

*Assessing Risk Among  
Pretrial Defendants  
in Virginia*

*The Virginia Pretrial Risk  
Assessment Instrument*

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## *Executive Summary*

The Virginia Department of Criminal Justice Services (DCJS) developed the Virginia Pretrial Risk Assessment Instrument for use by pretrial services programs across the Commonwealth of Virginia. Pretrial services programs' primary responsibilities are to provide information to judicial officers (magistrates and judges) to assist them with the bail decision (to release or detain a defendant pending trial) and to provide supervision and services as ordered by a judicial officer.

The Virginia Pretrial Risk Assessment Instrument utilizes nine risk factors to classify a defendant in one of five risk levels. The risk levels indicate the risk of failure (failure to appear for a scheduled court appearance or arrest for a new offense) for defendants pending trial. The risk factors include measures of criminal history, residence, employment, and substance abuse. Consideration was given during instrument development to ensure the instrument was not biased toward any group based on sex, race, or income. In addition, the instrument was shown to equitably classify defendants regardless of the community type in which the arrest occurred, ensuring that the instrument can be effectively applied statewide.

The Virginia Pretrial Risk Assessment Instrument will be completed by pretrial services staff and provided to judicial officers as part of the pretrial investigation report. The instrument does not take into consideration the nature and circumstance of the offense nor the weight of the evidence; two critical factors that must be considered when making the bail decision. It does, however, identify the level of risk posed by defendants based on risk factors that measure criminal history, residence, employment, and substance abuse.

Providing the risk instrument to judicial officers to consider in addition to the nature and circumstances of the offense and the weight of the evidence will assist them in making the bail decision such that: (1) "lower risk" defendants can be safely released into the community pending trial; (2) the risk of "moderate" and "higher" risk defendants can be minimized by utilizing appropriate release conditions, community resources, and/or interventions upon release; and (3) the "highest risk" defendants, those for whom no condition or combination of conditions can reasonably assure the safety of the community or appearance in court, can be detained pending trial.

Improved bail decisions provide substantial benefits to the defendants, the community, and the criminal justice system including increased public safety, protection of the presumption of innocence, expeditious court case flow, effective utilization of criminal justice and community resources, and a reduction in the potential for disparity in bail decisions.

This report details the research conducted to develop the instrument and provides instruction for instrument application.

## Introduction

The Virginia Department of Criminal Justice Services (DCJS) developed the Virginia Pretrial Risk Assessment Instrument to be used by pretrial services programs across the Commonwealth of Virginia. The General Assembly mandated, as a part of the Pretrial Services Act, that the Virginia Department of Criminal Justice Services “...shall develop risk assessment and other instruments to be used by pretrial services programs in assisting judicial officers in discharging their duties pursuant to Article 1 (§ 19.2-119 et seq.) of Chapter 9 of the *Code of Virginia* (*Code of Virginia* § 19.2-152.3).” A pretrial risk assessment instrument is used to identify a defendant’s risk of failure (failure to appear for a scheduled court appearance or arrest for a new offense) if released pending trial.

Currently there are 30 pretrial services programs serving 80 of the 134 Virginia localities (cities and counties). Pretrial services programs began operating in Virginia on a small scale in the mid 1970s. By 1995, there were 14 programs in operation and, after the Pretrial Services Act became effective on July 1, 1995, the number increased to 24 programs. Pretrial services programs’ primary responsibilities are to provide information to judicial officers (magistrates and judges) to assist them with the bail decision (to release or detain a defendant pending trial) and to provide supervision and services as ordered by a judicial officer.

Pretrial services staff interview and investigate adult defendants held in custody and charged with an offense and provide pretrial investigation reports to judicial officers at the initial bail hearing, arraignment, and/or bail review hearing. The pretrial investigation report provides information about a defendant, which includes, but is not limited to, demographics, residence, employment, education, substance use, health, and criminal history-related information. The investigation includes an interview with the defendant, verification of information when appropriate, and a thorough criminal history summary including records from the National Criminal Information Center (NCIC), Virginia Criminal Information Network (VCIN), Department of Motor Vehicles (DMV), Virginia Court Automated Information System (CAIS), and local police records.

The pretrial investigation report and other services provided by pretrial services programs were developed to meet the intent of the Pretrial Services Act. As outlined in the *Code of Virginia* § 19.2-152.2 “Such programs are intended to provide better information and services for use by judicial officers in determining the risk to public safety and the assurance of appearance of persons held in custody and charged with an offense, other than an offense punishable by death, who are pending trial or hearing.” In addition to the information provided in the pretrial investigation report, pretrial services staff often make a bail recommendation to the judicial officer. The recommendation is made based on information contained in the pretrial investigation report and the professional experience of the staff making the recommendation.

Prior to the development of the Virginia Pretrial Risk Assessment Instrument, no standardized risk assessment instrument existed to assist pretrial services staff in identifying defendant potential for failure if released pending trial. Utilizing a standardized, objective, research-based instrument will aid pretrial services programs in their duty to provide information and services to judicial officers. This report, *Assessing Risk Among Pretrial Defendants in Virginia: The Virginia Pretrial Risk Assessment Instrument*, presents the Virginia Department of Criminal Justice Services’ response to the mandate contained in the Pretrial Services Act.

## *Pretrial Risk Assessment*

The development of a pretrial risk assessment instrument requires the use of historical data to identify risk factors and their relationship to pretrial failure. The information is then used to develop an instrument to identify risk levels for defendants pending trial.

The Virginia Pretrial Risk Assessment Instrument will be incorporated into the pretrial investigation report and serve as a tool for pretrial services staff to improve the determination of a defendant's risk level and to support the bail recommendation. The risk instrument is provided to judicial officers to consider in addition to the nature and circumstances of the offense and the weight of the evidence to assist them in making the bail decision such that: (1) "lower risk" defendants can be safely released into the community pending trial; (2) the risk of "moderate" and "higher" risk defendants can be minimized by utilizing appropriate release conditions, community resources, and/or interventions upon release; and (3) the "highest risk" defendants, those for whom no condition or combination of conditions can reasonably assure the safety of the community or appearance in court, can be detained pending trial.

Improved bail decisions provide substantial benefits to the defendants, community, and the criminal justice system, including:

1. increased public safety,
2. protection of the presumption of innocence,
3. expeditious court case processing,
4. efficiently managed jail space,
5. effective utilization of criminal justice and community resources (i.e., courts, prosecutors, jail staff, police, community supervision, and substance abuse and mental health services), and
6. reduction in the potential for disparity in bail decisions by providing an objective and standardized tool to assist judicial officers in the bail decision-making process.

This report details the process followed by the Virginia Department of Criminal Justice Services to identify pretrial risk factors and their relationship to pretrial failure and to develop the Virginia Pretrial Risk Assessment Instrument.

## Research Methods

After reviewing existing data from local pretrial services programs it was determined that the information necessary for analysis was either not standardized or not available. Due to a lack of appropriate data, DCJS began collecting data for analysis in July 1998.

### **Sample**

A dataset was developed that contains data from a sample of defendants arrested in select Virginia localities between July 1, 1998 and June 30, 1999. The defendants were arrested in one of seven localities: Hampton, Fredericksburg, Spotsylvania, Emporia, Brunswick, Sussex, and Greensville. The localities included in the dataset varied substantially in community characteristics including: community type (urban, rural, and suburban); number of persons, households, and families; sex; race; median family income; percentage of people below poverty level; and education level (*see Appendix A*).

Data were collected from a number of sources including those listed below.

1. Personal interviews were conducted with defendants, either face-to-face or by video teleconference, after arrest and prior to the initial bail hearing with a judicial officer.
2. Arrest warrants, criminal history records (i.e., National Criminal Information Center [NCIC], Virginia Criminal Information Network [VCIN], Department of Motor Vehicles [DMV], Virginia Court Automated Information System [CAIS], local police records), and court records were reviewed.
3. References provided by the defendant were contacted to verify information.
4. Current and prior adult criminal justice supervision records were consulted as needed.

The cases were tracked until final disposition through the use of court and other official records to determine the pretrial outcome (success or failure).

