San Joaquin County: Virginia Pretrial Risk Assessment Instrument

Risk Level Norming Report
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INTRODUCTION

The Crime and Justice Institute (CJI) at Community Resources for Justice partnered with San Joaquin County Probation to complete a validation study of the Virginia Pretrial Risk Assessment Instrument (VPRAI). The validation findings indicated that there may be ways to improve the risk levels currently used by the County. For this reason CJI recommends norming the VPRAI, to ensure the risk levels best fit the population. As the pretrial population changes over time, regular examination of risk levels and cut points is essential, especially as new interventions and resources are introduced. This ensures that each individual is receiving appropriate release and monitoring recommendations at the pretrial stage.

The County funded and initiated the validation study in September 2017. The County worked with CJI to identify data needed for the project, and provided the final datasets in July 2019. The study sample consisted of assessed individuals released to pretrial monitoring or on their own recognizance prior to case disposition between January 2016 and June 2018.

This report describes the norming results for the VPRAI, and briefly identifies next steps.

CJI is recommending new risk levels for the assessment to better differentiate categories of risk for San Joaquin County’s population.

Methodology

Risk assessments group individuals by risk level to classify them based on their risk of pretrial failure. These risk levels provide direction to staff when making pretrial release and monitoring decisions.

Norming involves examining the risk levels and cut points currently used, and uses pretrial outcome data to determine if the established risk levels and/or cut points are appropriately grouping individuals or should be adjusted. The same outcome measure of pretrial failure — a combination of failure to appear and new criminal arrest — was used in this analysis as was used in the VPRAI validation analysis.

Norming uses two main analyses: cross-tabulations and logistic regressions. Cross-tabulation analysis shows the rate of pretrial failure for each risk score. This potentially aids in the identification of ‘natural breaks,’ where there appears to be greater increases in pretrial failure between scores.
These ‘natural breaks’ are then turned into the cut points for risk levels, which are tested using **logistic regressions**. This analysis is used to describe and explain the relationship between a binary outcome variable (in this case, pretrial failure either happens or it does not) and one or more predictor variables (such as assessed risk score or level). This type of regression uses the concept of **odds ratios** to calculate the probability of the outcome—that is, how more or less likely it is that the outcome will occur given the presence of a predictor variable.

**VIRGINIA PRETRIAL RISK ASSESSMENT INSTRUMENT**

San Joaquin County adopted the VPRAI in 2014 and uses it to provide additional information for the pretrial release decision for eligible defendants who are physically arrested. Assessment results help guide release decisions and assist with assigning supervision levels.

**Current Risk Levels**

The current VPRAI levels used by San Joaquin County are:

- Low Risk (scores of 0 to 1),
- Below Average Risk (scores of 2),
- Average Risk (scores of 3),
- Above Average Risk (scores of 4), and
- High Risk (scores of 5 to 9).

In the data analyzed by CJI, the population of assessed individuals released to Pretrial Services or on their own recognizance was 15% low risk, 28% below average risk, 26% average risk, 16% above average risk, and 16% high risk. The chart below shows the pretrial failure rates for the current risk levels.
The results of logistic regression analysis were only significant for two of the five risk levels (above average and high risk). This indicates that there are not sufficient distinctions in likelihood of pretrial failure between the current risk levels. As discussed in the validation report, this may be due in part to the small numbers of individuals assessed at the highest and lowest risk scores. Based on these findings, CJI recommends that the County adjust the VPRAI risk levels.

**Proposed Risk Levels**

Based on the analysis conducted, CJI proposes that San Joaquin County adopt new VPRAI cut points for four risk levels rather than five levels. These proposed risk levels better differentiate between pretrial failure rates and provide greater opportunity for San Joaquin County to provide appropriate levels of monitoring. The proposed risk levels are as follows:

- **Low Risk** (scores of 0 to 1),
- **Low-Moderate Risk** (scores of 2 to 3),
- **Moderate Risk** (scores of 4 to 5), and
- **Elevated Risk** (scores of 6 to 9).

Using the proposed risk levels, the population of assessed individuals released to Pretrial Services or on their own recognizance would be 15% low risk, 54% low-moderate risk, 24% moderate risk, 7% elevated risk. This distribution more accurately represents the relationship between risk level and likelihood of pretrial failure. The chart below shows the pretrial failure rates under the recommended risk levels, using outcome information from the validation dataset. These failure rates are more distinct than those under the current risk levels.

![Recommended Risk Levels](image)

The recommend risk levels are also more effective than the current risk levels when examining pretrial failure rates by gender and race subgroups, as seen in the charts below.
Across all potential combinations of risk levels and cut points, there were similar issues obtaining statistically significant results due to the small numbers of individuals assessed at the highest and lowest risk scores. This issue is particularly evident when analyzing the results by demographic groups, as non-majority groups (in this case, the female and White subgroups, as seen in the charts above) have even fewer individuals in the sample.

For the recommended risk levels, all but one (low-moderate) was found to be statistically significant. Logistic regression analysis found that, compared to low risk individuals, the odds of pretrial failure increased by 3.8 times for moderate risk individuals, and by 5.0 times for elevated risk individuals.
The increase in odds of pretrial failure using the recommended risk levels was larger than was found in the current risk levels. This indicates that there is a clearer distinction between levels and, therefore, the recommended risk levels do a better job of grouping individuals based on pretrial failure rates than the current levels.

**NEXT STEPS**

If the risk levels proposed in this report are adopted, San Joaquin County should review and update their current VPRAI policies to align the levels with release decisions and monitoring levels. Policies should ideally follow the evidence-based practice of targeting more intensive monitoring to higher risk individuals, but also incorporate the least restrictive requirements to achieve pretrial success.

San Joaquin County should also continue to examine the risk levels for each assessment every two to three years as part of future validations to ensure the levels are still valid. As populations and interventions change, the risks of the individuals entering the pretrial system may also change.

Given concerns about the impact of the small samples of individuals assessed at the highest and lowest risk scores on this type of analysis, CJI recommends that the County also aim to expand the scope of the data collected, whether through extending the time frame of the datasets included in the analysis, or the broadening of the collection of outcome data to strengthen the findings of future analyses.