Does the YLS/CMI help to predict recidivism?

An Assessment of the Division of Juvenile Justice's Use of the Youth Level of Services/ Case Management Inventory

August 2011

Revised August 2012

alaska judicial council

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An Assessment of the Division of Juvenile Justice's Use of the Youth Level of Services/ Case Management Inventory

A report to the Division of Juvenile Justice by
The Alaska Judicial Council and the Institute for Social and Economic Research

Teresa W. Carns (AJC) and Dr. Stephanie Martin (ISER)

August 5, 2011
Revised August 2012

Contact:

Larry Cohn, Executive Director
Alaska Judicial Council
1029 West Third Avenue, Suite 201
Anchorage, AK 99501

(907) 279-2526
www.ajc.state.ak.us

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Executive Summary

YLS/CMI and Recidivism among Youths released from Division of Juvenile Justice supervision in 2008

- Seventy percent of the youths released from Division of Juvenile Justice services in 2008 did not recidivate – that is, they were not adjudicated or convicted of a new crime that had been committed during the first twelve months after their release from Division services.[1]

- When all factors were considered together in the multivariate analyses, data showed that higher scores on the initial YLS/CMI predicted recidivism among males, but not females. Lower scores were associated with a lower likelihood of recidivism.

- The multivariate analyses showed that Native youths were more likely to have been adjudicated or convicted of a new offense that was committed during the first year after release from Division services. This effect was independent of age, gender, and the other variables considered in the analysis.

- Urban Native youths were more likely to recidivate than were rural Native youths.

- The Division may be able to make more effective use of the YLS/CMI instrument through training that focuses on consistency in administration of the initial and followup assessments, and through attention to data entry to increase opportunities for more detailed evaluations in the future.

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[1] See Methodology, *infra*, for discussion of definitions of recidivism.

Introduction

In June, 2010, the Alaska Division of Juvenile Justice (Division) invited the Alaska Judicial Council and the Institute of Social and Economic Research (ISER) at University of Alaska Anchorage to assist "in understanding how scores on the Division's assessment instrument for juveniles, the Youth Level of Service/Case Management Inventory (YLS/CMI), reflect the actual recidivism of juveniles who've received services from the Division." Other states had shown that YLS/CMI scores could be helpful in predicting recidivism among the youths they served, but Alaska had not yet done the comparable research. ISER and the Council agreed that the questions proposed would provide valuable information and help the Division to better address the reasons for youth recidivism.

Part 1
Research background and design

A.   Research Requests and Questions

The Division of Juvenile Justice asked for:

- Summary statistics of juvenile recidivism and of Youth Level of Service/Case Management Inventory (YLS/CMI) assessment scores;

- An estimate of the association between recidivism and YLS/CMI scores for youths at their entry point into the juvenile justice system; and

- An estimate of the association between recidivism and youths' scores later in the process.

Their specific research questions were:

- "How do the results of our initial screens—the YLS-Screening Version for criminogenic needs and CRAFFT substance abuse screen—compare with the juveniles' outcomes?"

- "How do the scores of those youth who recidivate compare with the scores of youth who do not?"

- "How do the results of reassessments (particularly final reassessments) compare with initial scores among recidivists and non-recidivists?"

- "For those who go on to be adjudicated and receive more intensive services, how do the results of initial screens compare with the full assessment?"

- "In which specific life areas (domains) do youth that re-offend tend to have the most intensive needs? In which areas does the Division seem to do the best job of reducing risk and need, as demonstrated by initial and follow-up YLS/CMI assessments?"

B.   The Youth Level of Service/Case Management Inventory (YLS/CMI) and its use by the Division of Juvenile Justice

The YLS/CMI (Case Management Inventory) is an internationally recognized instrument for evaluating criminogenic risk and need factors in juvenile offenders. Several studies over the past decade[2] have evaluated the ability of various risk assessment instruments to predict juvenile recidivism. A 2007 meta-analysis of the YLS/CMI and other juvenile risk assessment instruments suggested that the YLS/CMI was among the most-used and evaluated instruments[3] – eleven of the twenty-eight studies in the meta-analysis relied on it. It had a wide range of ability to forecast recidivism ("effect size"[4]), but all of the effect sizes showed a better than 50% chance that it predicted recidivism accurately. The author noted that the YLS/CMI "measures criminogenic needs that, if reduced through intervention, would improve risk scores and presumably prevent repeat offending."

The Division began using the YLS/CMI statewide in 2005 to evaluate the risks and needs of youths who were adjudicated delinquent by the court. The inventory gave the assessor an overall risk/need score that helped determine the supervision level the youth needed. It also helped the assessor decide which areas of the youth's life – family circumstances, education/employment,

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[2] G. R. Garczyk, Heilbrun, Lander and DeMatteo, "Predicting Juvenile Recidivism with the PCL:YV, MAYSI, and YLS/CMI," INTERNATIONAL JOURNAL OF FORENSIC MENTAL HEALTH, 2003, Vol. 2, No. 1, pages 7 - 18.

[3] C. Schwalbe, "Risk Assessment for Juvenile Justice: A Meta-Analysis," LAW AND HUMAN BEHAVIOR (2007), 31:449-462, published online January 9, 2007.

[4] C. Schwalbe, *Id.,* at page 452 and 457. The measurement is "Area Under Curve," which ranged from .500 to 1.0. The higher the AUC, the greater the probability "that a randomly selected re-offenders will have a higher risk assessment score than a randomly selected non-offender . . . All effect sizes used in the present study are reported as AUC statistics." *Id*., p. 452.

substance abuse, peers, leisure time, attitudes/orientation, and behavior/personality – needed attention and services.[5]

The Division trained probation staff to use the YLS/CMI in 2006. Statewide refresher training was planned for late 2010/2011. The Division's JOMIS (Juvenile Offender Management Information System) incorporated scores from the YLS/CMI into the electronic database. In 2007, the Division added a brief screening version of the YLS/CMI (the YLS-Screening Version) to its intake procedures so that intake officers could use the information to help guide decisions from the beginning of the case.

The Division wanted to know how it could optimize its use of the YLS/CMI to manage cases better and to limit the chances that youths would re-offend. The Division's policy was to assess youths upon adjudication and then to repeat assessments every six month that a youth was on community-based supervision or following release from an institution or residential program. Each year, the Division examined recidivism rates for the approximately 500 youths released from its institutions and formal probation supervision, but had not analyzed the recidivism rates in light of the YLS/CMI scores.

