental Health Treatment	27.95%	17.07%*	30.43%	19.00%*	47.12%*	46.30%*	$\chi^2(12) = 109.00, p < .001,$ $V = .22 [.19, .28]$
% Prior or Current Outpatient Substance Abuse Treatment	12.05%	0.49%*	10.87%	10.86%	30.88%*	19.44%	
% Regular School Attendance	52.74%	66.34%	38.04%	77.83%*	-- <sup>a</sup>	38.89%*	$\chi^2(8) = 167.47, p < .001,$ $V = .39 [.28, .50]$ $\chi^2(4) = 90.54, p < .001,$ $V = .39 [.32, .46]$
% Good School Performance	57.26%	68.78%	39.35%*	82.81%*	43.27%*	20.37%*	
% Enrolled in School	89.45%	93.17%	99.04%	91.40%	83.65%	85.19%	$\chi^2(4) = 8.56, p = .073,$ $V = .11 [.06, .21]$
Living Arrangement							
% Both Parents	24.66%	16.59%*	16.30%	38.91%*	33.65%	9.26%*	$\chi^2(12) = 65.06, p < .001,$ $V = .18 [.15, .23]$
% Single Parent	62.19%	69.76%*	61.96%	53.85%*	55.78%	71.30%	
% Relative	9.32%	11.71%	17.39%*	3.62%*	4.81%	13.89%	
% Other institution	2.88%	1.95%	4.35%	2.71%	3.85%	2.78%	

% History of Child Welfare Involvement	20.96%	8.29%*	29.35%	5.88%*	27.88%	62.04%*	$\chi^2(4) = 192.71, p < .001,$ $V = .53 [.46, .60]$
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### 1<sup>st</sup> Year Post-Implementation Cohort

	Overall (N = 730)	LA S1 (n = 205)	LA S2 (n = 92)	PA S1 (n = 221)	PA S2 (n = 104)	PA S3 (n = 108)	Statistics
Gender							
% Female	25.07%	33.17%	20.65%	25.34%	20.19%	17.59%	$\chi^2(4) = 12.66, p = .013,$ $V = .13 [.08, .21]$
Race							
% African American/Black	50.96%	86.83%*	60.87%	18.55%*	6.73%*	83.33%*	$\chi^2(8) = 384.96, p < .001,$ $V = .51 [.47, .56]$
% White	40.68%	12.20%*	38.04%	57.92%*	89.42%*	14.81%*	
% Other	8.36%	0.98%*	1.09%*	23.53%*	3.85%	1.85%*	
% Latinx	7.67%	0.00%*	0.00%*	20.81%*	4.81%	4.63%	$\chi^2(4) = 81.19, p < .001,$ $V = .33 [.27, .39]$
Age at Study Start (at time of referral or adjudication)	$M = 15.60$ $SD = 1.79$	$M = 15.10_c$ $SD = 1.56$	$M = 14.92_c$ $SD = 2.48$	$M = 15.86_d$ $SD = 1.66$	$M = 16.22_d$ $SD = 1.43$	$M = 16.03_d$ $SD = 1.65$	$F(4, 729) = 14.13, p < .001, \eta^2 = .072$ [.04, .11]
Index Offense Category							
% homicide	0.14%	0.00%	1.09%	0.00%	0.00%	0.00%	
% major sex offense	2.33%	1.95%	4.35%	2.26%	2.88%	0.93%	
% robbery or kidnap	3.29%	0.00%	3.26%	2.71%	0.00%	13.89%	
% assault/arson intent	22.88%	23.90%	10.87%	24.89%	13.46%	36.11%	
% threats or harassment	4.25%	1.46%	0.00%	7.67%	3.85%	6.48%	
% minor sex offense	0.14%	0.00%	0.00%	0.45%	0.00%	0.00%	
% theft/break & enter/fraud	21.51%	21.46%	30.43%	19.00%	22.12%	18.52%	--
% arson	0.41%	0.00%	1.09%	0.00%	1.92%	0.00%	
% weapons offense	3.42%	3.90%	4.35%	3.17%	3.85%	1.85%	
% drug offense	12.47%	4.88%	9.78%	15.38%	19.23%	16.67%	
% miscellaneous offenses	19.45%	24.88%	3.26%	24.43%	26.92%	5.66%	
	0.27%	0.00%	2.17%	0.00%	0.00%	0.00%	



