

# Validation of Use of the Virginal Pre-Trial Risk Assessment Tool: A Report for Shasta County Probation

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## Description of the Project

Probation departments and other entities across the country are tasked with making decisions about whether individuals who are arrested should remain in the community or detained until charges stemming from that arrest are resolved. Increasing, the use of pretrial risk assessment tools has emerged as one method for guiding those decisions. In California, reforms, changes, and challenges to the use of bail, and other changes in policies shaping the pretrial system have elevated the use of and attention to these risk assessments. According to a study released under the auspices of the Public Policy Institute of California (PPIC), forty-nine of California's fifty-eight counties have implemented use of a pretrial risk assessment (Harris et al, 2019).

The intent of pretrial risk assessments is to help county employees, including probation staff, law enforcement officers, pretrial service officials, and judges, make informed decisions about whether an individual who has been arrested should be released or detained. In cases where individuals are released, the pre-trial risk assessment informs the level and type of supervision and/or conditions under which release is recommended. At the heart of the use of a pretrial risk assessment is the intent to provide for public safety with attention to an individual's right to liberty while awaiting trial. Those advocating for the use of a pretrial risk assessment also note the disproportionate impact of bail as a condition of release on people living in poverty and the importance of utilizing data in deciding matters of release and detention.

Shasta County Probation adopted the use of the Virginia Pretrial Risk Assessment Instrument (VPRAI) in 2015. The VPRAI was selected among other pretrial risk assessments based on several factors: its adoption by many jurisdictions across the country including eighteen in California (Harris et al, 2019); the existence of research previously validating its use in a variety of contexts; the reported ease of data entry; and availability of software to analyze assessments. Furthermore, the VPRAI risk prediction model is transparent and easy to understand; neighboring counties also use the VPRAI.

The VPRAI examines similar predictor domains (e.g., criminal behavior, employment, substance use, and supervision) as the other three pretrial risk assessments commonly in use in California. Validation studies of its use in other states are publicly available. Data for the VPRAI can be gathered from existing databases and interviews with the individual being assessed are used to contextualize information. Several risk factors (e.g., employment, residence) can be verified by contacting external sources. [A copy of the VPRAI tool can be found in Appendix A.]

Several factors led to Shasta County Probation's interest in validating its use of the VPRAI. An initial interest was complying with Senate Bill (SB) 36 requiring validation of pretrial risk assessments at the local level. The intention of SB 36 is to ensure effective and equitable assessments. Of particular interest to the state and to Shasta County Probation was ensuring that use of the VPRAI does not result in disproportionate impact on any group when analyzed by race, ethnicity, gender, and/or income level. The county also wanted to understand the effectiveness of this pretrial risk assessment instrument with the populations Probation serves. Finally, Shasta County Probation expressed interest in determining strategies for most effective use of the VPRAI including potential learning and data collection needs.

## Methodology and Data

Given the interests and needs above, this validation project includes both quantitative and qualitative data. Probation staff provided the evaluator with requested data including VPRAI scores by risk factor, demographic characteristics (e.g., age, gender, race), type of supervision, charge, felony or misdemeanor status, and termination status. Termination status included action codes describing successful terminations and unsuccessful terminations (e.g., Failure To Appear, New Law Violations, Technical Violation, or Return To Jail for some other reason) and were exported from JALAN, the county's case management database.

In April of 2020, Probation staff began gathering additional data in an effort to understand and most effectively respond to the health and other needs of the population in the jail. Prior to this time, data on homelessness, veteran status, and mental health were not captured in a systematic way. Probation reviewed and implemented a screening tool that gathered this information and documented the results of the screening in Excel spreadsheets. [The tool and a summary of the screenings conducted appear in Appendix B.]

In January 2019, Probation Assistants began collecting information on the recommendations they made based on the VPRAI assessment and interviews as well as the subsequent rulings made by judges. PSA Logs kept from January 2019 through February 9, 2021 were analyzed for this report. In addition to the specific recommendation and ruling, PSA logs documented the date of the ruling, the individual's (e.g., offender) name, the judge's name, and the name of the assistant who wrote the recommendation.