C. Methodology

1. Definition of recidivism

The analysis used the existing Division of Juvenile Justice definition of recidivism, which was an adjudication or conviction on an offense committed within a year after the youth's release from

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[5] See Appendix C for more information about the YLS/CMI categories, scoring, and administration.

Division supervision or secure placement.[6] Other measures of recidivism such as re-referrals or re-arrests, or remands to detention or custody were not available for this report.

The choice of measure(s) for recidivism is important because each reflects different aspects of the justice process. Using re-arrests, re-referrals, and remands to detention gives a higher recidivism rate because these events occur more frequently. They are important measures of recidivism because they show that a significant number of interactions between individuals and the justice system occur without a final formal adjudication or conviction. Using only adjudications or convictions shows the events that were finally determined by the justice system process to be illegal, and to be attributable to the individual's own actions. The smaller number of adjudications or convictions for each individual is reflected in a lower recidivism rate.

An important difference between the juvenile justice system and the adult justice system was that about three-quarters of juveniles who came to the attention of the Division had their cases dismissed, diverted to informal probation, or dealt with in ways that did not involve secure treatment or formal probation. In contrast, about 15% of adult criminal cases included in one study had their cases dismissed or acquitted.[7] Thus, a much smaller percentage of the youths coming into contact with the juvenile justice system was handled formally, as compared to the adults coming into contact with the adult system.

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[6] This was a different definition of recidivism than those used to determine recidivism among adult offenders. For adult offenders, the Council calculated three measures of recidivism: arrested, convicted, or remanded to custody within the first, second, and third years after the offenders' initial release to the community following conviction. The two most important differences between the Council definition and the Division's definition were: 1) The Division used the actual date of the offense, while the Council studies used the date of arrest, remand or conviction as the starting point. 2) The Division then counted as an adjudication/conviction all offenses that were committed during the first year after release and were adjudicated or convicted at a later time, while the Council only counted arrests, remands, and convictions that occurred during the first year (or second or third) after release.

Although the definitions were somewhat different, and caution should be used in making any comparisons because of differences in methodology and the very different structures of the juvenile and adult systems, it was worth noting that 30% of the youths in this group were adjudicated or convicted of a new offense committed within one year of their release; and 28% of adult offenders in the Council's 2007 study of recidivism were convicted of a new offense within one year of their initial release to the community. *Criminal Recidivism in Alaska*, January 2007, available at http://www.ajc.state.ak.us/reports/1-07CriminalRecidivism.pdf)

[7] *Alaska Felony Process: 1999*, February 2004, page 87; available from the Judicial Council on-line at http://www.ajc.state.ak.us/reports/Fel99FullReport.pdf. In addition, for the 1999 felony data, prosecutors declined to prosecute 25% of the felony charges brought at the level charged by arresting agencies. They accepted an additional 2% as lesser felonies and 10% as misdemeanors.

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2.   Confidentiality

The Judicial Council and ISER maintained the confidentiality of the data, by complying with federal, state, and agency standards that have been set to safeguard the privacy of juveniles. The data were aggregated for the purpose of the statistical research. The report does not include data that could identify a juvenile.

3.   Data

The Division provided data from Juvenile Offender Management Information System (JOMIS).[8] The data records were for juveniles released from treatment[9] and probation in 2008. It included YLS/CMI and CRAFFT [10] scores for those individuals, demographic information, and follow-up data that showed whether the youth was adjudicated or convicted of an offense committed within the twelve months following release from the Division's custody or supervision. It also included YLS Screening scores from an instrument that could be used by Juvenile Probation Officers during their early contacts with a youth. As was the case with the CRAFFT scores, there were too few youths with these scores in this 2008 study to be able to analyze the data.[11]

4.   Analysis and report

ISER calculated recidivism using the Division's measure of recidivism – any subsequent adjudication or conviction on an offense committed during the twelve months following the youth's release from an institution or formal probation. ISER used multivariate statistical models to estimate the relationship between YLS/CMI scores and recidivism. The analysis considered independent variables including age, gender, ethnicity, location in state, and other information available from

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[8] See appendix B for a list of the variables provided by the Division.

[9] The date provided for release was the date of release from the secure treatment or other institution. Youths received differing amounts of aftercare from the division, ranging from several weeks to several months. (6/20/11, Division staff email).

[10] The CRAFFT was a six-question, self-administered test that was widely used to determine whether adolescents had an indication of substance abuse problems that could warrant further assessment. The Division had CRAFFT scores for only nine of the study subjects included in this database, meaning that information related to CRAFFT could not be analyzed for this report. In future evaluations, CRAFFT scores should be available for all youths.

[11] Thirty-six of the youths received YLS Screening evaluations. For those youths, there was no significant correlation between scores on the YLS Screening and their initial scores on the full YLS/CMI that was first administered after adjudication. Note that the sample of youths with YLS Screening scores was too small to use that score in our estimates of recidivism.

JOMIS. Summary statistics and statistical models showed the relationships between recidivism and the YLS/CMI instruments.

The analysis used two equations to estimate recidivism, one for males and one for females.[12] Coefficients in the table were directly interpretable in terms of their sign and whether or not they were significant. Determining the effect of each variable on recidivism required an additional calculation, shown in the next section.[13]

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[12] A probit equation estimated the probability that the youth would recidivate. Probit was a better estimation technique for discrete dependent variables than ordinary least squares (OLS) regressions, because OLS estimates were biased. From the probit, the probability that a youth will recidivate equaled:

Pr (y=1 | X) = ΦX
Where, y=1 if youth recidivated, 0 otherwise.
Φ is the cumulative normal distribution function,
B is a vector of coefficients,
X is a vector of explanatory variables

[13] The total YLS/CMI score was included as a variable. It would also be useful, if enough data were available, to do an analysis of the individual components of the total YLS/CMI score. For example, it would be helpful to review the relationships between recidivism and the separate components of the Offenses and Dispositions variable in the total score. Each of the five items in the variable – prior custody, prior probation, 3 or more current convictions adjudicated, 3 or more prior convictions adjudicated, and 2 or more failures to comply – might have independent associations with recidivism.

Part 2
Findings

A. Demographic characteristics

The recidivism review looked at 507 youths who were released from the services of the Division in 2008. The characteristics of the group are summarized below.