% violation % status offense	8.63%	17.56%	29.35%	0.00%	0.00%	0.00%	
% Violent Index Offense	28.63%	25.85%	19.57%	29.86%	16.35%*	50.93%*	$\chi^2(8) = 73.17, p < .001,$ $V = .22 [.17, .28]$
Age at First Offense	$M = 14.54$ $SD = 2.12$	$M = 13.85_c$ $SD = 1.65$	$M = 12.73_d$ $SD = 2.77$	$M = 15.36_e$ $SD = 1.86$	$M = 15.44_e$ $SD = 1.54$	$M = 14.85_e$ $SD = 1.88$	$F(4, 729) = 44.15, p < .001, \eta^2 = .196$ [.14, .24]
% Any Violent Priors	16.71%	19.51%	22.83%	8.14%*	0.96%*	38.89%*	$\chi^2(4) = 71.97, p < .001,$ $V = .31 [.25, .39]$
Mean # of Prior Arrests	$M = 0.98$ $SD = 1.73$	$M = 1.11_c$ $SD = 1.74$	$M = 2.24_d$ $SD = 2.85$	$M = 0.52_e$ $SD = 1.02$	$M = 0.19_e$ $SD = 0.79$	$M = 1.38_e$ $SD = 1.55$	$F(4, 729) = 26.52, p < .001, \eta^2 = .128$ [.08, .17]
% Any Axis I Diagnosis	10.41%	12.68%	13.04%	6.33%*	18.27%*	-- <sup>a</sup>	$\chi^2(4) = 14.69, p = .005,$ $V = .15 [.09, .24]$
% Any Axis II Diagnosis	8.08%	8.29%	15.22%	9.95%	5.77%	-- <sup>a</sup>	$\chi^2(4) = 14.18, p = .007,$ $V = .15 [.11, .23]$
% Prior or Current Outpatient Mental Health Treatment	26.16%	22.44%	19.57%	17.19%*	38.46%*	45.37%*	$\chi^2(12) = 216.73, p < .001,$ $V = .32 [.27, .37]$
% Prior or Current Outpatient Substance Abuse Treatment	10.14%	1.46%*	6.52%	7.69%	29.81%*	15.74%	$\chi^2(4) = 66.44, p < .001,$ $V = .32 [.24, .40]$
% Regular School Attendance	48.90%	60.98%	38.04%	68.33%*	-- <sup>a</sup>	42.59%	$\chi^2(8) = 48.21, p < .001,$ $V = .21 [.13, .30]$
% Good School Performance	57.26%	69.27%	35.87%	77.83%*	51.92%*	15.74%*	$\chi^2(4) = 53.94, p < .001,$ $V = .30 [.23, .39]$
% Enrolled in School	89.04%	91.22%	82.61%	91.40%	94.23%	80.56%	$\chi^2(4) = 12.58, p = .014,$ $V = .13 [.08, .22]$
Living Arrangement							
% Both Parents	21.51%	15.61%*	10.87%	33.03%*	30.77%	9.26%*	
% Single Parent	65.34%	70.73%	70.65%	57.92%*	56.73%	74.07%*	$\chi^2(12) = 62.95, p < .001,$ $V = .18 [.15, .23]$
% Relative	8.22%	12.20%*	13.04%	2.71%*	3.85%	12.04%	
% Other institution	3.97%	1.46%	4.35%	6.33%	5.77%	1.85%	

% History of Child Welfare Involvement	19.73%	7.32%*	18.48%	8.14%*	23.08%	64.81%*	$\chi^2(4) = 211.28, p < .001,$ $V = .55 [.48, .63]$
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<sup>a</sup> Indicates cells where data were not able to be obtained reliably from files.

<sup>b</sup> Prior offenses were based on charges or court referrals depending on which data were available in the particular site. This variable counted the number of times youth had been charged/referred rather than the number of actual offenses.

\* indicates that the value is significantly larger or smaller than would be expected if the null hypothesis were true ( $p \leq .01$ ; Adj. Residual  $\geq 2.58$ ).

Means that do not share subscripts (<sup>c-e</sup>) differ by  $p < .05$  according to Scheffé's test of multiple comparisons.