Because it was financially prohibitive to interview every defendant arrested during the year, a sampling procedure was used to account for variances in arrest due to time of day, day of week, month, and season. A data collection schedule was followed that collected data through defendant interviews and official records in 48-hour increments, rotating days of the week throughout the year (see Appendix B). The defendants included in the dataset were adults (18 years or older or juveniles previously certified as adults by the Court) arrested for one or more jailable offense(s) (Class I and II misdemeanors, unclassified misdemeanors that carry a penalty of jail time, and all felonies).

The sampling procedure resulted in an original sample of 2,348 cases from all seven localities. The following cases were removed from the original sample:

- 355 Cases (15%)—never released pending trial
- 21 Cases (< 1%)—remained in pretrial status 10 months after the data collection period ended
- 1 Case (< 1%)—died prior to trial

This resulted in a final sample of 1,971 cases (84%).



## **Measures**

Appendix C contains the variables and their corresponding values used for analysis. There are 50 variables classified as independent variables, which have been clustered into the following groups: demographics, health, community and general stability, and criminal history. The variables are measures of the following: demographic characteristics, physical and mental health, substance abuse, residence, transportation, employment and school status, income, the charge(s) against the defendant, and criminal history. Pretrial outcome, defined as success or failure pending trial, is the single dependent variable. A defendant was classified as a “failure” pending trial if he failed to appear for a scheduled court appearance or was arrested for a new offense pending trial. If neither of these events occurred the defendant was classified as a “success.” The variables are a comprehensive representation of potential predictors of pretrial outcome based on previous pretrial risk assessment research.<sup>1</sup>

## **Statistical Techniques**

The dependent variable “pretrial outcome,” success or failure pending trial, is nominal and dichotomous. The independent variables range in measurement and include nominal, ordinal, and ratio-level data. Descriptive statistics were completed for all variables and included frequencies or mean, standard deviation, median, and range, when appropriate. Any independent variables with a small degree of variance, 95% or more of the cases producing the same response, were omitted from further analysis. The bivariate statistics used were Chi-Square for nominal and ordinal-level variables and Mann-Whitney U for all ratio-level variables due to their non-normal distributions. The measure of association used to assess the strength of the relationships for the nominal-level variables was the Phi ( $\phi$ ) coefficient. Gamma ( $\gamma$ ) was used as the measure of association for the ordinal-level variables. The multivariate test used was Binary Logistic Regression. Regression is the preferred tool when the goal of the research is to predict an outcome, as is the case here. Binary Logistic Regression is the most appropriate multivariate technique because the outcome, or dependent variable, is dichotomous.<sup>2</sup>

## **Analysis Methodology**

The bivariate analysis was completed to identify the statistically significant variables (risk factors) related to pretrial outcome (success or failure pending trial) and the strength of the relationship between the dependent variable and each independent variable.

The results of the bivariate analyses were used to build a Binary Logistic Regression model. Guided by the bivariate results, the model was built using a hierarchical approach by entering the statistically significant variables within a block of variables in the following order: criminal history, community and general stability, health, and demographics. The hierarchical method of variable entry allows the

<sup>1</sup> See the bibliography for publications related to previous research identifying pretrial risk factors and for similar pretrial risk assessment research studies.

<sup>2</sup> Grimm & Yarnold (1995)

researcher to control the order of entry of variables based on the bivariate analysis and previous research.<sup>3</sup> It also allows the researcher to interpret the impact of a block of related variables on the outcome.

The final model was guided by the Nagelkerke pseudo  $R^2$ , Chi-Square ( $\chi^2$ ) results for the model and blocks, Hosmer and Lemeshow Goodness of Fit test, odds ratios associated with the independent variables ( $e^B$ ), the percentage of correct predictions (sensitivity and specificity), and the impact of the model on select groups.

### **Results**

The data analysis for this research included descriptive statistics, bivariate statistics, and the multivariate technique of Binary Logistic Regression. Appendix D contains the results of the descriptive statistics and Appendix E contains the results of the bivariate statistics. These techniques were used to determine the combination of risk factors that are the best predictors of pretrial failure. The Binary Logistic Regression model can be found in Appendix F. This model identified the following nine risk factors to be the best predictors of pretrial failure:

1. Charge Type—Defendants charged with a felony were more likely to fail pending trial than defendants charged with a misdemeanor.
2. Pending Charge(s)—Defendants who had pending charge(s) at the time of their arrest were more likely to fail pending trial.
3. Outstanding Warrant(s)—Defendants who had outstanding warrant(s) in another locality for charges unrelated to the current arrest were more likely to fail pending trial.
4. Criminal History—Defendants with at least one prior misdemeanor or felony conviction were more likely to fail pending trial.
5. Two or more Failure to Appear Convictions—Defendants with two or more failure to appear convictions were more likely to fail pending trial.
6. Two or more Violent Convictions—Defendants with two or more violent convictions were more likely to fail pending trial.
7. Length at Current Residence—Defendants who had lived at their current residence for less than one year were more likely to fail pending trial.
8. Employed/Primary Child Caregiver—Defendants who had not been employed continuously at one or more jobs during the two years prior to their arrest or who were not the primary caregiver for a child at the time of their arrest were more likely to fail pending trial.
9. History of Drug Abuse—Defendants with a history of drug abuse were more likely to fail pending trial.

The first six factors are measures of criminal history. The remaining factors are measures of residence, employment/primary child caregiver, and substance abuse.

<sup>3</sup> See the bibliography for publications related to previous research identifying pretrial risk factors and for similar pretrial risk assessment research studies.

## Instrument Development

The results of the Binary Logistic Regression model were used to develop the Virginia Pretrial Risk Assessment Instrument. Logistic Regression calculates the relationship between a set of independent variables (risk factors) and one dependent variable (pretrial outcome). The unique contribution of each risk factor is expressed as a Logistic Regression coefficient, which provides the information necessary to construct point values for each risk factor.

### ***Point Assignment***

Transformation of coefficients into point scores was completed by following the procedure outlined below.

1. The smallest significant coefficient was identified.
2. A score was computed that transformed the smallest coefficient to a score of 0.500.
3. The transformation was applied to all coefficients, which were then rounded to the nearest whole number.

Despite the use of rounding to simplify scoring, repeated tests have shown that the resulting accuracy of the point scores lose only modest degrees of accuracy (less than 5%) when compared with applying the exact values produced by Logistic Regression. This accommodation makes the instrument calculation easier to understand and calculate by hand. Migrating the assessment instrument to an information system could improve predictions marginally and reduce the incidence of human error.

As a result of the transformation procedure, point values were assigned to each risk factor as demonstrated in the chart on the following page.

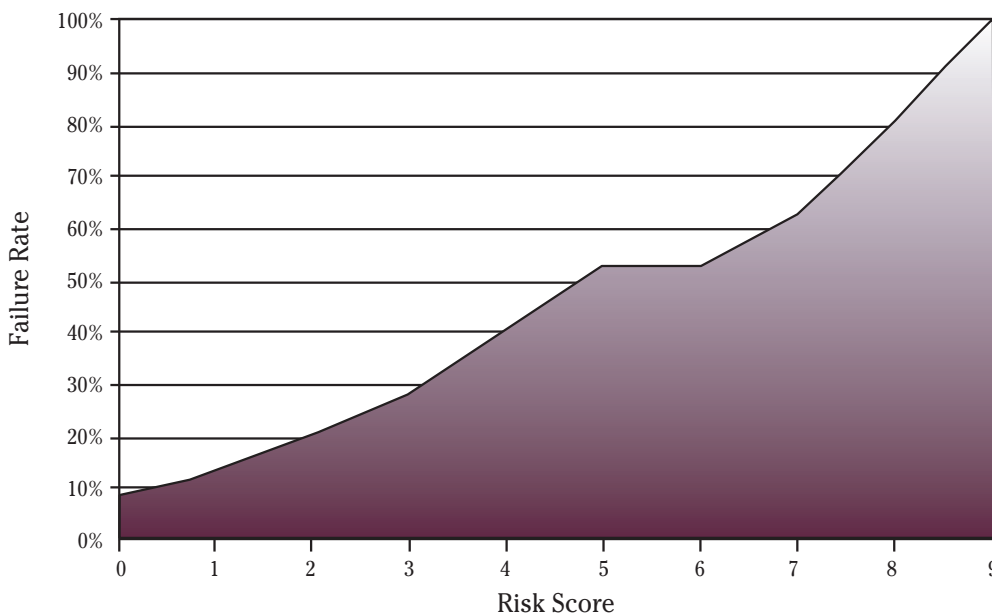
<b>Risk Factor</b>	<b>Criteria</b>	<b>Assigned Point(s)</b>
Charge Type	If the most serious charge for the current arrest was a felony	1 point
Pending Charge(s)	If the defendant had one or more charge(s) pending in court at the time of the arrest	1 point
Outstanding Warrant(s)	If the defendant had one or more warrant(s) outstanding in another locality for charges unrelated to the current arrest	1 point
Criminal History	If the defendant had one or more misdemeanor or felony convictions	1 point
Two or more Failure to Appear Convictions	If the defendant had two or more failure to appear convictions	2 points
Two or more Violent Convictions	If the defendant had two or more violent convictions	1 point
Length at Current Residence	If the defendant had lived at their current residence for less than one year prior to arrest	1 point
Employed/ Primary Child Caregiver	If the defendant had not been employed continuously for the past two years and was not the primary caregiver for a child at the time of arrest	1 point
History of Drug Abuse	If the defendant had a history of drug abuse	1 point

