



FOURTH JUDICIAL DISTRICT

Building and Validating the 2007 Hennepin County Adult Pretrial Scale

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Introduction

The Fourth Judicial District (Hennepin County) has a rich history of pretrial scale use. These statistical tools help to make the pretrial release decision based on objective information that is predictive of pretrial failure. The first such tool used in this jurisdiction was a modified Vera scale in 1972 (designed by the Vera Institute). This 1972 tool was evaluated (Osterbaan, 1986; Bennett and Ford, 1988) and found to contain items that were not racially neutral but changes did not occur. The Vera scale, designed to predict only part of pretrial failure: failure to appear, did not promote confidence in the scale's ability to predict new offenses. Validation and analysis of the 1972 Vera scale, undertaken in the early 1990s by Goodman (1992) led to the creation of a new scale in 1992 in use by Hennepin County/Fourth Judicial District for the following fourteen years (see Appendix A).

My previous work (Podkopacz, 2006) evaluated the 1992 Pretrial Scale and found four of the elements to be non-predictive and three of these to be racially biased. Additionally, I found that the pretrial unit was asking for overrides in 47% of the cases leading one to wonder why a Pretrial Scale was of any use.

The Fourth Judicial District Bench convened a Pretrial Committee (composed of judges, court and probation staff and researcher)¹ to develop a revised Pretrial Scale that eliminates non-predictive and racially non-neutral items and contains new items or modifies current predictive items. Adding or modifying items would address the override issue uncovered in the 2006 research, hopefully.

This paper examines the steps taken to create a new Pretrial Scale in the Fourth Judicial District that a) specifically solves the override issue and b) creates a new scale that predicts pretrial failure with only elements that are racially non-neutral. Therefore, the paper will help the reader discover:

- 1) The reasons that the Pretrial Unit asked for an override under the old scale
- 2) How these reasons guided the revision to scale items or add new scale items
- 3) How testing of the revised scale was conducted prior to implementation
- 4) The override rate once implemented
- 5) The predictive ability of the revised scale and scale elements

¹ The Criminal Committee of the Fourth Judicial District voted on any changes to the Pretrial Scale recommended by the Pretrial Committee. Once cleared by the Criminal Committee, the Executive Committee of the Fourth Judicial District reviewed and voted on changes to the Pretrial Scale. Our Pretrial Committee included three judges; the Chief Judge of the District and the Presiding Criminal Court Judge and the Assistant Presiding Criminal Court Judge as well as representatives from court administration, probation and myself.

The Pretrial Committee decided that this jurisdiction would maintain three levels of risk: those that could be released on their own recognizance (called NBR-No Bail Required in this jurisdiction), those who could be released with conditions attached during the pretrial period (called CR - Conditional Release), and those with bail amounts attached to their case (called Bail Required). Defendants could be in the 'bail required' category by the number of points that they accumulated on the Pretrial Scale or through the type of offense for which they were charged. For defendants with offenses on the Judicial Review list, only a judge could set the bail. Some of these defendants were able to post bail or secure a bond and therefore obtain release, while others stayed in jail through their pretrial period. About 80% of the defendants arrested in the Fourth Judicial District end up out of jail prior to disposition. For all defendants whose scale score did not reach the 'Bail required' criterion, other than those charged with a Judicial Review offense, the Pretrial Unit had release authority.

Pretrial failure is defined as either a new offense during the pretrial period (pretrial crime) or failing to appear for a hearing (FTA pretrial). This study operationalizes FTA pretrial as a defendant for whom a bench warrant is issued for failure to appear at a hearing. Pretrial crime in this jurisdiction could be either a new conviction or a new charge. In Hennepin County, not all criminal charges result in arrests. About half of the lowest level non-felony cases are never arrested (misdemeanor crimes). The misdemeanor offenses that result in arrests include domestic assault, simple assault, driving under the influence, etc. Other misdemeanor offenses typically do not result in arrests even though they technically can be brought to jail. Therefore, the number of unique cases that are charged exceeds the number of cases arrested. This study will examine charges and convictions but the Pretrial Committee decided to choose Pretrial Convictions as the outcome variable.