Table 1 Age Distribution				
Age in years	**Male**	**Female**	**Total** **N**	**%**
14 or under	6	0	6	1%
15	23	2	25	5%
16	37	5	42	8%
17	84	20	104	21%
18	180	44	224	44%
19	97	9	106	21%
Total	427	80	507	100%

- Eighty-four percent of the group released were males.

- Eighty-six percent of the group released were between 17 and 19 years of age.

Table 2 Ethnicity Distribution		
	Total	
Ethnicity	**N**	**%**
Alaska Native/American Indian	195	39%
Caucasian	176	35%
Black/African-American	46	9%
Multi-ethnicity	52	10%
Asian	14	3%
Native Hawaii/ Pacific Islander	14	3%
Other	10	2%
	507	100%

- The two largest ethnic groups were Alaska Natives/American Indians (39%) and Caucasians (35%).[14]

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[14] Data provided by ISER in *Kids Count Alaska 2009-10*, page 56, available on-line at http://kidscount.alaska.edu/2010/databook/1-introduction.pdf showed that disproportionately high percentages of Alaska Native and Black youths were referred to the juvenile justice system between 2005 and 2009, compared to their percentages in Alaska's overall teenage population. In 2008, Alaska Natives made up 22% of Alaskans between ages 10 and 19, but accounted for 30% of the referrals (ages 10 - 17) between 2005 and 2009. Black youths made up 5% of the 10 to 19 year old group in the general population, but accounted for 7% of the referrals (ages 10 - 17) between 2005 and 2009. As the 2008 data showed, by the time of adjudication and commitment to formal probation or secure treatment, the disproportions had increased, so that Alaska Natives were 39% of the final group, and Blacks were 9% of the final group.

According to *Kids Count*, DJJ "attributes at least part of this over-representation of some minority young people at the referral stage to two circumstances: (1) minority teenagers are at higher risk than White teenagers of being detained and formally charged; and (2) minority teenagers are more likely to have detention screenings than White teenagers." Also see the 2006 report by Michael J. Leiber, Ph.D., Joseph Johnson, M.A., and Kristan Fox, B.A., *An Examination of the Factors that Influence Justice Decision Making in Anchorage and Fairbanks, Alaska: An Assessment Study* at http://www.hss.state.ak.us/djj/information/default.htm.

Table 3 Community of origin distribution		
Community of origin	**Total**	
Anchorage/ Matsu	190	37%
Fairbanks	39	8%
Kenai	27	5%
Juneau/ Ketchikan	36	7%
Rural	164	32%
Out of state	17	3%
Unknown	34	7%
	507	100%

- The youths came from around the state, with the two largest groups from Anchorage/Matsu (37%) and rural Alaska (32%).

- Seventy-nine percent of the youths were released from supervised probation and twenty-one percent were released from secure institutionalization in treatment facilities.[15]

B.   Recidivism

Thirty percent of the youths were charged with and later adjudicated/convicted of an offense that they committed during the twelve months following their release from Division services. Seventy percent of the group did not recidivate, using this definition of recidivism.

The multivariate analysis shows the most reliable information about the associations between recidivism and independent variables such as YLS/CMI scores, age, ethnicity, and other factors considered in the analysis. The analysis showed:

- There was no association between initial YLS/CMI scores and recidivism for females.

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[15] Tables 6 through 10 in Appendix A show each of these demographic variables analyzed for recidivists and non-recidivists.

•   There was no association between second or subsequent YLS/CMI scores and recidivism for any youths.[16]

•   For males, the variables associated with recidivism were:
    •   Older males were more likely to recidivate than younger males;

    •   Higher initial YLS/CMI scores were associated with more recidivism for all males; lower scores were associated with less recidivism.

    •   Alaska Native males, from both urban and rural areas were more likely to recidivate than other males of other ethnicities.

C.   YLS/CMI

1.   General information

The 507 youths released from the Division's services in 2008 included:

•   459 who had at least one YLS/CMI assessment before their date of release from Division services.

•   236 who had two or more YLS/CMI scores. The Division asked several research questions about the differences between the initial YLS/CMI scores, and subsequent scores. Because the subsequent scores did not show any statistically significant associations with recidivism, in part because of the way they were administered, the answers to these questions were provided to the Division but not included in the report.

•   A larger share of probationers (92%) compared to juveniles released from secure treatment (85%) received YLS/CMI assessments. Division staff noted that the YLS/CMI was more applicable to youths on probation, and that they did not generally conduct a followup YLS/CMI assessment until the youth was released from a

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[16] This finding was probably related to the way the data were collected, and the frequency with which Division staff were able to carry out additional YLS/CMI assessments. The issues are discussed in Part 3, Summary and Conclusions, *infra.*

Division institution.[17] Probationers were also more likely to have more than one YLS/CMI.

2. YLS/CMI Scores

• YLS/CMI scores ranged from 0 to 39 out of a total possible score of 42.

• YLS/CMI scores and age were correlated.[18] YLS/CMI scores increased with age.

• YLS/CMI scores for youths from rural areas were significantly lower than for youths from urban areas.[19]

Table 4 Mean and median initial YLS/CMI scores		
Initial YLS/CMI score		
	Mean	**Median**
Probation	13.6	13.0
Secure Treatment	19.3	19.0
Total	14.7	15.0

• The mean initial YLS/CMI score was 14.7. Scores of probationers were significantly lower than scores of the juveniles in secure treatment.[20]

• Scores for males and females did not differ significantly. Nor were differences among ethnic groups statistically significant.

3. Assignment of risk level based on YLS/CMI score

The Division's risk levels of low, moderate, high, and very high that were assigned by Division staff based on the YLS/CMI scores did not show any statistical correlation with the likelihood of recidivism.

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[17] Division email, 6/17/2011. The Division noted: ". . . Youth who have ever been in a facility should nonetheless have records of YLS/CMIs being performed before they went in . . ."

[18] The correlation was statistically significant, (.t= 0.139, p=.03)

[19] (t=2.211, p=.028).

[20] (t= -7.026, p<.001).

Alaska Division of Juvenile Justice YLS/CMI Scoring Key
Last Revised: May 19, 2006

YLS/CMI Risk/Need Scores and Levels	
0-8	Low
9-22	Moderate
23-34	High
35-42	Very High

Of 459 youths with YLS/CMI scores:

• Probation officers overrode the YLS/CMI score in 28% of the cases (N=127), and used their discretion to assign a different risk level. Twenty-five percent (N=32) went from the original risk category to the very high risk category.