### **Risk Scores**

The point scores assigned to the risk factors were used to calculate a total risk score. The nine risk factors have a range of possible risk scores from 0–10; the higher the risk score the greater the risk of pretrial failure. The scoring criterion was applied to the sample data and a risk score calculated for each defendant. The table below reports the results of the risk scores for the sample and the corresponding pretrial failure rate for each group. The risk score of 3, for example, is associated with a failure rate of 27%, which closely approximates the sample average of 28% failure (10% failure to appear and 18% arrest for a new offense).

<b>Risk Score</b>	<b>N</b>	<b>% Population</b>	<b>Failure Rate</b>
0	131	7%	8%
1	340	17%	11%
2	461	23%	19%
3	412	21%	27%
4	332	17%	40%
5	184	9%	52%
6	81	4%	52%
7	24	1%	62%
8	5	<1	80%
9	1	<1	100%
10	0	0	NA

The following figure demonstrates that as the risk score increased the actual pre-trial failure rate increased.

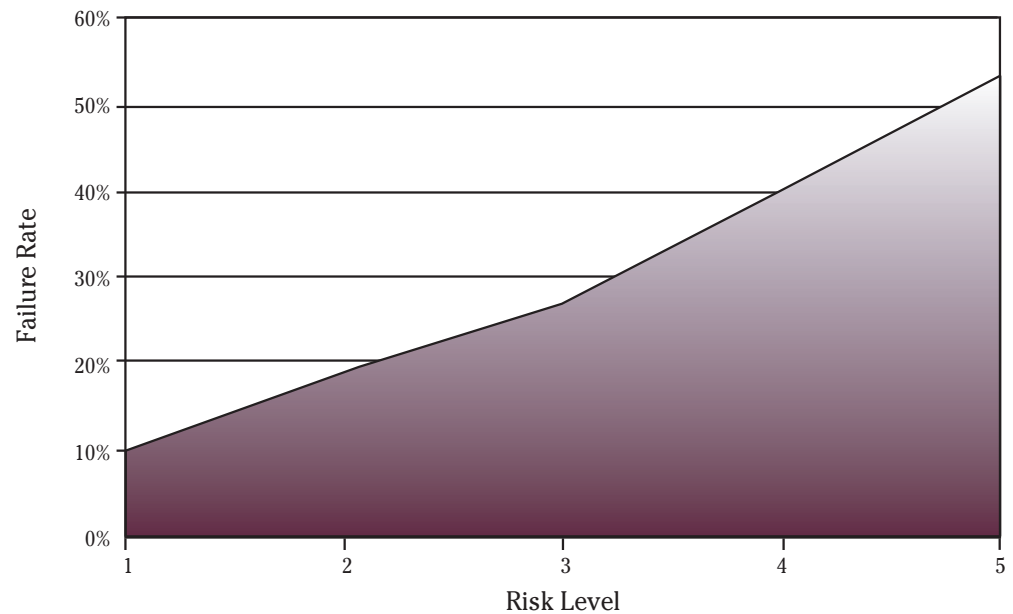


### ***Risk Levels***

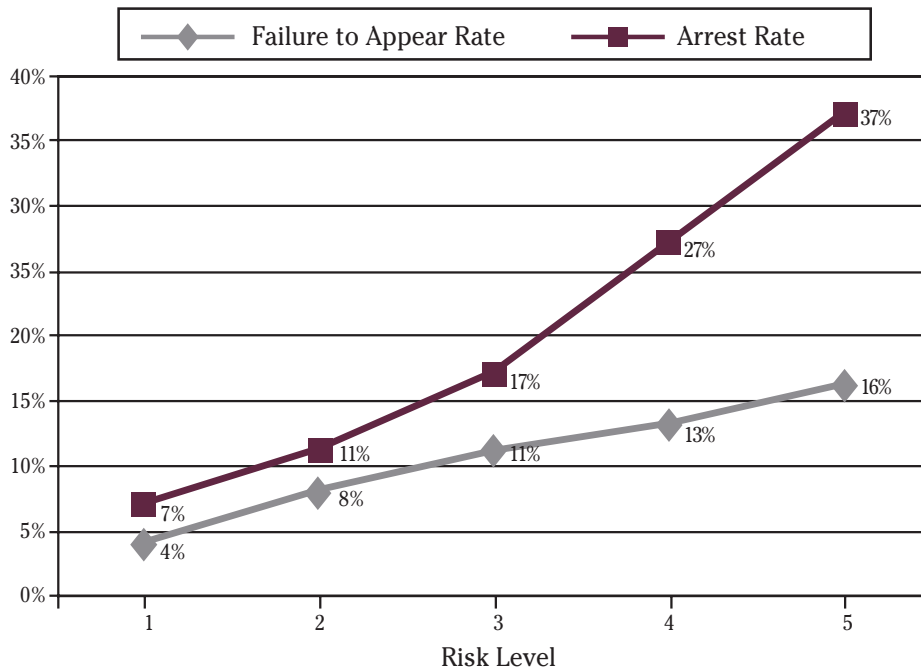
The risk scores were grouped into risk levels as dictated by the data. The risk scores were merged into risk levels as follows:

<b>Risk Level</b>	<b>Risk Scores</b>	<b>N</b>	<b>% Population</b>	<b>Failure Rate</b>
1	0,1	471	24%	10%
2	2	461	23%	19%
3	3	412	21%	27%
4	4	332	17%	40%
5	5 thru 10	295	15%	53%

Defendants who scored a 0 or 1 were classified in risk level 1; defendants who scored a 2 were classified in risk level 2; defendants who scored a 3 were classified in risk level 3; defendants who scored a 4 were classified in risk level 4; and the defendants who scored 5 or higher were classified in risk level 5. The higher the risk level the greater the actual pretrial failure rate as demonstrated in the following figure.



As stated previously, pretrial failure occurred when a defendant either failed to appear for a scheduled court appearance or was arrested for a new offense pending trial. In addition to correctly categorizing defendants based on their failure rates it was also important to determine if the risk levels categorized defendants correctly based on the specific type of pretrial failure. The figure below illustrates the failure rates per risk level by type of failure.



The figure demonstrates that the risk level classifications correctly identify defendant risk levels based on the type of failure. The higher the risk level, the higher the failure to appear and arrest rates.

### ***Equitable Classification of Groups***

To ensure the instrument was unbiased toward groups based on sex, race, and income, an examination of instrument classification for groups was undertaken. Tests of proportions were completed to determine if there was any unintended bias in the classification of group members. The test of proportions determines if there is a statistically significant difference in the classification of group members while taking into consideration random variation and group size.

The procedure for applying the test of proportions included the formulation of a Z-test and was completed by following the steps outlined below.

1. Established a base failure rate for each risk level.
2. Subdivided each risk level by the comparison group (male/female, etc.).
3. Computed the failure rates for each comparison group for each risk level.
4. Computed a standardized Z-score of the difference between the base failure rate and the failure rates of the comparison group for each risk level.