Changing the Pretrial Scale

Examining the Reasons for the Overrides

Some preliminary work was necessary in order to recommend changes to the pretrial tool; namely finding out why overrides of the scale occurred in nearly half of the evaluations. The Pretrial Committee believed that the key to redesigning the pretrial scale was to study the reasons for the overrides – adding the missing elements could mean utilizing an objective scale for all defendants instead of only half of them. Each bail evaluation that resulted in an override was accompanied by a mandatory written rationale describing the reason the pretrial officer was requesting an override. Therefore, analysis of the overrides followed two different but complementary methods: interviews

with the pretrial unit about why they asked for overrides and examination of their written reasons through content analysis.

The interviews with the Pretrial Unit occurred in two group sessions that worked more like focus groups. The first one, held prior to examining their written reasons for overrides helped to define the categories for the content analysis. The second session occurred after the content analysis examination and served as a validation of the content analysis findings. The content analysis of a random sample of 15% of the override cases and accompanying bail evaluations yielded nearly 300 cases. Overrides could be for less restrictive release decisions than the scale recommended (NBR – straight release requested by Pretrial when the scale recommended CR – conditional release) or for more restrictive release decisions (bail required requested by Pretrial when the scale recommended conditional release). Of all the overrides, 11% were asking for less restrictive options than the scale would have called for (Override Less) and 36% were asking for more restrictive release options than the scale (Override More).

Both the content analysis of the reasons for the overrides and the conversations with the pretrial officers suggests that indicators on the full bail evaluation (Appendix B) but not on the Pretrial Scale itself to be important factors behind the overrides. In other words, additional information captured on the bail evaluation but not included in the Pretrial Scale in place at the time held critical elements for the Pretrial Officers.

The most common reasons given for less restrictive recommendations was that the prior offenses were very old or that the defendant had been clean for the last 5-10 years, the victim was not in fear for his or her safety, or that the number of prior failure to appears (FTA) was small or the history of FTA was old.

On the 'Override More' side pretrial officers cite victim safety, chemical dependency issues, mental health issues or refusal by the defendant to stay on his/her medication as reasons to request a more restrictive override. In addition, pretrial officers often ask for more restrictive release decisions when they do not have all of the information available to them, such as when they have not seen the police report, had not been any to contact the victim or when they are unable to determine whether a weapon was involved in the commission of the crime. Moreover, for some lower level crimes (gross and common misdemeanor crimes or felony level property crimes) the scale does not differentiate whether the defendant had one or ten prior offenses and the same was true for failure to appear – six points are added to the scale score for one missed appearances or ten missed appearances. For defendants with

multiple past low level convictions or multiple failures to appear the probation officers would ask for overrides that are more restrictive. Finally, when defendants had a number of the issues listed above they would ask for an override. Meetings with the pretrial unit corroborated these content analysis findings.

This lists of other elements help to frame the examination of tools in use in other jurisdictions. We focused on validated scales to determine if there were elements found to be predictive and to examine the format of the element: was it a dichotomy, an ordinal scale or a nominal scale item. The next section defines our findings from a review of the literature at the time.

Literature Review

Although the evidence-based literature was expanding in the area of community corrections during this time, assessments of pretrial risk was still quite limited in 2008 while this new scale was being created. There were only a few locations that had validated a pretrial scale: New York (Siddiqi, 2005) and Virginia (Von Nostrand, 2003) are two of the best known. In neither case, were these jurisdictions able to predict a higher risk level than Hennepin County's old scale². In addition, many researchers have stated that these scales need to reflect the population for which it will be applied (Goldkamp et.al., 1995), so the Pretrial Committee decided not to adopt a scale from another jurisdiction but to adjust the current 1992 scale. In addition, most of the elements that were on the New York and Virginia scale were already captured on the Hennepin County scale and those that were not, were rejected by the Pretrial Committee as not applicable to Minneapolis and the surrounding areas. Therefore, the adjustments needed for our scale included removing some items, modifying others and adding some elements.