Table 5 Number and Percent of over-rides to very high risk *Revised August 2012*			
Original risk level determination using YLS/CMI score	Number of original risk level assessments	Number of over-rides to very high risk from original risk assessments	Percent of over-rides to very high risk from original risk assessments
Low Risk	116	11	9%
Moderate Risk	271	18	7%
High Risk	70	3	4%
Very High Risk	2	0	- -
	459	32	7%

Division staff noted that the YLS/CMI was not useful for understanding sex offender risk, and that Division policy provided that all juvenile sex offenders would be classified as at least moderate risk.[21] Notes in the dataset indicated that most of the overrides into the very high risk category were for youths convicted of sex offenses and unclassified crimes.

4.   YLS/CMI Risk Levels: Existing and Proposed

The Division asked that ISER and the AJC review the new risk levels proposed by Multi-Health Systems, Inc., the organization that provides the YLS/CMI, compare them to the existing YLS/CMI risk levels, and make a recommendation about the use of the new levels.

a)   Proposed revisions to risk levels.

Multi-Health Systems shared their draft revisions and underlying data with the Division in a December 2010 email, [22] along with an updated literature review. As shown in the Scoring Key, the existing risk levels based on YLS/CMI scores are given for secure treatment and probation groups together with no distinction between male and female youths. In the December 3, 2010 email, Ms. Holwell noted that the data showed that there were no significant differences in YLS/CMI scores among ethnic groups or by gender. The proposed new risk levels are divided into treatment and probation, and subdivided into male and female in each category.[23]

Multi-Health System's proposed changes to the risk levels:

• Separated the original risk levels that had one set of choices applying to all youths, into four categories – male treatment, male probation, female treatment, female probation.

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[21] The Division noted (email, 6/17/2011, *Id.*): "There is a great temptation to give the offense type greater weight than it deserves. The YLS/CMI properly recognizes that offense history is just one (of eight) factors that are the major factors that contribute toward delinquency." The Division only provided information about the offense(s) of which the youth in this study were adjudicated/convicted for the recidivist youths, so the variable was not used.

The Division also said, *Id.*, "We do know that the YLS/CMI is not a good tool for understanding risk for sex offenders, and so our policy provides that Juvenile Probation Officers will override up to at least Moderate a youth with a sex offense. We also require overrides to High for youth who commit unclassified felonies."

[22] Tammy Holwell, Multi-Health Systems, Inc., Public Safety Division, December 3, 2010 email to Anthony Newman, Alaska Division of Juvenile Justice.

[23] *Id.*, Ms. Holwell notes that "Gender differences: the effect sizes are less than small. Regardless we will have separate gender norms."

•   Increased the share of youths who would be categorized as low risk from about 42% of youth to about 50% of youths.[24]

•   Reduced the share of youths in the moderate and higher risk categories because of the increased percentage of youths in the low-risk category.

b)   Differences between Alaska youthful offenders and the samples of offenders in Canada and the U.S. *(This section revised August 2012)*

The AJC/ISER analysis compared ratings of Alaska's youthful offenders with the ratings of youthful offenders elsewhere under both the current YLS/CMI risk levels and under the revised rating scale. AJC/ISER first compared the YLS/CML levels administered in Alaska without looking at the Division's overrides. The comparison revealed that 25% of Alaska youths in 2008 fell into the low-risk category compared to nearly half of youthful offenders elsewhere under the current and proposed rating scales. Conversely, about 15% of Alaska's youthful offenders were rated as high risk (except for females on probation (6%)) compared to about one-tenth of youthful offenders rated as high risk elsewhere under the current and proposed rating scales. In Alaska, the majority of both males and females were scored as moderate risk.

When the Division's overrides were considered, the contrast between Alaska's ratings and the ratings of offenders elsewhere was even greater. Creators of the YLS/CMI recommended no more than 10% overrides. In Alaska, Division probation officers overrode 28% of the recommended risk levels.[25] The Alaska overrides were mostly for unclassified and sex offenses. The YLS/CMI does not appear to provide a question or section that incorporates information about the seriousness of the underlying offense or type of offense. Nor does it provide for overrides based on seriousness or type of offense.

With overrides, 8% of Alaska's male offenders were rated very high risk, where as nationally, only about 1% of male offenders were rated very high risk under the current and proposed rating scales. With overrides, 7% of Alaska's female offenders were rated very high risk, whereas only about 1% of youthful female offenders elsewhere were rated very high risk under the current and proposed rating scales. Figures 1 and 2 show the original risk levels (those presently used by the Division), the new risk levels proposed by Multi-Health Systems, the percentages of Alaska youth who fall into each present risk category using the Division's 2008 YLS/CMI initial

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[24] Fewer females would be categorized as low risk with the new scoring.

[25] Table 5 shows the percentage of overrides to very high risk from each of the lower risk categories.

scores without overrides, and the way that each Alaskan group is presently categorized by the Division with the overrides chosen by the Division staff.

Figure 1
Revised August 2012
2008 data and 2010 proposed (normed)* YLS/CMI new risk levels,
Males - Treatment
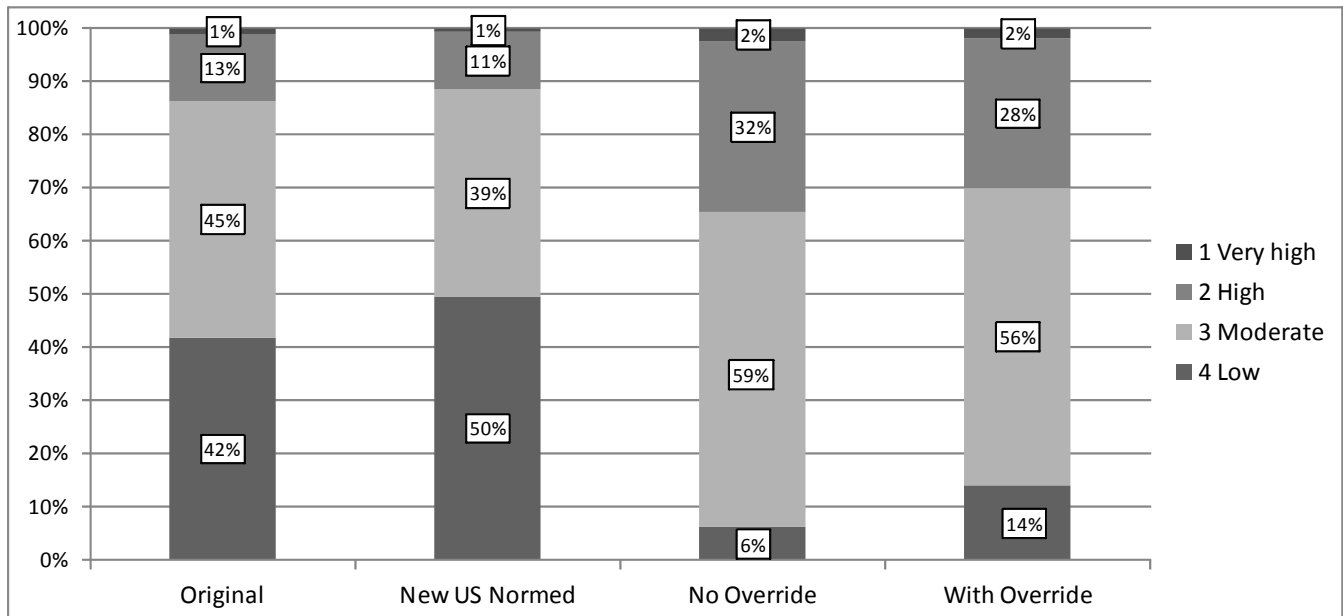
* The "normed" risk levels are based on a study done by Multi-Health Systems, published in 2010, that used a sample of 15,000 youths in the U.S., including Alaska. The study established the normal range of values for scoring the YLS/CMI.