## **APPENDIX G: PROPENSITY MATCH TABLES**

*Propensity Score Matched Variables Across the Three Cohorts by Site*

	Cohort 1 ( <i>n</i> = 205)	Cohort 2 ( <i>n</i> = 205)	LA Site 1	
			Cohort 3 Before Match ( <i>n</i> = 251)	Cohort 3 After Match ( <i>n</i> = 205)
Gender				
% Male	70.73%	66.83%	74.90%	75.61%
% Female	29.27%	33.17%	25.10%	24.39%
Race				
% Black	86.83%	86.83%	82.30%	81.95%
% White	12.68%	12.20%	16.46%	16.59%
% Latinx	0.49%	0.00%	1.65%	1.46%
% Violent Index Offense	28.78%	25.85%	27.16%	27.32%
% Nonviolent Felony	12.20%	19.02%	20.99%*	18.05%
Age at Adjudication	<i>M</i> = 15.01 <i>SD</i> = 1.69	<i>M</i> = 15.10 <i>SD</i> = 1.56	<i>M</i> = 14.96 <i>SD</i> = 1.67	<i>M</i> = 14.97 <i>SD</i> = 1.70
Age at First Offense	<i>M</i> = 13.73 <i>SD</i> = 1.70	<i>M</i> = 13.85 <i>SD</i> = 1.65	<i>M</i> = 13.42** <i>SD</i> = 1.77	<i>M</i> = 13.42* <i>SD</i> = 1.78
Prior State JJ Commitment	5.37%	3.41%	4.94%	3.90%
% Any Violent Priors	26.83%	19.51%	30.45%**	30.73%**
Mean # of Prior Arrests	<i>M</i> = 1.58 <i>SD</i> = 1.68	<i>M</i> = 1.11 <i>SD</i> = 1.74	<i>M</i> = 1.35 <i>SD</i> = 1.60	<i>M</i> = 1.40 <i>SD</i> = 1.67
Any Axis I Diagnosis	15.61%	12.68%	41.98%***	40.00%***
Any Axis II Diagnosis	7.80%	8.29%	10.29%	9.76%
Prior Outpatient Mental Health Treatment	17.07%	22.44%	40.74%***	38.54%***
Prior Outpatient Substance Abuse Treatment	0.52%	1.47%	5.35%** *	2.44%
Any Grade Failure	27.06%	29.92%	55.32%***	52.76%***
Regular School Attendance	71.58%	63.13%	42.92%***	43.98%**
Good School Performance	73.44%	73.20%	25.70%***	25.82%***
Enrolled in School	96.95%	92.12%	93.31%	93.56%
Living Arrangement				
% Both Parents	16.59%	15.61%	7.50%**	8.87%*
% Single Parent	69.76%	70.73%	61.25%*	65.52%
% Relative	11.71%	12.20%	25.00%***	21.18%*
Currently Placed Out of the Home	1.5%	3.4%	4.7%	3.0%
History of Child Welfare Involvement	8.72%	7.32%	33.76%***	30.65%***

	<u>LA Site 2</u>			
	<u>Cohort 1</u>	<u>Cohort 2</u>	<u>Cohort 3</u>	
	(n = 92)	(n = 92)	Before Match (n = 126)	After Match (n = 92)
Gender				
% Male	75.00%	79.35%	73.02%	76.09%
% Female	25.00%	20.65%	26.98%	23.91%
Race				
% Black	55.43%	60.87%	52.38%	59.78%
% White	41.30%	38.04%	46.83%	40.22%
% Latinx	0.00%	0.00%	0.00%	0.00%
Age at Adjudication	<i>M</i> = 15.00 <i>SD</i> = 2.18	<i>M</i> = 14.92 <i>SD</i> = 2.48	<i>M</i> = 15.12 <i>SD</i> = 1.73	<i>M</i> = 15.02 <i>SD</i> = 1.77
Age at First Offense	<i>M</i> = 12.91 <i>SD</i> = 2.68	<i>M</i> = 12.73 <i>SD</i> = 2.80	<i>M</i> = 13.72* <i>SD</i> = 1.76	<i>M</i> = 13.50* <i>SD</i> = 1.77
% Violent Index Offense	27.17%	19.57%	36.98%	25.00%
% Any Violent Priors	22.83%	22.83%	30.95%	28.26%
Mean # of Prior Arrests	<i>M</i> = 2.05 <i>SD</i> = 2.44	<i>M</i> = 2.24 <i>SD</i> = 2.85	<i>M</i> = 1.90 <i>SD</i> = 2.03	<i>M</i> = 2.05 <i>SD</i> = 2.17
Any Axis I Diagnosis	18.48%	13.04%	53.97%***	45.65%***
Any Axis II Diagnosis	21.74%	15.22%	16.67%	20.65%
Prior or Current Outpatient Mental Health Treatment	31.46%	23.68%	30.16%	29.35%
Current Outpatient Substance Abuse Treatment	11.11%	9.09%	3.17%*	4.35%
Regular School Attendance	60.34%	51.47%	58.56%	59.26%
Good School Performance	48.21%	56.90%	46.02%	42.68%
Enrolled in School	91.01%	87.36%	97.56%	97.78
Living Arrangement				
% Both Parents	16.30%	10.99%	32.80%*	25.27%
% Single Parent	61.96%	71.43%	48.00%*	57.14%
% Relative	17.39%	13.19%	13.60%	12.09%
History of Child Welfare Involvement	31.76%	22.67%	28.57%	26.09%