Removing Non-predictive Items

The first step in this process was to discard the non-predictive and non-neutral items from the scale; to keep, but possibly modify, the predictive items; and finally to add new items that relate to failures (either new offense or missing court appearances) based on empirical evidence. One of the items that we discarded was whether a weapon was involved in the commission of the alleged crime. Since the Hennepin County scale gave people more points for being charged for serious crimes against persons – most of which have a weapon involved (assault, robbery, murder, etc.) the assumption was

² For example, Virginia's pretrial tool explained 15% of the variance in pretrial failure that was less than the Hennepin County scale of 24%.

that the element was captured in the current offense. Therefore, in essence, this indicator is already in the scale and adding it as a separate item over-specified the model even though it did not reach the level of multicollinearity.

Another item removed was living alone. Defendants received a point for living on their own compared to living with a relative or some other unrelated person. Finally, defendants received a point if they were under the age of 21 when they allegedly committed the offense. None of these three items has any relationship to committing a crime pretrial or to failure to appear pretrial and all of them significantly relate to race in some way. Although minority defendants more often identified as having used a weapon and with being younger during the commission of the crime, whites were more likely to live alone. For both groups, these items were adding to their total pretrial points and possibly keeping them incarcerated even though these three items had no relationship to pretrial failure.

The final element removed from the old scale was the length of time that a defendant had been a Minnesota resident. This item did not relate to anything on the scale – neither minorities nor whites are more likely to be new residents and being a new resident did not relate to pretrial crime or pretrial failure to appear. Simply put – it did not belong on the scale.

Removing these four items from the scale left four other items: current offense, lack of employment, prior adjudication and prior failure to appear. Three of these changed based on the content analysis of the override reasons: current offense, prior conviction history and prior history of missing court appearances. The employment variable was the only element that did not change.

Modifying Items on the Scale

In the discussions with the pretrial unit and from the content analysis, it became clear that the current offense needed modification. Recall that current offense is the offense charged by a prosecutor after investigating the arresting information. The original analysis that helped to create the 1992 scale included felony and gross misdemeanor charges only in the research to design the scale. By the time the scale was finished 18 months later in 1992, the decision was to have the pretrial unit conduct bail evaluations on all charged offenders brought to the Adult Detention Center. Therefore, the pretrial unit felt a need to differentiate the more serious non-felony offenders but had no research to direct how. The Pretrial Officers were keenly aware that the previous method was not sufficient. The Pretrial committee decided to change the points for the current offense indicator to reflect the following:

- 1) 12 points if charged with a felony offense that was on the Judicial Review list³
- 2) 6 points for any other felony offense, or
- 3) 6 points for any non-felony offense on the Judicial Review list (domestic assault charges or any domestic related charges, and
- 4) 3 points for Gross Misdemeanor DUI (Driving Under the Influence)⁴
- 5) 0 points for all other arrested offenses

The pretrial unit, after reviewing the restructured current offense felt it captured their concerns with the previous scale. All felony level cases and the most serious non-felony cases (domestics and DUI) had points assigned commensurate with their severity. Person offenses receive more points than non-person offenses. This new structure for the current offense better captured the severity ranking with which the pretrial unit felt comfortable.

Conversations about 'prior adjudication' led to many interesting discussions. During the course of the interviews with the pretrial unit, it became clear that their belief was that the pretrial scale did an inadequate job of identifying chronic offenders. The old scale capped the number of points that a defendant could get for prior convictions that were not person-based offenses (like property or drug offenses) and so those offenders with multiple property felonies, for instance, could get the same number of points as a person with one prior property felony. On the previous scale, each person-based conviction⁵ was cumulative on the scale. The pretrial unit suggested that if the non-person offenses were cumulative as well it would better capture the chronic offenders. The Pretrial Committee agreed in principle but wanted to see the total effect on the scale before deciding. This decision to make the points for non-person convictions cumulative could affect the total scores and possibly hold more people in jail. Once the final scale is complete, there will be a need to assess this possible system impact.