Males - Probation

Figure 2
Revised August 2012
2008 data and 2010 proposed (normed)* YLS/CMI new risk levels
Females - Treatment

* The "normed" risk levels are based on a study done by Multi-Health Systems, published in 2010, that used a sample of 15,000 youths in the U.S., including Alaska. The study established the normal range of values for scoring the YLS/CMI.
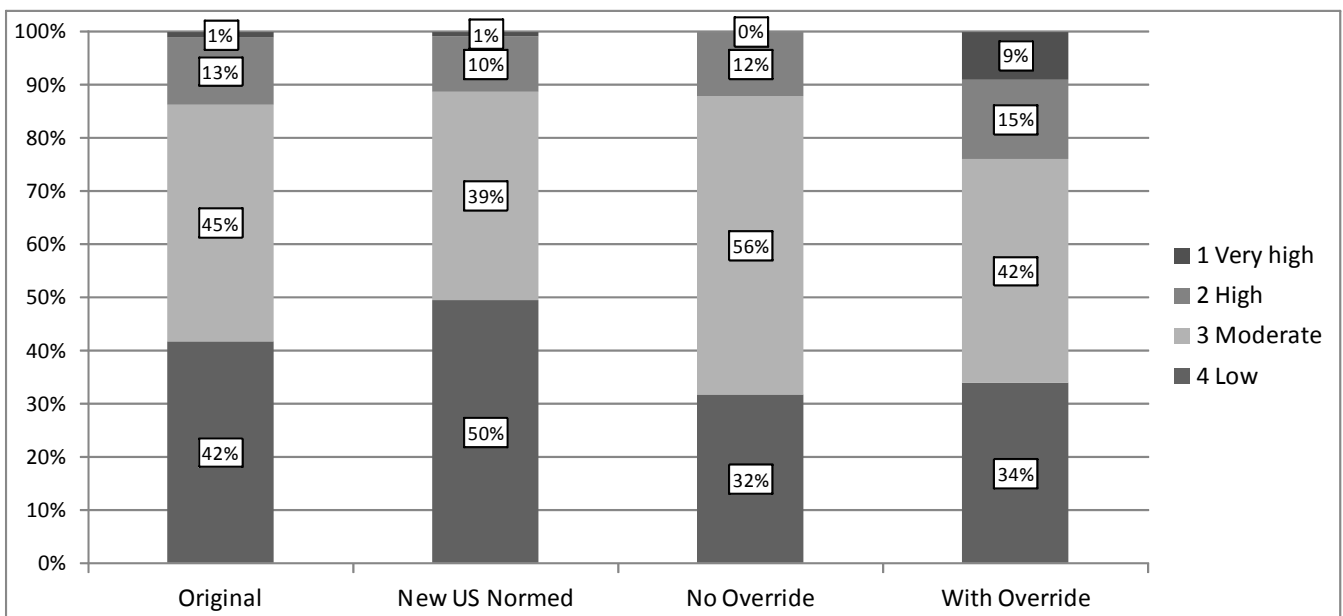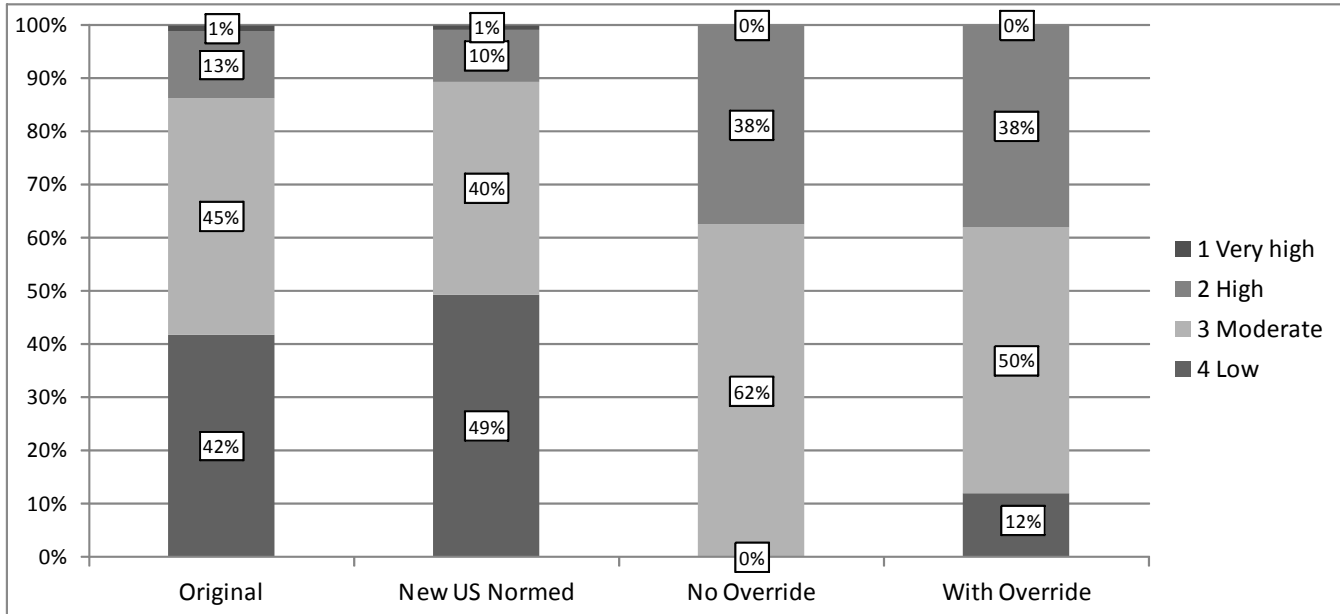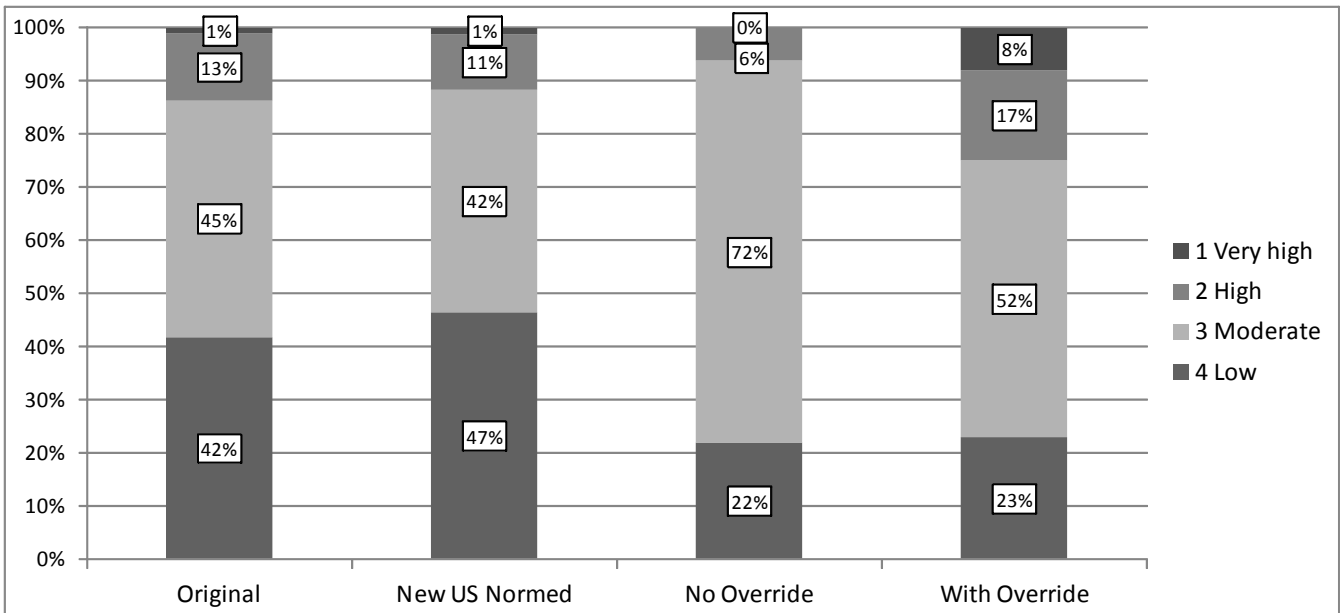
Females - Probation