	<u>PA Site 1</u>			
	<u>Cohort 1</u> ( <i>n</i> = 221)	<u>Cohort 2</u> ( <i>n</i> = 221)	<u>Cohort 3</u>	
			Before Match ( <i>n</i> = 251)	After Match ( <i>n</i> = 221)
Gender				
% Male	70.59%	74.66%	74.50%	75.57%
% Female	29.41%	25.34%	25.50%	24.43%
Race				
% Black	21.27%	18.55%	24.30%	24.89%
% White	59.73%	57.92%	75.30%***	74.66%***
% Latinx	22.17%	20.81%	17.13%	16.74%
Age at Adjudication	<i>M</i> = 15.79 <i>SD</i> = 1.77	<i>M</i> = 15.86 <i>SD</i> = 1.66	<i>M</i> = 15.70 <i>SD</i> = 1.79	<i>M</i> = 15.66 <i>SD</i> = 1.82
Age at First Offense	<i>M</i> = 15.27 <i>SD</i> = 1.85	<i>M</i> = 15.36 <i>SD</i> = 1.86	<i>M</i> = 15.30 <i>SD</i> = 1.91	<i>M</i> = 15.27 <i>SD</i> = 1.93
% Violent Index Offense	28.96%	29.86%	24.70%	23.98%
% Any Violent Priors	8.60%	8.14%	7.57%	7.69%
Mean # of Prior Arrests	<i>M</i> = 0.58 <i>SD</i> = 1.17	<i>M</i> = 0.52 <i>SD</i> = 1.02	<i>M</i> = 0.41 <i>SD</i> = .96	<i>M</i> = 0.40 <i>SD</i> = .98
Any Axis I Diagnosis	8.60%	6.33%	16.73%**	17.19%**
Any Axis II Diagnosis	12.67%	9.95%	16.33%*	15.84%
Prior Outpatient Mental Health Treatment	19.00%	17.19%	30.1%* **	29.7%* *
Prior Outpatient Substance Abuse Treatment	11.11%	7.80%	13.55%	13.57%
Regular School Attendance	83.50%	74.02%	88.33%***	88.21%***
Good School Performance	88.41%	84.73%	87.61%	87.02%
Enrolled in School	95.73%	94.84%	96.71%	97.66%
Living Arrangement				
% Both Parents	39.27%	33.03%	17.53%***	18.10%***
% Single Parent	54.34%	57.92%	69.32%***	68.78%***
% Relative	3.65%	2.71%	6.77%	6.33%
History of Child Welfare Involvement	5.96%	8.26%	13.42%*	13.11%*