The PSA logs also gathered data on the inmate number assigned to the individual arrested, the arrest date and time, VPRAI Score, offense, felony/misdemeanor status, whether the individual was detained or released and, if released, the reason for release. Probation staff extracted data from the county's case management database, JALAN, to provide the termination codes that would determine if an individual successfully or unsuccessfully completed the Supervised Own Recognizance (SOR) program . Unsuccessful termination codes served as the best available indication of pretrial misconduct such as documented Failure to Appear (FTA), New Law Violation (NLV), or Technical Violation (TEC).

Various analyses were conducted on the data collected including descriptive statistics, disaggregation by race and gender, Chi Square analyses, Confusion tables with several equity/parity measures, and Area Under the Curve analysis. Additionally, measures of disproportionate impact used in other settings, including the 80% Rule, the Percentage Point Gap measure, and Proportionality Index, were employed to examine potential impact from various perspectives. [Detailed summary of findings and additional descriptions of data are outlined in Appendix E.]

In addition to quantitative data, the project included qualitative interviews with staff currently or previously responsible for implementing the VPRAI as Probation Assistants or directly supervising Probation Assistants. Six individuals were interviewed via Zoom; interviews (all but one) were recorded and transcribed. An analysis of key themes was conducted using standard content analysis strategies. [A detailed analysis appears in Appendix C.]

## Data Limitations and Caveats

All data have limitations, known and unknown, that should be considered when examining the findings and interpreting analyses. The limitations and caveats present for the data used in this study are described below. For the most part these are related to databases and data collection efforts.

### Databases

Data for the validation study were gathered from separate database systems, each with different parameters including years of data collected, ability to export, and information documented.

1. **Noble:** VPRAI assessment scores are stored in the Noble platform, the vendor with which Probation contracts for management of VPRAI assessments. Noble contains entries on individuals for which the court has requested a report. The first entry in the Noble spreadsheet provided to the evaluator is dated June 1<sup>st</sup>, 2015. Later, the Community Correction Center (CCC) began maintaining VPRAI assessments on every individual booked into the jail as a means of preparing for bail reform. This information has been kept in Excel spreadsheets, not in Noble.
2. **JALAN:** JALAN is the case management system used by Shasta County Probation. JALAN stores case information (event codes, action codes and person alerts information) for individuals on supervision with Probation or for whom the courts have requested a report. It is an older, DOS based system dating from the 1990s; extracting data from JALAN is quite time-consuming. Individuals are linked to the JALAN case management system through a person key; staff have to look up each person individually in the state database to see if they were convicted of a new crime. The system doesn't provide the ability for analysts to batch requests or to request information on many individuals simultaneously. Crystal reports can be run from JALAN but most data cannot be exported into Excel or similar software from JALAN. Support in the form of training programs or manuals supporting use of the system as a whole is limited; staff have learned to use JALAN but have found that it does not respond well to current data/information needs. Shasta County Probation is in the process of updating its case management system.
3. **PSA Logs:** Probation began collecting information on Probation recommendations and rulings on Excel spreadsheets in 2019. The report reviewed data collected in 2019 and 2020. This database includes the name of the individual (e.g., offender), the primary charge, penal code, Probation's recommendation, author of the recommendation, and judge's ruling. These logs were designed in response to anticipated changes in SB 10 as a way of understanding staffing needs based on the number of individuals booked in jail, the presenting risk levels, and the number of individuals who might be assigned to some form of pretrial supervision.

## Data Collection Limitations

A review of the data sources, conversations with data analysts and supervisors, and interviews with Probation Assistants suggest the following limitations and caveats related to data collection:

### *Demographics*

- **Sex:** It appears that sex/gender are gathered through self-report and possibly transferred from booking sheets. It is unclear what happens when an individual identifies with a sex/gender not assigned at birth or has transitioned to another sexual identity.
- **Race:** The following races are currently collected: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, White, or other. The databases do not currently collect more than one race or one race associated with Hispanic/Latino ethnicity, a fact which can limit analysis by race. Racial categories are typically initially transferred from booking sheets. It is not clear if all data on race is gathered through self-report.
- **Poverty:** Data on poverty or a proxy for socio-economic status is not currently readily available through data collection systems. Therefore, the study was not able to specifically analyze for disproportionate impact based on low-income status.
- **Mental Health and Substance Abuse:** Probation began conducting screenings to learn and document information regarding mental illness and substance abuse. These have been collected on a small percentage of individuals and tracked in a separate spreadsheet.
- **Housing Insecurity:** Questions about homelessness is collected in the above-mentioned screening tools but is not otherwise documented in a systematic way.