Another concern of the pretrial unit was to be able to identify those defendants who had had a number of prior offenses but had been clean and compliant in the recent past. The pretrial unit suggestion of a 10-year window for non-person offenses might address this concern. Any property or

³ These offenses are mostly felonies against persons or presumptive commit to prison felonies under the MN Sentencing Guidelines Commission.

⁴ A Gross Misdemeanor DUI is a DUI with one or more aggravating factors such as having a child in the car with you, having a blood alcohol level of .20 or higher, having a prior DUI conviction, etc. A felony level DUI receives 6 points.

⁵ Person convictions include cases such as assaults (including domestic assault), homicides, robbery, burglary or arson of an occupied building, etc.).

drug offense older than 10 years would not count in the cumulative prior history. Although the Pretrial Committee was in favor of this adjustment, the managers of the pretrial unit asked to rescind this suggestion. Their concern was that this might add significantly to the amount of time it takes to complete the prior history score of defendants. Instead, the decision was to have the staff include all prior convictions in a cumulative fashion and let the attorneys argue the merit of their inclusion at the bail hearing. Exclusion of older offenses could be an argument for a defense attorney to make in court. Likewise, inclusion of these offenses could be an argument at a bail hearing by a prosecutor. The recommendation that went to the Criminal Committee was:

- 1) 9 points for each prior felony *person* conviction
- 2) 6 points for each prior non-felony *person* conviction
- 3) 2 points for each prior felony *non-person* conviction
- 4) 1 point for each prior non-felony *non-person* conviction
(Excluding non-alcohol traffic offenses)
- 5) 0 points for all others

Finally, the pretrial unit argued that defendants with a history of missing more than 2 hearings within a 3 year window means something substantively different than missing one or two appearances. Their assessment was that missing a court appearance once or twice might be a mistake but three or more missed hearings indicate a flagrant disregard of court orders. In the prior scale, defendants who miss even one hearing had six points added to their overall scale. The Pretrial Committee decided to recommend two different levels of points for those 'flagrant' and those mistaken failures to appear.

- 1) 9 points for 3 or more prior failure to appear bench warrants within three years
- 2) 6 points for 1 or 2 prior failure to appear bench warrants within three years
- 3) 0 points for no prior bench warrants.

These changes to current offense, prior conviction history and prior failure to appear conclude the changes made to the items that were already on the pretrial scale. As mentioned above outstanding issue was how adding all these changes to the prior history of a defendant might affect the overall score and therefore the possibility of more defendants being held instead of being able to be released. The Pretrial Committee decided to wait for the final version of the scale and thoroughly test this issue (see section on Testing Prior to Implementation). The next section describes the decisions to include new items on the scale.

Adding New Elements to the Pretrial Scale

During the development of the new pretrial scale, the Fourth Judicial District was also working with Professor Doug Marlowe (Department of Psychiatry, University of Pennsylvania) to develop a Risk and Need Triage tool (RANT) for the county's newly revised Drug Court. This tool identifies defendants at high risk to reoffend and who demonstrate a high need in the area of chemical dependency since they are appropriate for Drug Court. The Treatment Research Institute (TRI) conducted extensive meta-analyses on recidivism.⁶ With the elements elucidated by the pretrial unit to explain their override requests in mind, the Pretrial Committee reviewed the items on the RANT to determine if there were items that might belong on the Pretrial tool. In particular, the Pretrial Committee discussed assessing mental deficiencies, chemical issues, and homelessness.

Many of these elements are on the full Bail Evaluation so the ability to review their impact exists. It was determined that having an indicator on the scale for mental health issues would not tap a large enough group of people to deem it a valid indicator of pretrial failure. Risk scales should define 'most defendants' and having an element that defines less than 15% of the population would have trouble predicting pretrial failure. This was true with some of the indicators from the prior scale that were not valid as well; only 11% of the defendants lived alone and that element wasn't related to pretrial failure. Likewise, less than 5% of the defendants received a point for living in Minnesota less than 3 months and it did not relate to pretrial failure. In addition, although the pretrial unit can suggest the possibility of psychological deficiencies, they did not feel comfortable scoring a person on that topic. The bench decided to continue handling mental health issues in the same manner that they currently handle them...namely, mentioning it on the bail evaluation for further investigation if deemed necessary by the judge.