c) Summary

The combination of the differing results between the Multi-Health System use of YLS/CMI and Alaska's use of the same instrument suggests that Alaska might consider adding a module with questions about the type and seriousness of the underlying offense. The comparison also indicates that the lack of this module in the YLS/CMI means that the instrument is underestimating risk levels for youths convicted of unclassifies and sex offenses.

Chart 1
Percent likelihood of recidivism for four types of male youths released from Division services in 2008
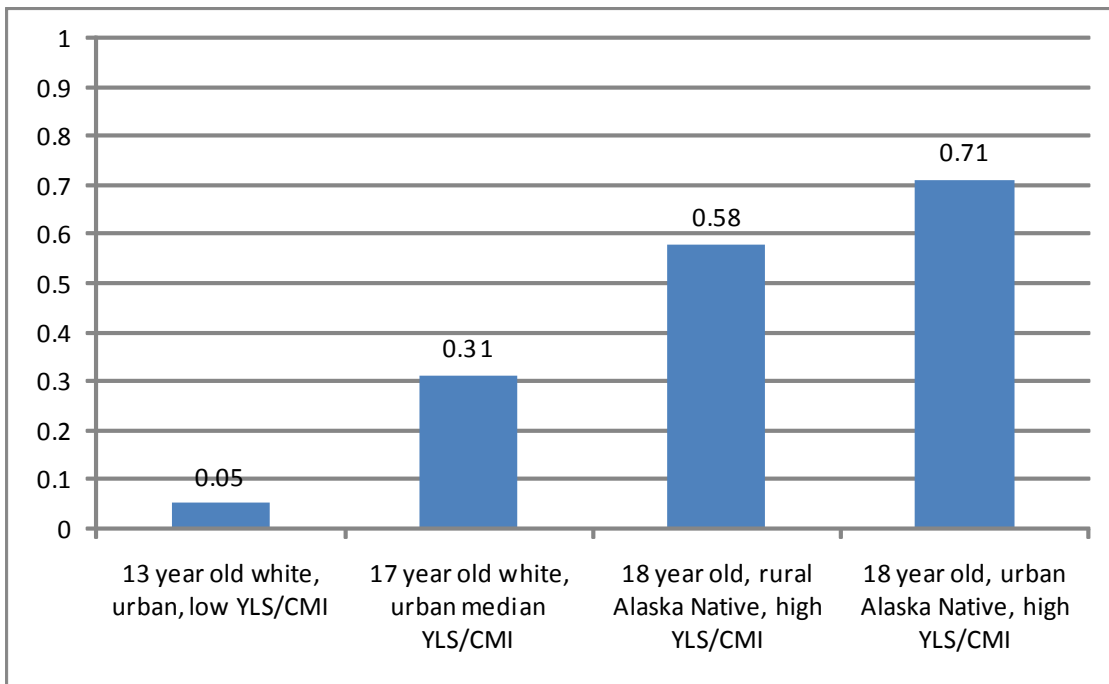
- Urban Native youths were more likely to recidivate than rural Native youths.