### *Data Entry and Collection*

- **VPRAI:** Not all VPRAI assessments include interviews; for a variety of reasons noted elsewhere in this report, some assessments are completed using data available on booking sheets and existing systems. Not all information gathered during interviews is verified externally, and the way that Probation Assistants ask questions when interviewing individuals also differs. (The assessment sheet includes factors, but not specific questions.) Additionally, it appears that there have been changes over time that have affected the application of VPRAI assessments. The assessments were, at one point, also used to determine eligibility for the PSOR program, a program that has since been discontinued.
- **Additional Data:** Data not typically entered into (or easily accessed from) JALAN, Noble, or Spillman databases have been entered manually in Excel spreadsheets. There appear to be few drop-down options. Minor differences in spelling or notation can hamper analysis. Arrest information entered by officers, for example, is sometimes entered using codes, sometimes using descriptions. Probation has increased its own data collection in recognition of changes in legislation; not all data exists for the period for which VPRAI assessments are available. Therefore, variability may be present in this data as well.
- **Missing Data:** Missing data was present throughout the databases many of the variables used to assess disproportionate impact.

### *Event and Action Codes*

- **Event Codes:** Event codes are case based events entered into the JALAN system. There is typically a termination event code for every individual placed on SOR. The analysis used SOR (Supervised on Own Recognizance) termination event codes that were cross-referenced with the Noble database to see if an individual on SOR had an FTA after the VPRAI assessment was conducted while still on SOR. The assessments are person-based rather than case-based. Additional FTAs (failure to appear codes) are not collected after SOR termination.
- **Further Tracking:** Currently, the ability to track an individual once their case is closed in the systems used by county probation is limited. Further tracking would involve searching for each person individually in state or federal databases, a time consuming, labor intensive process. A larger, more comprehensive (and more expensive) validation would search for FTA/New Law Violations/Technical Violations and charges in California, outside of Shasta County. Access to national databases would be required to track cases outside of California.
- **Action Codes:** JALAN only allows for one action code to be entered per event code and does not maintain a historical record when a new action code is entered. The action and event code are usually entered at the same time. Therefore, an action code like FTA could be overwritten; JALAN would not necessarily capture an FTA if the offender was given another/new action code such as a New Law Violation or Technical Violation. Therefore, an analysis of whether an individual has failed to appear, committed a new law violation or a technical violation by risk is partial and does not capture all such instances or necessarily the highest order instance of unsuccessful pretrial outcome.

### *Other Issues*

- If the individual is awarded SOR, they are put on a caseload, may receive services, and are tracked. If they are not awarded SOR, they are not tracked. There has not been a need in the past to track those who do not receive services; it is unclear how such information would currently be accessed. The procedure for updating such information is unclear; however, Probation is currently working to document and post such procedures.
- Given the amount of work required to individually search for termination codes, this study selected a random sample of individuals who were not on SOR (non SOR). A sample size of 360 was selected based on a confidence level of 95% and population size of 5750. A random number generator was used to somewhat oversample cases from a numbered database of non SOR individuals. Probation staff then searched for termination codes for these individuals. Individuals on the non SOR database tend to be higher risk cases.
- Samples sizes for many racial ethnic groups are small; individuals identified as White comprise the largest category by far, thus possibly skewing the results of the analysis.

### **Focus of the Study**

The conditions mentioned above speak to the parameters and limitations of the analyses. Documentation of pretrial outcomes given the current database structure is incomplete. Any outcomes, such as FTA or New Law Violations, that occurred outside of the county are not known. A broader collection of

demographic data might result in different analysis of disproportionate impact. It is unknown what differences exist among those individuals for whom a VPRAI was not completed including how assessments gathered from such individuals might change results.

Given the current challenges of working within an outdated system, limited staff capacity due to COVID pressures, staffing levels, and number of people able to work in JALAN, this study focuses on data available through the databases and efforts described above. Probation staff time was dedicated to extracting data with efforts being made to maintain manageable workloads.

The Probation department is aware of the limitations of current data collection systems and has implemented efforts to collect additional information in response to pending legislation and reforms. The department is also, importantly, in the process of building a new case management system that will be easier to use, amenable to data sharing, and will allow for better tracking of outcomes. The findings, despite limitations, will contribute to the department's being able to better understand how the instrument is currently working, examine evidence of disproportionate impact, investigate opportunities for improving data collection efforts or protocols, and address any need for education or training related to the findings.