The Z-score is used to determine if the observed differences in groups are statistically significant (not due to chance). Z-scores that fall beyond plus or minus 1.96 are statistically significant. A result such as this would indicate inequitable treatment of a particular group.

The test of proportions was first applied to defendants based on their sex. The results are contained in the following tables.

#### Male Defendants

Risk Level	Base Failure Rate	N=1547	Comp. Group Failure Rate	Z Score
1	10%	346	12%	0.287
2	19%	330	21%	0.390
3	27%	332	27%	-0.132
4	40%	277	42%	0.382
5	53%	262	54%	0.142

\*Statistically significant at +/- 1.96

#### Female Defendants

Risk Level	Base Failure Rate	N=424	Comp. Group Failure Rate	Z Score
1	10%	125	6%	-0.463
2	19%	131	15%	-0.594
3	27%	80	30%	0.275
4	40%	55	31%	-0.790
5	53%	33	48%	-0.379

\*Statistically significant at +/- 1.96

There was no statistically significant difference in classification based on sex; therefore, it was concluded that the instrument equitably classified both males and females.



The test of proportions was next applied to defendants based on their race. The analysis could not be completed on the category of 'Other' due to the low number in the group (n=48). The tables below show the results.

**Black Defendants**

Risk Level	Base Failure Rate	N=785	Comp. Group Failure Rate	Z Score
1	10%	214	10%	-0.019
2	19%	254	19%	-0.072
3	27%	259	29%	0.292
4	40%	221	43%	0.635
5	53%	190	52%	-0.325

\*Statistically significant at +/- 1.96

**White Defendants**

Risk Level	Base Failure Rate	N=1138	Comp. Group Failure Rate	Z Score
1	10%	76	11%	0.107
2	19%	390	19%	0.031
3	27%	435	23%	-0.546
4	40%	179	34%	-0.764
5	53%	58	56%	0.460

\*Statistically significant at +/- 1.96

Due to the lack of a statistically significant difference in classification based on race, it was concluded that the instrument consistently classified defendants irrespective of race.

Finally, the test of proportions was applied to defendants based on their income. The sample was divided into two groups: 1) below the median income and 2) equal to or above the median income. The following tables contain the results.

**Below Median Income**

Risk Level	Base Failure Rate	N=1009	Comp. Group Failure Rate	Z Score
1	10%	136	10%	-0.104
2	19%	223	19%	-0.078
3	27%	243	28%	0.027
4	40%	208	39%	-0.151
5	53%	199	52%	-0.196

\*Statistically significant at +/- 1.96

### Equal or Above Median Income

Risk Level	Base Failure Rate	N=962	Comp. Group Failure Rate	Z Score
1	10%	335	11%	0.066
2	19%	238	20%	0.076
3	27%	169	27%	-0.032
4	40%	124	41%	0.199
5	53%	96	55%	0.291

\*Statistically significant at +/- 1.96

Again, there was no statistically significant difference in classification found between defendants who were 1) below or 2) equal to or above the median income.

The results of the test of proportions provide confidence that the instrument produced unbiased classifications of risk across sex, race, and income groups.

### Community Types

The Commonwealth of Virginia consists of varying community types. The sample used for analysis consisted of data from seven localities representing four community types: large urban, small urban, rural, and mixed. For the purposes of this research, community type was defined as the community type in which the defendant was arrested. Because this instrument will be used statewide, the test of proportions was applied to each community type to identify any statistically significant difference in classification based on the arresting community type. The results of the tests are contained in the following tables.

### Large Urban Community Type

Risk Level	Base Failure Rate	N=1050	Comp. Group Failure Rate	Z Score
1	10%	219	10%	-0.056
2	19%	224	22%	0.512
3	27%	166	31%	0.714
4	40%	146	38%	-0.390
5	53%	121	48%	-1.063

\*Statistically significant at +/- 1.96

### Small Urban Community Type

Risk Level	Base Failure Rate	N=235	Comp. Group Failure Rate	Z Score
1	10%	45	9%	-0.106
2	19%	58	21%	0.118
3	27%	54	24%	-0.283
4	40%	47	49%	0.880
5	53%	31	74%	*2.299

\*Statistically significant at +/- 1.96

### Rural Community Type

Risk Level	Base Failure Rate	N=208	Comp. Group Failure Rate	Z Score
1	10%	55	16%	0.483
2	19%	57	10%	-0.701
3	27%	42	26%	-0.093
4	40%	37	46%	0.512
5	53%	17	53%	-0.017

\*Statistically significant at +/- 1.96

### Mixed Community Type

Risk Level	Base Failure Rate	N=468	Comp. Group Failure Rate	Z Score
1	10%	152	9%	-0.154
2	19%	114	17%	-0.254
3	27%	93	20%	-0.756
4	40%	51	35%	-0.396
5	53%	60	60%	0.830

\*Statistically significant at +/- 1.96

No statistically significant difference in classification was identified for the large urban, rural, and mixed community types. The small urban community type, however, showed a statistically significant difference in classification for risk level 5 when compared to the sample as a whole. The sample had a base failure rate of 53% while the small urban comparison group had a 74% failure rate in the same risk level. In this case, defendants in the small urban community type did not experience bias because they were correctly classified in the highest risk level. Further examination reveals that there were only 31 defendants from the small urban community type classified in level 5. This allows for the possibility that the difference could be due to the small sample size. Regardless, the instrument correctly classified these defendants in the highest risk level; therefore, the instrument correctly classified defendants regardless of arresting community type.

### ***Summary***

The Virginia Pretrial Risk Assessment Instrument was developed using nine risk factors identified as the best predictors of pretrial failure. The risk factors were identified through a Binary Logistic Regression model and include measures of criminal history, residence, employment/primary child caregiver, and substance abuse. The risk factors were assigned point scores based on the transformation of regression coefficients. The point scores were added to calculate a total risk score with a range of 0–10. The risk scores were then merged into 5 risk levels with corresponding failure rates.

Risk levels range from 1-5; the higher the risk level the greater the failure rate. The instrument was determined to have correctly classified defendants based on the type of failure—failure to appear for a scheduled court appearance and arrest for a new offense pending trial.

Additional steps were taken to determine if the instrument produced any unintended bias in the classification of group members based on sex, race, or income. Tests of proportions were completed to identify any statistically significant differences in the classification of group members. No differences were found, therefore, it was concluded that the instrument equitably classified defendants regardless of sex, race, or income.

The test of proportions was also used to determine if the instrument was biased based on the community type in which the defendant was arrested. The results demonstrated that defendants were equitably classified regardless of arresting community type.

The Virginia Pretrial Risk Assessment Instrument utilizes nine risk factors to classify defendants into one of five levels of risk. The instrument is an accurate predictor of pretrial failure; including both failure to appear and arrest for a new offense pending trial. The instrument has been proven to classify defendants equitably regardless of sex, race, income, or the arresting community type.

## Instrument Application

The Virginia Pretrial Risk Assessment Instrument is automated and integrated into the Pretrial and Community Corrections Case Management System (PTCC). PTCC is a case management and information system utilized by pretrial services programs statewide to track pretrial screenings, investigations, referrals to pretrial supervision, and defendant supervision activity. Appendix G contains a sample of the instrument. The PTCC generated instrument will vary slightly in appearance. The instrument is a part of the pretrial investigation report. A thorough interview and investigation must be completed before the instrument can be generated and incorporated into the pretrial investigation report.

### ***Pretrial Interview***

During the pretrial interview the defendant must be asked, at a minimum, about his current and past employments, status as a primary child caregiver, current and past residences, prior drug use, and adult criminal history.

### **Employment/Primary Child Caregiver**

The defendant must provide current and previous employment information with corresponding length of time at each employment. For risk assessment purposes it is crucial to gather employment history for the previous two years and to identify any gaps in employment during that time. In addition, the defendant must be asked if he or she was a primary child caregiver at the time of the arrest.

### **Residence**

The defendant must provide current and previous residence information with corresponding length of time at each residence. For risk assessment purposes it is imperative that the residence history include the past two years.