Part 3
Summary and Conclusions

The findings from the review of the YLS/CMI instrument, the YLS Screening instrument, and the CRAFFT instrument, and their relationships to recidivism among youths receiving services from the Division showed:

- For males, higher scores on the initial YLS /CMI were associated with a greater likelihood of recidivism. The most recent YLS/CMI assessment did not show any relationship between the scores and the likelihood of recidivism. After reviewing the findings with the Division, it appeared that additional training of staff on the rigor with which the followup YLS/CMI assessments should be done, and policy clarifications about when followup YLS/CMI assessments should be done could change this situation. The Division's discussion could include the question of whether telephonic YLS/CMI assessments are as effective as in-person assessments; and what effect having a parent present had on the assessment process.

- The information about the youth's prior criminal record for the YLS/CMI assessment appeared to come from staff reports. Because it is possible to check this interview information against JOMIS records, the Division may want to consider doing this, to verify that the prior record information is accurate.[26]

- Not enough information was available about the Screening YLS assessments, the Part III YLS/CMI questions,[27] or the CRAFFT assessment to adequately evaluate their effectiveness in predicting recidivism, although it appeared that some of the variables in Part III might be helpful for this purpose. The Division should continue to provide training in the administration of Part III of the YLS/CMI, the Screening YLS, and the CRAFFT, and should evaluate their usefulness in the future.

- The initial YLS/CMI assessment did not show any association between females' scores and their likelihood of recidivism. The Division may wish to review new data after making changes to the implementation of the YLS/CMI, to see whether the instrument will better predict female recidivism.

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[26] Analysis of the YLS/CMI scores for youths with more than one score showed that, on average, the prior offense score dropped significantly between the initial and most recent assessments. This shows a problem in the administration of the subsequent YLS/CMI assessments that should be resolved before any comparisons are made between initial and subsequent YLS/CMI scores.

[27] See *infra,* Appendix A, regression models for notes about the significance of Part III variables.

- Data showed that Alaska Native and Black youths came into the juvenile justice system in disproportionate numbers, and that the disproportions increased throughout the process of adjudication. The present evaluation showed that Alaska Native youths[28] also recidivated at disproportionate rates. The Division has been taking steps to reduce the disproportions at earlier stages in the process. It should now consider whether additional steps might help reduce recidivism among Native youths.

- The Division should use the proposed new Multi-Health System risk levels because these are based on a substantially larger sample, and because the profile of the tested population more closely matches the Division's population.[29] However, the Division should wait to adopt this until a rigorous evaluation of the YLS/CMI shows that the new risk levels can accurately predict recidivism.

- The Division should administer the YLS/CMI to all juveniles in both treatment and probation, to improve its understanding of the distribution of scores, and to increase the data available for further evaluation of the YLS/CMI.

- When the Division is using the YLS/CMI to allocate services, its assigns a higher level of importance to its own assessment of risk levels than to the proposed national levels. The Division should clarify the differences between its chosen risk levels and the proposed national levels, and should state the reasons for the differences.

- The Division was interested in considering using the standards for measuring recidivism established by the Council of Juvenile Correctional Administrators, of which it is a member.[30] At present, the single Division measure of recidivism used throughout this report was largely consistent with the first level defined by CJCA.[31] It would be helpful in evaluating the effectiveness of the YLS/CMI, CRAFFT, the Division risk levels, and

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[28] The relatively small number of Black youths in the 2008 group studied may have been too low to allow a statistical determination of whether they were more likely to recidivate.

[29] See materials included in the December 3, 2010 email, *supra,* note 21, from Tammy Holwell to Anthony Newman describing the methodology and findings used to create the database and the new risk levels. The new scoring and risk levels based on the sample of 15,000 cases have not yet been evaluated for their ability to predict recidivism. All of the Multi-Health findings used to validate the proposed risk levels were based on studies that employed the risk levels that are presently in use by the Alaska Division of Juvenile Justice.

[30] Email from Karen Forrest, September 13, 2010 to AJC and ISER.

[31] *Id.*, " . . [W]e track recidivism for one year, not the recommended two years."

other assessment tools to have the additional data envisioned by the CJCA standards available.

Appendix A
Tables

Appendix A
Tables

1. Research Question: Summary statistics of independent variables and recidivism – tables showing bi-variate relationship between recidivism and age, gender, ethnicity, community of origin, and detained vs. on probation.

Table 6 Age by recidivism						
Age in years	**Non-recidivist**		**Recidivist**		**Total**	
14	5	83%	1	17%	6	1%
15	21	84%	4	16%	25	5%
16	30	71%	12	29%	42	8%
17	85	82%	19	18%	104	21%
18	145	65%	79	35%	224	44%
19	69	65%	37	35%	106	21%
	355	70%	152	30%	507	100%

* The differences between recidivists and non-recidivists are statistically significant; the younger the youth, the less likely to recidivate (p=.0319)

Table 7 Gender by recidivism						
Gender	**Non-recidivist**		**Recidivist**		**Total**	
Male	292	68%	135	32%	427	84%
Female	63	79%	17	21%	80	16%
	355	70%	152	30%	507	100%

* The differences between recidivists and non-recidivists are not statistically significant, although close (p=.063)

Table 8 Ethnicity by recidivism						
Ethnicity	**Non-recidivist**		**Recidivist**		**Total**	
Alaska Native/American Indian	120	62%	75	38%	195	38%
Caucasian	132	75%	44	25%	176	35%
Black/African-American	34	74%	12	26%	46	9%
Multi-ethnicity	37	71%	15	29%	52	10%
Asian	13	93%	1	7%	14	3%
Native Hawaii/ Pacific Islander	12	86%	2	14%	14	3%
Other	7	70%	3	30%	10	2%
	355	70%	152	30%	507	100%

* The differences between recidivists and non-recidivists are statistically significant (p=.040); Alaska Native/American Indian youths are most likely to recidivate (38%); followed by Other (30%) and Multi-ethnicity youths (29%). Asian and Native Hawaiian/Pacific Islander youths are least likely to recidivate (fewer than 15% do).

Table 9 Secure Treatment or probation by recidivism						
Secure treatment or probation	**Non-recidivist**		**Recidivist**		**Total**	
Secure treatment	65	62%	40	38%	105	21%
Probation	290	72%	112	28%	402	79%
	355	70%	152	30%	507	100%

* The differences between recidivists and non-recidivists are statistically significant (p=.042).