## **Key Findings from the Validation Study**

Highlights from the analyses of the validation study appear below organized around the central questions of interest for the study: To what extent is the tool effective and helpful in informing decisions about release? Is there evidence of disproportionate impact by race or gender? What Shasta County Probation practices would support the most effective and equitable use of the VPRAI? The section below provides a summary of key findings; detailed tables and discussion appear in the appendices to this report.

### **To what extent is the tool effective and helpful in informing decisions about release?**

Interviews with Probation staff and an analysis of rulings and recommendations suggest that the VPRAI provides useful information to probation, judges, and attorneys. The usefulness appears to be greatly enhanced by interviews with individuals so that more accurate assessments can be made on several items for which context and interpretation is important. Examples of such factors include assessment items related to length of residence, history of substance abuse, and length of employment/caretaking.

Similarly, the assessment provides a score (a point) for several items regardless of intensity or recency, a fact which might affect the degree to which a total score might predict pretrial behavior. Examples of constructs where scores might overestimate risk include FTAs, charges, or history of substance abuse. For example, an individual would earn a score of one point whether they receive two FTAs or a much larger number of FTAs; technically, a point is earned for a history of substance abuse even if use happened many years prior without any recent issues and/or with years of sobriety. Charges related to drug abuse would lead to two points. Examples of where scores might underestimate risk could include individuals without FTAs or prior charges and with various measures of stability who have been brought in on very



violent charges and may reside near/with the victim. In both such cases, interviews and recommendations that consider context are critical to a fuller understanding of an individual case.

Within the sample analyzed, most cases were assessed as being High Risk. Assessments leading to a wider variety of risk levels might suggest greater sensitivity to distinctions in cases. However, there are several reasons that have likely led to the higher proportion of higher risk cases for this study. These include the following facts:

- a. For the period during which assessments were collected, assessments were not conducted on all individuals booked into the jail.
- b. For reasons described above, the data available for the analysis focused on individuals who had been granted SOR and for whom a termination code was available. Similarly, individuals not granted SOR and included in the non SOR sample typically have higher risk scores.
- c. There are a very large number of assessments completed on individuals who could not be interviewed and for whom context is not available for determination of scoring on factors such as employment status, caretaking responsibilities, length of residence, or knowledge, in some cases, of history of substance abuse. This process was conducted as part of the larger planning efforts regarding pretrial services as previously discussed.

Other environmental factors were mentioned as potentially affecting the risk assessment scores. Verification of these as salient factors are beyond the scope of the data available for this study. These factors include:

- a. The length of time between release and trial date, a situation that can have an impact on FTA due to relocation, change in circumstances, or losing track of/forgetting trial dates.
- b. Being unsheltered is often correlated with transportation, residence, and employment challenges. Probation provides individuals without stable housing several options and locations for charging GPS units they might be assigned and ways to remain in contact with their Probation Officer. Mobility, as well as other mental health issues and conditions, can affect compliance.
- c. Any biases in neighborhood policing or other criminal justice practices in areas where previous arrests occurred could lead to greater attention to, profiling of, or scrutiny of individuals by identifying characteristics including race/ethnicity, social-economic markers, gender, or visible signs of mental illness. Such trends or biases, if present, could lead to higher-than-expected scores on previous or pending charges; discrimination and previous charges could impact employment and length of residence.

An analysis of rulings and recommendations collected by Probation from January 2019 through February 9<sup>th</sup>, 2021 suggested that, for the 1743 cases where both rulings and recommendations were documented, judges agreed with Probation recommendations 83.6% of the time.

There were 265 instances where there was a difference between the recommendation made by the Probation Assistant and the ruling made by judges. When instances where initial recommendations “Bail Review” were excluded, 67.2% (178) of rulings that differed from Probation recommendations led to lower levels of supervision and 21.9% (58) led to higher levels of supervision. The majority of cases where rulings led to lower levels of supervision occurred as response to Probation Assistant

recommendations of No SOR; in these cases, most judges ruled for individuals to be released on SOR with GPS and fewer ruled that they be released on SOR with conditions or without GPS.