### **Drug Use**

The defendant must be asked about all prior drug use. For the purposes of risk assessment, drug use does not include alcohol, which is documented separately, but does include the use of any illegal or prescription drugs.

### **Criminal History**

The defendant must be asked about any charges pending in an adult criminal or traffic (not civil) court, any outstanding warrants in another jurisdiction that have not been served, and any adult criminal convictions. This information will be used to complete the criminal history investigation and summary.

Collection of information from the defendant during the interview relating to employment, primary child caregiver status, residence, drug use, and criminal history is critical to completing the risk factors in the instrument. Responses to risk factors are determined by pretrial staff based on an analysis of the information gathered during the interview and investigation and are not intended as questions to be directed to the defendant.

### ***Pretrial Investigation***

Once an interview has been completed, the residence, employment, and primary child caregiver information must be verified, as well as additional information gathered, as a part of the pretrial investigation.

#### **Employment, Primary Child Caregiver and Residence**

All attempts must be made to verify information provided by the defendant regarding residence, employment, and primary child caregiver status. The primary mechanism for verification of this information is through references provided by the defendant. References usually include family members, friends, employers, or other people who have knowledge of the defendant.

Additional sources can be utilized during a pretrial investigation to verify information and include current and prior supervision activity for the defendant such as pretrial, probation, alcohol safety action program, and other types of formal adult criminal justice supervision. These records can be good sources of information to verify residence, employment, and primary child caregiver status related information.

#### **Drug Use**

Information about a defendant's drug use is never to be discussed with references. Any unsolicited information regarding drug use provided by a reference should be documented as part of the pretrial investigation.

The additional supervision sources described above can be utilized to verify information regarding prior drug use. Adult supervision records may include results of urinalysis as well as self-reported information provided by the defendant while under supervision.

#### **Criminal History**

A pretrial investigation includes a thorough criminal history check and requires checks of the National Criminal Information Center (NCIC), Virginia Criminal Information Network (VCIN), Department of Motor Vehicles (DMV), and Virginia Court Automated Information System (CAIS). Local police records can also be consulted when appropriate. Criminal history information provided by the defendant that is not found on the NCIC, VCIN, or DMV records should be tracked through CAIS or other methods when possible.

It is imperative that the status or final outcome be found for charges that are listed in a defendant's criminal record without a final disposition. CAIS, local police records, pretrial staff in other localities, and court clerks are all potential resources for determining charge dispositions. An emphasis should be placed on determining dispositions for all failure to appear and violent charges as well as charges that appear likely to be pending in court.

Once the criminal record check is complete, a criminal history summary detailing all outstanding warrants, pending charges and adult criminal convictions for the defendant is prepared as a part of the pretrial investigation report.

### ***PTCC Screening Tab***

Once the interview and investigation are complete, the pretrial staff must open the Screening module in PTCC to begin completing the instrument. Beginning with the Screening tab the following data elements must be entered:

First Name  
Last Name  
Race  
Social Security Number (SSN\*)  
Sex  
Date of Birth (DOB\*)  
Primary Charge Classification (PCC\*)  
Arrest Date  
Jail  
Screened- In  
Staff Completing Screening (BY\*)  
Screened Date  
Investigated- Yes  
Staff Completing Investigation (BY\*)  
Investigated Date

\* Information contained in parentheses indicates the field name in PTCC.

As with any pretrial screening, defendant information can be entered by locating an existing record for the defendant or by entering a new defendant in the system. Once the Screening tab is complete and the record saved successfully, the pretrial staff can then access the RA Instrument tab.

### ***PTCC RA Instrument Tab***

When the RA Instrument tab is first accessed, the Charge(s), Bond Type, and Bond Amount fields must be completed. The next step is to select responses for the nine risk factors that make up the instrument. The risk factors and their definitions and/or guidance for interpretation are listed below.

1. Charge Type—Select *misdemeanor* or *felony* to indicate whether the most serious charge classification for the arrest event is a misdemeanor or a felony. If there is only one charge—select the charge classification for that charge. If there are multiple charges and all of the charges have a charge classification of misdemeanor—select *misdemeanor*. If there are multiple charges and one or more of the charges is a felony—select *felony*.
2. Pending Charge(s)—Select *yes* if the defendant had one or more charges pending in a criminal or traffic (not civil) court at the time of arrest. Pending charge(s) require that the defendant was previously arrested for one or more charges and had a future court date pending at the time of arrest. Select *no* if the defendant had no pending charge(s) at the time of arrest.

3. Outstanding Warrant(s)—Select *yes* if, at the time of the arrest, the defendant had one or more warrant(s) outstanding in another locality for charges unrelated to the current arrest. Outstanding warrants include warrants that have not been served on the defendant and, therefore, do not have a future court date. Select *no* if the defendant did not have any outstanding warrant(s) at the time of arrest.
4. Criminal History—Select *yes* if the defendant has at least one adult misdemeanor or felony conviction in the past. Select *no* if the defendant does not have any misdemeanor or felony conviction(s) in the past.
5. Two or more Failure to Appear Convictions—Select *yes* if the defendant has two or more prior failure to appear convictions as an adult. Select *no* if the defendant does not have two or more failure to appear convictions.
6. Two or more Violent Convictions—Select *yes* if the defendant has two or more prior violent convictions as an adult. Select *no* if the defendant does not have two or more prior violent convictions. Violent convictions are defined in the *Code of Virginia* and include murder, rape, robbery, sex offenses, sexual assault, assault, and kidnapping. Both misdemeanor and felony assaults are counted as violent convictions.
7. Length at Current Residence—Select *less than one year* or *one year or more* to indicate the length of time the defendant has lived at his current residence. Select *less than one year* if the defendant has lived at his residence less than one year, is homeless, or does not have a stable residence. Select *yes* or *no* to indicate whether the residence information was verified by a reference or other secondary source.
8. Employed/Primary Child Caregiver—Select *yes* if the defendant has been employed continuously at one or more jobs during the two years prior to the arrest. Select *yes* if the defendant was a primary child caregiver at the time of the arrest. Select *no* if the defendant was unemployed at the time of the arrest or had a gap in employment over the two years prior to the arrest and was not a primary child caregiver at the time of arrest. Employment includes part or full time as long as the defendant worked regularly and consistently for a minimum of 20 hours per week. A defendant is considered a primary child caregiver if he or she is responsible for, and consistently cares for, at least one dependent child (under the age of 18), living with the defendant at the time of the arrest. Select *yes* or *no* to indicate whether the employed/primary child caregiver information was verified by a reference or other secondary source.



9. History of Drug Abuse—Select *yes* to indicate the defendant has a history of drug abuse. Select *no* if the defendant does not have a history of drug abuse. The pretrial staff must determine if the defendant has a history of drug abuse based on the information gathered during the pretrial investigation. Consideration should be given to the information provided by the defendant, criminal history, information contained in supervision records, and any information provided by references regarding drug use. The following are examples of indications of a history of drug abuse: previously used illegal substance(s) repeatedly (this is to be distinguished from short-term experimental use); defendant admits to previously abusing illegal or prescription drugs; the criminal history contains drug related convictions; and the defendant received drug treatment in the past. Any one or a combination of these factors can be used to determine whether or not the defendant has a history of drug abuse.

### ***Instrument Completion***

After the responses for all risk factors are complete, PTCC automatically calculates a risk score and assigns the defendant to the appropriate risk level. PTCC also highlights the risk factors, if any, which contributed to the risk level classification.

The pretrial staff then have the opportunity, if they deem appropriate, to enter comments and/or recommendations to the judicial officer. Once the instrument is completed and has been saved successfully it can be printed and made a part of the pretrial investigation report.

The pretrial investigation report, containing both the investigation and risk assessment instrument, are provided to judicial officers at the initial bail hearing, arraignment, and/or bail review hearing. The information is intended to assist judicial officers in making bail decisions, to release or detain defendants pending trial.

## Future Plans

The Virginia Pretrial Risk Assessment Instrument is now complete, automated, and integrated into the PTCC case management system. Future plans for implementation of the instrument include four phases: planning, pilot testing, statewide implementation, and validation.

### ***Planning Phase***

DCJS is currently in the planning phase of instrument implementation. Prior to June 30, 2003 the tasks listed below will be completed during this phase.