Table 10 Community of origin by recidivism						
Community of origin	**Non-recidivist**		**Recidivist**		**Total**	
Anchorage/ Matsu	133	70%	57	30%	190	37%
Fairbanks	26	67%	13	33%	39	8%
Kenai	21	78%	6	22%	27	5%
Juneau/ Ketchikan	21	58%	15	42%	36	7%
Rural	114	70%	50	30%	164	32%
Out of state	15	88%	2	12%	17	3%
Unknown	25	74%	9	26%	34	7%
	355	70%	152	30%	507	100%

* The differences between recidivists and non-recidivists are not statistically significant (p=.307).

Regression models - Of the 459 youths with at least one YLS/CMI score, 435 had enough information to be included in the regression models. The initial YLS/CMI score was used for all of the regression analysis. Of the 435 youths, 128 in the regression models were recidivists.

1. **Which variables are significantly associated with the likelihood that _any_ youth will recidivate?**

- Alaska Native youths were significantly more likely to recidivate (Caucasian was the default; Black, Asian, and Multi-ethnicity were not significantly associated with a higher chance of recidivism).

- Age – Older offenders were more likely to recidivate.

- Gender – Female offenders were less likely to recidivate.

2. **Which variables were significantly associated with the likelihood that _an Alaska Native_ youth would recidivate?**

- Age (older Alaska Native youths were more likely to recidivate).

- Location (Urban Native youths were more likely to recidivate than those in rural areas).

Appendix B
Data variables provided by the Division

Division of Juvenile Justice use of YLS/CMI and Recidivism Report

Appendix B
Data variables provided by the Division

To provide the basis for the analysis, the Division prepared a data set that included the following information (when it was available) about each of the 507 youths who were released from the Division's services in 2008.

Demographic information
Date of birth
Race/Ethnicity
Gender
City of residence

Information related to reason youth was included in data set, for recidivists only
JOMIS offense
APSIN offense
Recidivist
Table with all JOMIS offenses for present and subsequent offenses

Treatment-specific – Treatment end date, facility, unit.

Probation-specific – Supervision start and end dates, supervision type, supervision unit, office, region.

YLS/CMI information
Region, office, supervisory unit, supervisory end date, YLS/CMI date(s), "Q_seq," question, answer, "ANS_seq," answer_selected,

YLS Screening version data [not used – not available for enough youth]
CRAFFT data [not used – not available for enough youth]
Strengths listed on the 8 domains
Part III Other needs & special considerations
Part IV Overridden risk levels
Part V Contact level

Appendix C
YLS/CMI Content, Scoring and Administration

Division of Juvenile Justice use of YLS/CMI and Recidivism Report

Appendix C
YLS/CMI Content, Scoring, and Administration

A. YLS/CMI Content

The YLS/CMI evaluated a youth's risk level and needs, using an overall score and eight specific domains. The assessment also had a third part, "Assessment of other needs and special considerations." This section collected information about the youth's family – did parents or siblings have criminal records? Did parents have psychiatric, marital, substance abuse or other difficulties? Were there recent crises in the family? and the youth – did the youth have medical or psychiatric problems that interfered with life? Disabilities? Had been a victim of neglect or abuse? Had adverse living conditions? Had a history of mental illness, gang involvement, running away, and similar difficulties?

The probation officer collected the information during a personal interview with the youth, and was asked to refer to the youth's last six-to-twelve months of experience. The information could be verified by checking other records or resources. The domains of the YLS/CMI included:

- Prior and current offenses, adjudications (included number of prior adjudications, number of failures to comply, prior probation or custody, and number of current adjudications);

- Family circumstances and parenting (included level of parental supervision, parental difficulty in controlling youth behavior, quality of relationships between child and each parent, inappropriate disciple, and inconsistent parenting);

- Education/Employment (included disruptive behavior in the classroom or on school property, level of achievement, relations with teachers and peers, truancy, and unemployed/not seeking employment);

- Peer relations (included delinquent friends or acquaintances, and separately, lack of positive friends or acquaintances);

- Substance abuse (included level of drug use, whether it interfered with youth's life and whether it was linked to the offense(s), and chronic alcohol use – defined as a problem only if the youth had problems "in more than one major life area" that might have been related);

- Leisure/recreation (included limited positive activities, excessive time in passive or unconstructive activities, and no personal interests of a pro-social nature in which the youth was currently participating);

- Personality and Behavior (included inflated self-image, physically aggressive, tantrums, short attention span, low tolerance of frustration, inadequate guilt feelings – showed no remorse if youth's actions harmed another or took no responsibility, verbally aggressive);

- Attitudes/Orientation (included antisocial/pro-criminal attitudes, not seeking or actively rejecting help, defied authority, or callous and showed no concern for others).

B.   YLS/CMI Scoring

A grid for scoring the YLS/CMI gave ranges of Low, Moderate, High, and Very High risk. Division staff administering the YLS/CMI could over-ride the risk categorization based on several factors. Among these were required overrides for up to at least Moderate for a youth with a sex offense, and a required override to High for youths who committed unclassified felony offenses.[32]

Alaska Division of Juvenile Justice YLS/CMI Scoring Key
Last Revised: May 19, 2006

YLS/CMI Risk/Need Scores and Levels	
0-8	Low
9-22	Moderate
23-34	High
35-42	Very High

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[32] June 17, 2011 email from Division staff, *supra*, note 16.

C.   YLS/CMI Administration

The Division guidelines called for a full YLS/CMI to be completed within 21 days of an adjudication.[33] Reassessments with the YLS/CMI would be conducted every six months that a youth remained on supervision, although assessments were not conducted while a youth was residing in an institution or residential facility.[34] Youth probation officers would do a follow-up YLS/CMI if the youth's situation changed significantly, or under other specified circumstances. Probation officers also completed case plans for each youth in residential placement or in a foster home, using the YLS/CMI to help create the plan.

D.   YLS - Screening version

The Division used a brief version of the YLS at intake with some offenders (the Screening YLS). It included eight questions, and a scoring system that allowed scores between 0 and 12. The questions included six that were scored on a "yes/no" basis (no = "0"points; yes = "1"point): a history of conduct problems (included adjudications), current school or employment problems, "some criminal friends" (which included friends with antisocial attitudes, as well as those with more serious problems), alcohol or drug problems, lack of positive leisure activities, and personality or behavior problems. Two other questions were scored on a 0 to 3 scale, Family circumstances and parenting, and Youth's attitudes and orientation.

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[33] YLS/CMI Case Plan Timeline, provided by DJJ, November 1, 2010.

[34] The instrument was not specifically designed for use with youths who were in secure facilities.