In 2020, Probation staff began recording whether offenders were detained until arraignment or released, the primary reason for release, any screenings completed (noted above), offense, and VPRAI score. Staff gathered data on 5256 individuals between April 7, 2020 and February 8, 2021. Of these, 36% were detained until arraignment and 64% (3362) were released. Of those released, *jail capacity* was noted as the reason for release in 14.9% of the cases; 75.1% of the cases where release happened were for *regular release/other reasons*. It should be noted that *regular release/other reasons* can include those individuals who are arraigned and for whom remaining in custody is recommended but are then released.

Most of the 3362 individuals released (55% or 1849) were noted as having a misdemeanor charge. The majority of the 1179 individuals with felony charges released for any reason (52.5%) had a high risk VPRAI score; 38.2% had a moderate score. Thus, it appears that the risk assessment may not have been used to inform release decisions for individuals with felonies. Most of the 1849 individuals charged with a misdemeanor had a moderate VPRAI score (64.1%); 40.2% had a low VPRAI score.

## **Is there evidence of disproportionate impact by race or gender?**

### *Gender*

Men were more likely to appear in the available data as having been booked into the jail. Data suggests that men are somewhat more likely in this sample to be assessed as high risk (84% of men assessed as high risk compared with 79% of women). However, neither Chi Square tests nor Area Under the Curve (AUC) analyses indicate a meaningful relationship between gender and risk level assessment. Therefore, there is no indication of disproportionate impact for either of these groups with respect to risk level assessment using these analyses.

A separate Chi Square was performed to examine relationships between gender and FTA; no meaningful relationship was found between FTA and gender.

### *Race/Ethnicity*

Chi-Square analyses indicated a meaningful relationship for White, Black/African American, and Native American/Alaska Native on risk level assessment. These groups also had the highest percentage assessed as high risk (87% White and 4% Black/African American and Native American/Alaska Native, each). Being White, Black, and Native American race appeared to be somewhat predictive of the risk level at which they were assessed. However, an Area Under the Curve analysis indicated that each of these groups had an equal chance of the VPRAI predicting high or low risk, suggesting that this relationship was not robust.

An additional prediction analysis was implemented to examine potential disproportionate impact: a Confusion Matrix. The Confusion Matrix includes several measures of parity designed to examine equity and indicated much variability in risk scores across race/ethnicity, suggesting low accuracy of prediction

of pretrial outcomes. The Confusion Matrix includes three measures of parity: statistical parity, predictive parity, and accuracy parity. Results from these measures suggested the following:

- **Measures of statistical parity:** This measures statistical fairness for protected and unprotected groups; analysis by statistical parity suggests equity in outcomes.
- **Measures of predictive parity:** This is a fairness metric assessing if for a given classifier (e.g., Risk Level), precision rates are equivalent for subgroups under consideration (e.g. Race). The analysis suggests equivalence among groups, or equity in prediction.
- **Measures of accuracy:** This measure examines how often the classifier (e.g., Risk Level) is correct. The results suggest equity in establishing the relationship for a given classifier and subgroups (e.g., Race).

The results examining the accuracy of predicting race/ethnicity and termination (TSS and TSU) were consistent with findings from Chi-Square and Area Under the Curve with White and Black/African American having the highest accuracy for prediction of pretrial outcomes by risk assessment for individuals identified in these racial groups. That is, individuals assessed at higher risk levels were more likely to have unsuccessful outcomes than those with lower risk scores.

A review of these measures in the context of the data caveats previously mentioned suggest that there is no indication of systemic disproportionate impact for these groups. It should be noted that Chi-Square testing is sensitive to sample size – strong associations may not show up as significant with smaller sample sizes and significant associations are more likely to be found in larger samples, when in fact these significant findings are not always that meaningful or substantively significant.

In an effort to examine results from a number of angles given the effects of small sample sizes, the study also employed measures of disproportionate analysis used by California Community Colleges to determine disproportionate impact, namely the 80% rule, the percentage point gap, and the proportionality index. These analyses focused on individuals that received a VPRAI risk level assessment of high or above average, 93.7% of risk levels assessed. Asian individuals were excluded from these analyses given the small sample size (N=15).

**80% Rule:** The 80% rule examines if the subgroup in question (e.g., individuals of a particular race) achieved the desired outcome (Successful Termination, No FTA, No New Law Violation, or No Technical Violation) less than 80% of the time the highest achieving group achieves this outcome. The one instance falling below 80% occurred for Black/African American individuals (72.4%) with respect to successful termination.