1. Selection of four (4) programs to serve as pilot sites for implementation.
2. Formation of a pilot site work group to develop instrument completion instructions, draft training curriculums, and complete an addendum to the PTCC User Manual.
3. Development of an implementation project management plan.

### ***Pilot Testing Phase***

Four pretrial services programs will serve as pilot sites in which to test the implementation of the instrument. This will include the assessment of the efficacies of the following:

- training curriculum;
- instrument completion instructions;
- new version of PTCC; and
- the addendum to the PTCC User Manual.

The pilot sites will test the full integration of the instrument into the pretrial services investigation report and all aspects of instrument implementation.

Implementation of the instrument at the pilot sites will begin in July 2003 and be guided by the tasks listed below.

1. A new version of PTCC, containing the RA Instrument tab and the RA Instrument report will be installed at the pilot sites.
2. Training for the instrument will be provided to all pilot site staff.
3. Presentations will be made to the local Community Criminal Justice Boards (CCJB) of the pilot site localities.
4. Intensive support and technical assistance will be provided. Risk assessment instruments completed by programs will be reviewed to ensure accurate data interpretation and risk assessment scoring. If discrepancies are found, additional intensive training and support will be provided to address and correct those discrepancies.

### ***Statewide Implementation***

The implementation of the Virginia Pretrial Risk Assessment Instrument in the remaining 26 pretrial services programs is dependent upon the availability of funding. Contingent upon adequate funding, statewide implementation will occur between September 2003 and June 2004.

Implementation will be phased in on a regional basis. Four new sites will be implemented approximately every six weeks until all sites are fully utilizing the instrument. Implementation will follow the same procedures as those outlined for the pilot sites and include the installation of a new version of PTCC, training provided to all pretrial services program staff, a presentation to their respective CCJB's, concentrated technical assistance and support to the programs, and additional training as needed.

### ***Validation Phase***

It will be crucial in future years to validate the accuracy of the instrument and to make the adjustments necessary to ensure its effectiveness in future years. This phase can begin one year after statewide implementation has been achieved.

## Bibliography

- Ares, C. E., Rankin, A., & Sturz, H. (1963). The Manhattan Bail Project: An Interim Report on the Use of Pretrial Parole. *New York University Law Review*, 38, 67–77.
- Beeley, A. (1927/1966). *The Bail System in Chicago*. Chicago: University of Chicago Press [original 1927; reprint 1966].
- Clark, S. (1988). Pretrial Release: Concepts, Issues, and Strategies for Improvement. *Research in Corrections*, 1 (3), 1-40.
- Code of Virginia*. (1950). [On-line]. Available: <http://legis.state.va.us/Laws/CodeofVa.htm>
- Cuvelier, S., & Potts, D. W. (1993). Bail Classification Profile Project: Harris County, Texas. Alexandria, VA: State Justice Institute.
- Cuvelier, S., & Potts, D. W. (1997). *A Reassessment of the Bail Classification Instrument and Pretrial Practices in Harris County, Texas*. Huntsville, TX: Sam Houston State University.
- Eskridge, C.W. (1983). *Pretrial Release Programming: Issues and Trends*. New York: Clark Boardman Company, Ltd.
- Feeley, M. M. (1983). *Court Reform on Trial*. New York: Basic Books, Inc.
- Gottfredson, D. & Tonry, M. (1987). *Crime And Justice: A Review of Research: Vol. 1. Prediction and Classification: Criminal Justice Decision Making*. Chicago: University of Chicago Press.
- Goldkamp, J. S. (1979). *Two Classes of Accused: A Study of Bail and Detention in America*. Cambridge, MA: Ballinger Publishing Company.
- Goldkamp, J. S., & Harris, M. K. (1994). *Charge Seriousness, Risk Classification and Resource Implications: Three Outstanding Issues in Implementing Pretrial Release Guidelines*. Philadelphia: Crime and Justice Research Institute.
- Goldkamp, J. S., Harris, M. K., & White, M. (1997). *Pretrial Release and Detention During the First Year of Pretrial Release Guidelines in Philadelphia: Review and Recommendations*. Philadelphia: Crime and Justice Research Institute.
- Goodman, Rebecca (1992) *Hennepin County Bureau of Community Corrections Pretrial Release Study*. Minneapolis, MN: Planning and Evaluation Unit.
- Grimm, L. G., & Yarnold, P. R. (1995). *Reading and Understanding Multivariate Statistics*. Washington, D.C.: American Psychological Association.
- Jones, P. R., & Goldkamp, J. S. (1991). The Bail Guidelines Experiment in Dade County, Miami: A Case Study in the Development and Implementation of a Policy Innovation. *The Justice System Journal*, 14/15.
- Kern, R. P. & Kolmetz, P.F. (1986). *Development of a Pretrial Risk Assessment Instrument: A Pilot Study*. Richmond, VA: Virginia Department of Criminal Justice Services, Statistical Analysis Center.
- McCauley, M. (1995, October). Pretrial Services. Unpublished report summarizing the results of the Pinellas County, Florida pretrial risk research project.
- Morse, W. L., & Beattie, R. L. (1932). Survey of the Administration of Criminal Justice in Oregon, Report No. 1: Final Report on 1771 Felony Cases in Multnomah County. *Oregon Law Review*, 11.
- Siddiqi, Q. (1999). *Assessing Risk of Pretrial Failure to Appear in New York City: A Research Summary and Implications for Developing Release Recommendation Schemes*. New York: New York City Criminal Justice Agency.
- Siddiqi, Q. (1999). *Prediction of Pretrial Failure to Appear and an Alternative Pretrial Release Risk-Classification Scheme in New York City: A Reassessment Study*. New York: New York City Criminal Justice Agency.
- Thomas, W. H., Jr. (1976). *Bail Reform in America*. Berkeley, CA: University of California Press, Ltd.
- Tobolowsky, P. M., & Quinn, J. F. (1993). Pretrial Release in the 1990s: Texas Takes Over Another Look at Non-financial Release Conditions. *Criminal and Civil Confinement*, 19, 267–327.
- Toborg, M. A. (1981). *Pretrial Release: A National Evaluation of Practices and Outcomes*. Washington, DC: U.S. Department of Justice, National Institute of Justice.
- U.S. Department of Justice—National Institute of Corrections. (1979). *Classification Instruments For Criminal Justice Decisions: Pretrial Release*. Washington, DC: U.S. Department of Justice.

# Appendix A

## Locality/Community Characteristics

U.S. Census Bureau	Virginia	Hampton	Fredericksburg	Spotsylvania	Emporia	Greenville	Brunswick	Sussex
Community Type		Large Urban	Small Urban	Mixed	Rural	Rural	Rural	Rural
Persons*	6,187,358	133,793	19,027	57,403	5,306	8,853	15,987	10,248
Families*	1,642,735	35,322	4,166	15,670	1,423	2,434	4,090	2,792
Households*	2,294,722	49,699	7,469	18,978	2,032	3,131	5,576	3,808
Urban And Rural*								
Inside urbanized area	62%	100%	100%	42%	0%	0%	0%	0%
Outside urbanized area	8%	0%	0%	5%	100%	0%	0%	0%
Rural farm	1%	0%	0%	2%	0%	5%	5%	7%
Rural non-farm	29%	0%	0%	51%	0%	95%	95%	93%
Sex*								
Male	49%	49%	46%	50%	47%	48%	50%	48%
Female	51%	51%	54%	50%	53%	52%	50%	52%
Race*								
White	77%	58%	76%	87%	54%	44%	41%	41%
Black	19%	39%	22%	11%	46%	56%	59%	58%
Other	4%	3%	2%	2%	0%	0%	0%	1%
Median Family Income In 1989*	\$38,213	\$34,291	\$33,353	\$43,596	\$25,458	\$25,361	\$23,948	\$26,538
Median Household Income In 1989*	\$33,328	\$30,144	\$26,614	\$41,342	\$21,009	\$22,116	\$19,424	\$20,833
Percent Below Poverty Level**	10%	11%	12%	5%	18%	16%	25%	20%
Total Resident Population***	6,189,000	139,181	21,953	71,981	5,835	10,967	16,465	10,078
Education***								
Total persons 25 years and over		82,670	11,118	34,901	3,559	5,641	10,210	6,734
High school graduates		80%	74%	77%	58%	50%	51%	54%
College graduates		19%	26%	19%	13%	5%	7%	9%