	<u>PA Site 2</u>			
	<u>Cohort 1</u>	<u>Cohort 2</u>	<u>Cohort 3</u>	
	(n = 104)	(n = 104)	Before Match (n = 150)	After Match (n = 104)
Gender				
% Male	78.85%	79.81%	78.00%	75.00%
% Female	21.15%	20.19%	22.00%	25.00%
Race				
% Black	10.58%	6.73%	10.00%	11.54%
% White	86.54%	89.42%	80.67%	80.77%
% Latinx	5.77%	4.81%	4.67%	6.73%
Age at Referral	<i>M</i> = 15.93 <i>SD</i> = 1.51	<i>M</i> = 16.22 <i>SD</i> = 1.43	<i>M</i> = 16.10 <i>SD</i> = 1.61	<i>M</i> = 16.18 <i>SD</i> = 1.64
Age at First Offense	<i>M</i> = 15.01 <i>SD</i> = 1.61	<i>M</i> = 15.44 <i>SD</i> = 1.54	<i>M</i> = 15.20 <i>SD</i> = 1.73	<i>M</i> = 15.37 <i>SD</i> = 1.65
% Any Violent Priors	1.92%	0.96%	4.67%	1.92%
Mean # of Prior Offenses	<i>M</i> = 0.44 <i>SD</i> = 1.13	<i>M</i> = 0.19 <i>SD</i> = .79	<i>M</i> = 0.31 <i>SD</i> = .76	<i>M</i> = 0.29 <i>SD</i> = .80
Any Axis I Diagnosis	36.54%	18.27%	53.33%**	49.04%**
Any Axis II Diagnosis	13.46%	5.77%	19.33%**	19.23%**
Prior or Current Outpatient Mental Health Treatment	50.00%	40.82%	58.90%**	54.46%
Prior or Current Outpatient Substance Abuse Treatment	31.37%	30.69%	32.19%	30.00%
Enrolled in School	93.55%	98.00%	97.22%	97.00%
Living Arrangement				
% Both Parents	34.31%	31.68%	31.33%	28.85%
% Single Parent	56.86%	58.42%	56.00%	58.65%
% Relative	4.90%	3.96%	7.33%	5.77%
Currently Placed Out of the Home	5.0%	3.0%	3.4%	3.9%
History of Child Welfare Involvement	30.21%	24.24%	41.89%* **	39.22%

	PA Site 3			
	Cohort 1 (n = 108)	Cohort 2 (n = 108)	Cohort 3 Before Match (n = 151)    After Match (n = 108)	
Gender				
% Male	81.48%	82.41%	78.15%	78.70%
% Female	18.52%	17.59%	21.85%	21.30%
Race				
% Black	81.48%	83.33%	58.28%***	74.07%
% White	18.52%	16.66%	41.73%**	25.93%
% Latinx	4.63%	4.63%	39.73%***	18.52%**
Age at Referral	<i>M</i> = 15.88 <i>SD</i> = 1.31	<i>M</i> = 15.75 <i>SD</i> = 1.62	<i>M</i> = 15.85 <i>SD</i> = 1.64	<i>M</i> = 15.80 <i>SD</i> = 1.72
Age at Adjudication	<i>M</i> = 16.11 <i>SD</i> = 1.32	<i>M</i> = 16.03 <i>SD</i> = 1.65	<i>M</i> = 16.01 <i>SD</i> = 1.65	<i>M</i> = 15.95 <i>SD</i> = 1.73
Age at First Offense	<i>M</i> = 14.83 <i>SD</i> = 1.78	<i>M</i> = 14.85 <i>SD</i> = 1.88	<i>M</i> = 14.93 <i>SD</i> = 1.79	<i>M</i> = 14.78 <i>SD</i> = 1.87
% Violent Index Offense	43.52%	50.93%	39.74%	40.74%
% Any Violent Priors	37.96%	38.89%	14.57%***	16.67%***
Mean # of Prior Arrests	<i>M</i> = 1.39 <i>SD</i> = 1.69	<i>M</i> = 1.38 <i>SD</i> = 1.55	<i>M</i> = 0.39*** <i>SD</i> = .82	<i>M</i> = 0.49*** <i>SD</i> = .93
Prior Outpatient Mental Health Treatment	46.30%	45.37%	36.42%	36.11%
Current Outpatient Mental Health Treatment	21.30%	18.52%	21.19%	19.44%
Current Outpatient Substance Abuse Treatment	19.44%	15.74%	15.22%	16.67%
Regular School Attendance	38.89%	42.59%	20.53%**	22.22%**
Enrolled in School	85.19%	80.59%	92.05%	92.59%
Living Arrangement				
% Both Parents	9.26%	9.26%	23.18%	14.81%
% Single Parent	71.30%	74.07%	54.30%	61.11%*
% Relative	13.89%	12.04%	12.58%	13.89%
History of Child Welfare Involvement	62.04%	64.81%	33.11%***	37.96%***

*Note.* The percentages for variables with missing data do not match percentages in Table 7 and Appendix F in every case due to differences in the way missing data were classified for different variables to complete the propensity matching.