**Percentage Point Gap:** The percentage point gap approach examines the difference in percentage points between a particular group (e.g., by race) and the average percentage for an outcome across all demographic groups. The larger the difference, the more likely an indication of disproportionate impact. Given the margin of error employed with a sample size of 57 (13%), the percentage point gap noted for Black individuals with respect to successful terminations and New Law Violations do not necessarily suggest disproportionate impact.

**Proportionality Index:** The proportionality index examines whether the proportion of a subgroup (e.g., by race) in a cohort is proportionate to its representation in the desired outcome (e.g., Successful Termination, No FTA, etc.). There is no clear consensus on what the cut off

value for the index should be, though a proportion below .85 has been suggested as useful. There were no instances in which this measure fell below .85 for any sub-group.

Examining key successful and unsuccessful termination codes for individuals assessed at high or above-average risk by these measures of disproportionate impact suggests attention to successful termination rates and New Law Violations for Black/African American individuals could be examined further in the future with additional data. Given the sample sizes and all measured considered, there was no indication of systematic disproportionate impact by race on these measures for individuals assessed in this risk category.

## **What practices can Shasta County Probation consider in order to support the most effective and equitable use of the VPRAI?**

### **Initial Recommendations**

#### **Professional Learning and Education**

- Consider developing protocols for VPRAI data collection that include ways of asking questions that balance consistency with an ability to respond to different behavioral situations in a conversational/informal and respectful manner.
- Consider formalizing training on the VPRAI that includes such protocols, a statement of what each concept measures and why, and an explanation of best practices for writing recommendations for the court. Clarify whether the primary purpose of the VPRAI is to protect the public or protect individual rights and why such an understanding matters.
- Educate attorneys, judges, jail staff, and others as to the purpose, strengths, and limitations of the VPRAI and the role of recommendations in informing decisions about detaining or releasing individuals.

#### **Future Data Collection Efforts**

- To the extent that separate Excel databases will be used (or needed) as the department transitions to a new case management database, consider making efforts to integrate separate databases and includes demographic characteristics, VPRAI scores, and release information. Whenever possible, provide dropdown menus to minimize data entry errors and make data analysis easier. The addition of such information would allow also for examination of equity in cases where rulings differ from recommendations.
- Consider documenting whether a VPRAI assessment included an interview or meeting with the individual being assessed so that analyses of results can be disaggregated in this way.

- Continue tracking Probation recommendations and subsequent rulings. Explore training in best practices for writing recommendations including a statement of what the Probation Assistant recommends, on what information the assessment is based, and perhaps recommended parameters if a different decision is made by the judge. Continue to track where such overrides occur, reasons why an override was suggested, whether the ruling is for a higher or lower level of supervision, the corresponding assessment score, and pretrial outcomes.
- Consider providing additional specificity on reasons for release if this data is collected as well as reasons why an assessment was not completed on site.
- Consider examining possibilities for the new case management system to allow easier extraction of termination codes including historical data so that a more precise examination of pretrial outcomes can be examined. If this does not appear to be possible, consider alternate or interim measures to increase the number of cases for which full information is available in the future.
- Consider including screenings for mental illness, substance abuse, veteran status, low income, and homelessness or proxy indicators in the new case management system and administering the screening with the VPRAI assessment. Questions about substance abuse, income, and housing insecurity could also be included as sub-questions or probes of existing VPRAI elements.
- Continue the practice of conducting VPRAI assessments on all those booked into the jail to allow for assessment of the full range of cases.
- Best practice and most effective implementation of the VPRAI includes an interview. If an interview is not possible, allow for documentation of reasons why the assessment was not conducted so that these cases might be analyzed separately for any differences.
- Consider exploring training jail staff to conduct VPRAIs when an individual is booked and expected to be released before a Probation Assistant arrives.
- Create new categories documenting reasons that individuals are released from jail.
- Explore the full range of data sharing agreements needed to obtain easy access to information on pretrial outcomes.
- Ensure that future analyses benefit from access to a larger number of cases with the needed data elements by implementing changes in data collection like those mentioned above.
- Introduce disaggregation by race and gender throughout the Shasta County Public Safety Alignment Plan. Explore protocols for collecting data on race and gender in line with existing and any pending legislation.

- Examine a sample of each racial/ethnic and gender group that is proportionate to the number of those individuals within the Shasta County probation system for the time period in question. Consider oversampling particular populations to examine differences.