\* U.S. Census Bureau: 1990 Census: Summary Tape File 3A

\*\* U.S. Census Bureau: County Income and Poverty Estimates 1990 Census Estimates: Virginia 1989

\*\*\*U.S. Census Bureau: 1996 USA Counties General Profile

# Appendix B

## Data Collection Schedule

JULY-98						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER-98						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

NOVEMBER-98						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JANUARY-99						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

MARCH-99						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

MAY-99						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST-98						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

OCTOBER-98						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

DECEMBER-98						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY-99						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

APRIL-99						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

JUNE-99						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

# Appendix C

## Variables and Corresponding Values

VARIABLE	VALUES
Pretrial Outcome	Success, Failure
<b>Demographics</b>	
Age	Continuous variable
Sex	Male, Female
Race	White, Black, Other
Marital Status	Never Married, Married, No Longer Married
Dependents	None, 1, 2, 3 or more
Dependents Living with Defendant	None, 1, 2, 3 or more
Primary Language	English, Other
Able to Read	No, Yes
Able to Write	No, Yes
Level of Education	Continuous variable
<b>Health</b>	
Current Physical Health Problem	No, Yes
Current Mental Health Problem	No, Yes
Current Physical or Mental Health Treatment	No, Yes
Current Alcohol Abuse	No, Yes
Prior Alcohol Abuse	No, Yes
Current Drug Abuse	No, Yes
Prior Drug Abuse	No, Yes
Current Drug or Alcohol Treatment	No, Yes
<b>Community and General Stability</b>	
Fixed Address	No, Yes
Time at Current Address	Less than 1 Year, 1 Year or more
Home Phone	No, Yes
Years in Area	Continuous variable
Years in State	Continuous variable
Address Changes in Last 2 Years	Continuous variable
Vehicle Access	No, Yes
Public Transportation Access	No, Yes
Currently Employed	No, Yes
Length of Current Employment	Unemployed or Newly Employed, 1 to 3 Years, 4 or more Years
Employed During the Last 2 Years	No, Yes
Employed During the Last 2 years or Primary Child Caregiver at Time of Arrest	No, Yes
Other Income	No, Yes
Net Monthly Income	Continuous variable
Currently a Student	No, Yes
Months a Student in Last 24	Continuous variable
<b>Criminal History</b>	
Charge Type	Misdemeanor, Felony
Charge Category	Theft, Narcotics, Failure to Appear, Violent, Traffic, Other
Total Number of Charges	1, 2, 3 or more
Outstanding Warrants	No, Yes
Pending Charges	No, Yes
Community Supervision	No, Yes
Criminal History	No, Yes
Prior Revocations	No, Yes
Prior Escape or Flight	No, Yes
Misdemeanor Convictions	None, 1, 2 or more
Felony Convictions	No, Yes
Misdemeanor Convictions Last 5 Years	None, 1, 2 or more
Felony Convictions Last 5 Years	No, Yes
Failure to Appear Convictions	None, 1, 2 or more
Violent Convictions	None, 1, 2 or more
Drug Convictions	None, 1, 2 or more

# Appendix D

## Descriptive Statistics

### Demographics:

Variable	n=1971
<b>Age</b>	
Mean (SD)	31.03 (10.15)
Median	29
Range	18–82
<b>Sex</b>	
Male	78%
Female	22%
<b>Race</b>	
White	40%
Black	58%
Other	2%
<b>Marital Status</b>	
Never Married	54%
Married	22%
No Longer Married	24%
<b>Dependents</b>	
None	45%
1	20%
2	17%
3 or more	17%
<b>Dependents Living with Defendant</b>	
None	65%
1	14%
2	11%
3 or more	10%
<b>Primary Language</b>	
English	99%
Other	1%
<b>Able to Read</b>	
No	2%
Yes	98%
<b>Able to Write</b>	
No	2%
Yes	98%
<b>Level of Education</b>	
Mean (SD)	12 (1.83)
Median	12
Range	3–17



**Health:**

Variable	n=1971
<b>PHYSICAL/MENTAL:</b>	
Current Physical Health Problems	
No	86%
Yes	14%
Current Mental Health Problems	
No	94%
Yes	6%
Current Physical/Mental Health Treatment	
No	87%
Yes	13%
<b>SUBSTANCE ABUSE:</b>	
Current Alcohol Abuse	
No	77%
Yes	23%
Prior Alcohol Abuse	
No	76%
Yes	24%
Current Drug Abuse	
No	78%
Yes	22%
Prior Drug Abuse	
No	64%
Yes	36%
Current Drug/Alcohol Treatment	
No	98%
Yes	2%

# Appendix D

## Descriptive Statistics (cont.)

### Community and General Stability:

Variable	n=1971
<b>RESIDENCE:</b>	
Fixed Address	
No	5%
Yes	95%
Time at Current Address	
Less than 1 Year	39%
1 Year or more	61%
Home Phone	
No	24%
Yes	76%
Years in Area	
Mean (SD)	16.28 (14.04)
Median	15
Range	0–64
Years in State	
Mean (SD)	20.28 (14.18)
Median	20
Range	0–66
Address Changes Last 2 years	
Mean (SD)	.88 (1.14)
Median	1
Range	0–12
<b>TRANSPORTATION:</b>	
Vehicle Access	
No	35%
Yes	65%
Public Transportation Access	
No	38%
Yes	62%

Variable	n=1971
<b>EMPLOYMENT:</b>	
Currently Employed	
No	36%
Yes	64%
Length of Current Employment	
Unemployed or Newly Employed	64%
1 to 3 years	20%
4 or more years	16%
Employed During the Last 2 Years	
No	56%
Yes	44%
Employed During the Last 2 Years or Primary Child Caregiver	
No	49%
Yes	51%
<b>INCOME:</b>	
Other Income	
No	88%
Yes	12%
Net Monthly Income	
Mean (SD)	\$971 (\$1206)
Median	\$800
Range	\$0–\$20,000
<b>STUDENT STATUS:</b>	
Currently a Student	
No	94%
Yes	6%
Months a Student in last 24	
Mean (SD)	1.57 (4.74)
Median	0
Range	0–24

**Criminal History:**

Variable	n=1971
<b>CURRENT CHARGES:</b>	
Charge Type	
Misdemeanor	66%
Felony	34%
Charge Category	
Theft	17%
Narcotics	11%
Failure to appear	9%
Violent	23%
Traffic	21%
Other	19%
Total Number of Charges	
1	68%
2	20%
3 or more	11%
<b>CURRENT STATUS:</b>	
Outstanding Warrant(s)	
No	95%
Yes	5%
Pending Charge(s)	
No	77%
Yes	23%
Community Supervision	
No	86%
Yes	14%

Variable	n=1971
<b>PRIOR HISTORY:</b>	
Criminal History	
No	29%
Yes	71%
Prior Supervision Revocation(s)	
No	94%
Yes	6%
Prior Escape or Flight	
No	99%
Yes	1%
Misdemeanor Convictions	
None	31%
1	16%
2 or more	53%
Felony Convictions	
No	74%
Yes	26%
Misdemeanor Convictions Last 5 years	
None	42%
1	19%
2 or more	39%
Felony Convictions Last 5 years	
No	83%
Yes	17%
Failure to Appear Convictions	
None	85%
1	10%
2 or more	6%
Violent Convictions	
None	82%
1	11%
2 or more	7%
Drug Convictions	
None	82%
1	10%
2 or more	8%

# Appendix E

## Bivariate Statistics

### Demographics:

Variable	n=1971
<b>Age</b>	
Successful	
Mean (SD)	31.41 <sup>a</sup> (10.24)
Unsuccessful	
Mean (SD)	30.04 (9.82)
<b>Sex<sup>1</sup></b>	
Male	71% <sup>a</sup>
Female	80%
<b>Race<sup>1</sup></b>	
White	76% <sup>b</sup>
Black	70%
Other	79%
<b>Marital Status<sup>1</sup></b>	
Never Married	69% <sup>a</sup>
Married	79%
No Longer Married	74%
<b>Dependents<sup>1</sup></b>	
None	71%
1	72%
2	73%
3 or more	76%
<b>Dependents Living with Defendant<sup>1</sup></b>	
None	71%
1	74%
2	76%
3 or more	78%
<b>Level of Education</b>	
Successful	
Mean (SD)	11.81 (1.86)
Unsuccessful	
Mean (SD)	11.7 (1.74)