\**p* = .05, \*\**p* = /< .01, \*\*\**p* = /< .001.



## **APPENDIX H: SERVICE AND PLACEMENT COST ESTIMATION PROCEDURES**

## Service and Placement Cost Data Estimate Procedures

The following steps were followed to obtain and/or estimate the costs of services and placements in each site. The study included only costs to the state or local juvenile justice agencies and to Medicaid and did not account for costs from the state education or child welfare systems, most services covered by grants, services covered by volunteer organizations (e.g., churches). The study also did not include costs to families but any charges to families were rare. All costs were inflated to 2017 rates.

### **Step 1: In-House Services**

In-house services – Weekly cost estimates were generated for in-house services based on the hourly salaries and time commitment from staff delivering the services. Most in-house services were recorded at the youth level so costs were only included for specific youth who received the service (e.g., mental health or drug court).

Flat fee – Services from contracted providers that involved groups given a specific number of times a year (e.g., Victim Awareness classes) were included in the fixed cost estimates generated for each site (see technical appendices)

Detention stays – We contacted each county or parish’s Office of Juvenile Justice (OJJ) and requested their annual budget and the number of youth sent to the facility that year. We were then able to calculate a per diem rate for each detention facility by dividing the annual budget by the number of youth.

Louisiana OJJ Correctional placements – We calculated a per diem rate for OJJ secure facilities using the same procedures as for detention facilities.

### **Step 2: Contracted Providers**

Fee-for-service contracts – Every site used at least one contracted provider. We obtained these contracts for each site and used the per diem, per session, or weekly rate paid by the probation office depending on the fee schedule. In Pennsylvania, some of these contracts were covered by the Department of Human Services (DHS), in which case this study used the rates paid by DHS. This also included per diem rates charged to the PA juvenile probation offices by the state if youth were placed in the state juvenile correctional facility.

Blanket contracts – We estimated the cost per youth receiving a service covered from a blanket contract, which were used occasionally by three of the study sites. These estimates were conducted by dividing the total cost of the contract within a specific year by the total number of youth receiving the service that year. This produced a per youth cost.

### **Step 3: Medicaid**

Medicaid fee-schedules – We obtained the Medicaid fee schedules for each state and contacted the most regularly used providers within some of the study sites to determine which billing codes

were used for which types of services. We generated a service and placement cost appendix for each site, providing the hourly or daily fee for each agency and each service type.

- Type of service – we verified the types of services provided by each provider via their websites or phone calls
- Dosage – We estimated the weekly dosage of services by calling providers and asking for the average patient’s typical frequency and duration of that service each week. When we were unable to contact an agency that provided a specific community service (e.g., CBT, case management), we estimated dosages based on what is considered best practice in the literature.

#### **Step 4: Other Types of Costs**

Coordinated System of Care Funding (CSoC) –There was one CSoC provider commonly used in Louisiana. The CSoC provider charges for case management and then refers youth to subsequent services and potentially placements. We made efforts in both Louisiana sites to obtain the specific services and placements to which youth were referred by the CSoC provider from probation files but it was not always documented. Service and placements costs for youth who were sent to the CSoC provider were based on either the median cost if case management for youth who were sent to a residential facility, or the median cost for youth who stayed in the community.

Estimates generated from literature – If we were unable to obtain a cost for a particular service, we used average rates identified in the literature. The following are all the literature-based rates used in this study:

- Mental Health Residential Treatment Facilities per diem rate – estimated from an Allegheny Health Choices Inc. fact sheet (Allegheny County, PA)  
<https://www.ahci.org/Documents/RTF/RTF%20Fact%20Sheet%20FINAL.pdf>
- State prison per diem rate – estimated from 2017 PA House annual average  
[https://www.pahouse.com/Files/Documents/Appropriations/series/3001/DOC\\_BP\\_102517.pdf](https://www.pahouse.com/Files/Documents/Appropriations/series/3001/DOC_BP_102517.pdf)
- Mental Health inpatient hospitalization per diem rate – estimated from 2016 AHRQ statistic brief <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb249-Mental-Substance-Use-Disorder-Hospital-Stays-2016.pdf>