Note: <sup>1</sup> values represent percent successful

<sup>a</sup> categories within this variable are significantly different at  $p < .01$

<sup>b</sup> categories within this variable are significantly different at  $p < .05$

**Health:**

Variable	n=1971
<b>PHYSICAL/MENTAL<sup>1</sup>:</b>	
Current Physical Health Problems	
No	72%
Yes	76%
Current Mental Health Problems	
No	73%
Yes	72%
Current Physical/Mental Health Treatment	
No	73%
Yes	73%
<b>SUBSTANCE ABUSE<sup>1</sup>:</b>	
Current Alcohol Abuse	
No	73%
Yes	73%
Prior Alcohol Abuse	
No	73%
Yes	72%
Current Drug Abuse	
No	76% <sup>a</sup>
Yes	61%
Prior Drug Abuse	
No	79% <sup>a</sup>
Yes	62%

Note: <sup>1</sup> values represent percent successful

<sup>a</sup> categories within this variable are significantly different at  $p < .01$

# Appendix E

## Bivariate Statistics (cont.)

### Community and General Stability:

Variable	n=1971
<b>RESIDENCE:</b>	
Fixed Address <sup>1</sup>	
No	62% <sup>b</sup>
Yes	73%
Time at Current Address <sup>1</sup>	
Less than 1 Year	69% <sup>a</sup>
1 Year or more	75%
Home Phone <sup>1</sup>	
No	64% <sup>a</sup>
Yes	75%
Years in Area	
Successful	
Mean (SD)	16.3 (14.05)
Unsuccessful	
Mean (SD)	16.21 (14.01)
Years in State	
Successful	
Mean (SD)	20.6 (14.36)
Unsuccessful	
Mean (SD)	19.44 (13.66)
Address Changes Last 2 years	
Successful	
Mean (SD)	.86 (1.14)
Unsuccessful	
Mean (SD)	.92 (1.14)
<b>TRANSPORTATION:</b>	
Vehicle Access <sup>1</sup>	
No	64% <sup>a</sup>
Yes	77%
Public Transportation Access <sup>1</sup>	
No	76% <sup>a</sup>
Yes	70%

Variable	n=1971
<b>EMPLOYMENT:</b>	
Currently Employed <sup>1</sup>	
No	69% <sup>b</sup>
Yes	74%
Length of Current Employment	
Unemployed or Newly Employed	70% <sup>a</sup>
1 to 3 years	74%
4 or more years	81%
Employed for the Last 2 Years	
No	68% <sup>a</sup>
Yes	78%
Employed for the Last 2 Years or Primary Child Caregiver	
No	67% <sup>a</sup>
Yes	78%
<b>INCOME:</b>	
Other Income <sup>1</sup>	
No	72%
Yes	74%
Net Monthly Income <sup>2</sup>	
Successful	
Mean (SD)	\$1029 <sup>a</sup> (\$1284)
Unsuccessful	
Mean (SD)	\$818 (\$958)

Note: <sup>1</sup> values represent percent successful; <sup>2</sup> numbers have been rounded to the nearest whole dollar

<sup>a</sup> categories within this variable are significantly different at  $p < .01$

<sup>b</sup> categories within this variable are significantly different at  $p < .05$

**Criminal History:**

Variable	n=1971
<b>CURRENT CHARGES<sup>1</sup>:</b>	
Charge Type	
Misdemeanor	77% <sup>a</sup>
Felony	64%
Charge Category	
Theft	66% <sup>a</sup>
Narcotics	60%
Failure to appear	72%
Violent	76%
Traffic	77%
Other	76%
Total Number of Charges	
1	74%
2	71%
3 or more	69%
<b>CURRENT STATUS<sup>1</sup>:</b>	
Outstanding Warrant(s)	
No	74% <sup>a</sup>
Yes	51%
Pending Charge(s)	
No	77% <sup>a</sup>
Yes	57%
Community Supervision	
No	75% <sup>a</sup>
Yes	60%

Variable	n=1971
<b>PRIOR HISTORY<sup>1</sup>:</b>	
Criminal History	
No	84% <sup>a</sup>
Yes	68%
Prior Supervision Revocation(s)	
No	74% <sup>a</sup>
Yes	58%
Misdemeanor Convictions	
None	83% <sup>a</sup>
1	76%
2 or more	65%
Felony Convictions	
No	77% <sup>a</sup>
Yes	61%
Misdemeanor Convictions Last 5 years	
None	82% <sup>a</sup>
1	73%
2 or more	63%
Felony Convictions Last 5 years	
No	75% <sup>a</sup>
Yes	60%
Failure to Appear Convictions	
None	75% <sup>a</sup>
1	67%
2 or more	44%
Violent Convictions	
None	75% <sup>a</sup>
1	66%
2 or more	53%
Drug Convictions	
None	76% <sup>a</sup>
1	60%
2 or more	56%

Note: <sup>1</sup> values represent percent successful

<sup>a</sup> categories within this variable are significantly different at p <.01

# Appendix F

## Binary Logistic Regression Model

Variable	$e^B$	95% CI	B (SE)	Wald	p
Charge type is felony	1.606	1.291-1.997	.474 (.111)	18.128	.000
Pending charges exist	1.925	1.519-2.438	.655 (.121)	29.435	.000
Outstanding warrants exist	2.070	1.295-3.310	.728 (.239)	9.246	.002
Prior criminal history exists	1.563	1.183-2.065	.447 (.142)	9.875	.002
Failure to appear convictions				18.751	.000
None	1.0	Reference			
One	.953	.673-1.350	-.048 (.178)	.074	.785
Two or more	2.440	1.615-3.686	.892 (.211)	17.936	.000
Violent convictions				8.614	.013
None	1.0	Reference			
One	1.142	.824-1.585	.133 (.167)	.636	.425
Two or more	1.760	1.204-2.572	.565 (.193)	8.534	.003
At current address less than 1 year	1.433	1.157-1.774	.360 (.109)	10.907	.001
Has not been employed past 2 years and not primary child caregiver at time of arrest	1.368	1.104-1.695	.313 (.109)	8.180	.004
Has a history of drug abuse	1.567	1.256-1.954	.449 (.113)	15.887	.000
Constant	.099		-2.314 (.145)	253.762	.000

Note: Model statistic:  $\chi^2(11) = 217.326, p < .001$ ; Nagelkerke pseudo  $R^2 = .151$

Goodness of fit:  $\chi^2(8) = 7.692, p = .464$



# Appendix G

## Virginia Pretrial Risk Assessment Instrument

Instrument Completion Date \_\_\_\_\_

First Name \_\_\_\_\_ Last Name \_\_\_\_\_ Race \_\_\_\_\_

SSN \_\_\_\_\_ Sex \_\_\_\_\_ DOB \_\_\_\_\_

Arrest Date \_\_\_\_\_ Court Date \_\_\_\_\_

Charge(s) \_\_\_\_\_

Bond Type \_\_\_\_\_ Bond Amount \_\_\_\_\_

### Risk Factors

- |  |                                    |
|--|------------------------------------|
| 1. Charge Type                               | Felony or Misdemeanor              |
| 2. Pending Charge(s)                         | Yes or No                          |
| 3. Outstanding Warrant(s)                    | Yes or No                          |
| 4. Criminal History                          | Yes or No                          |
| 5. Two or More Failure to Appear Convictions | Yes or No                          |
| 6. Two or More Violent Convictions           | Yes or No                          |
| 7. Length at Current Residence               | Less than 1 Year or 1 Year or More |
| 8. Employed/ Primary Child Caregiver         | Yes or No                          |
| 9. History of Drug Abuse                     | Yes or No                          |

### Risk Level



Risk Factor(s) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Comments/Recommendations \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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