Other reasons that considered items were rejected included being too subjective, relating to other elements already in the scale (multicollinearity), or defining too few people as discussed above. For example, being on probation or parole is highly related to prior convictions and in general, does not belong on the scale if prior convictions are an element. The defendants on probation or parole all have

⁶ The items on the RANT are proprietary and interested readers should contact TRI for further information. The Treatment Research Institute is a research and development group specializing in science-driven transformation of addiction and substance use practice and policy cofounded by faculty from the University of Pennsylvania's Center for the Studies of Addiction in 1992. An evaluation of the RANT tool is presented in *Property Drug Calendar Evaluation and RANT (Risk and Needs Triage) Assessment by Anne Caron of the Fourth Judicial District Research Division, August 2009.*

prior convictions and therefore the relationship between legal status of probation or parole and prior convictions is extremely high.⁷ An example of an item considered too subjective is ‘level of victim concern for safety’. Creating consistency between pretrial workers in categorizing victim ‘level of concern for safety’ would be difficult. Another example of an element deemed too subjective for the scale was the proportion of time a defendant spends interacting with people engaged in criminal activity or illicit drug use.

Homelessness and/or moving from address to address were something that the committee was comfortable adding to the scale. The research behind the RANT determined that a defendant who had moved 3 times or more in a year or who was homeless had a higher likelihood of being at risk to commit another crime. Unstable living arrangements are generally associated with a greater likelihood of failure to comply with pre-trial supervision requirements. Being homeless could include moving around between different friend’s houses or sleeping in different shelters throughout the year. This had ‘face validity’ to the pretrial unit and the judges on the Pretrial Committee. Operationalization of this element was a defendant who had three different addresses in the last year, having no permanent address or an address of a county run shelter. Defendants who met this criterion received an extra point on the Pretrial Scale.

Many research studies point to chemical abuse relating to continued crime violations and the research conducted by TRI also found this correlation. Defining how the pretrial unit was going to operationalize this indicator resulted in many interesting conversations between probation and the bench. The definition agreed to was a defendant either admits to current substance abuse issues or is engaging in a pattern of problematic chemical use that represents an increased risk of pretrial failure. A defendant who admitted to substance issues received an extra two points on the Pretrial Scale.

Therefore, the ‘Other Risk Factors’ or personal information on the defendant that the Pretrial Committee recommended was as follows:

- 1) 3 points for employed less than 20 hours per week, not being in school or not receiving public assistance
- 2) 2 points for problematic substance abuse issues
- 3) 1 point for being homeless and/or 3 or more addresses in the last year

⁷ Correlations over .6 are highly suspect for multicollinearity and need close examination. In these cases, analysts should test to see which of the two indicators explains the most about the outcome variables and only include that indicator.

These three areas are assessed and scored based mainly on self-report information from the defendant, although information from collateral sources and the probation officer's professional judgment may play a role in determining whether the factor should be scored or not.

Official records are the source for criminal history and bench warrant information. The score assigned to the current offense comes from the severity of the most serious offense charged on the complaint. The narrative portions of the bail evaluation (collateral and victim information, and probation officer's comments), which are not scored, provide further context for the judge making release decisions.

Release Recommendations from the Pretrial Unit

Perhaps the single biggest change from the 1992 scale to the new 2007 Pretrial Scale is the fact that the bench no longer expects or accepts a recommendation for release from the pretrial unit. Although the bench holds the pretrial unit's opinion of the defendant in high regard, they felt that they had reneged on their own responsibility. Over the course of the 14 or so years of using the old scale, the bench began to depend on the pretrial recommendation to such an extent that it followed the recommendation nearly unanimously. During that time, the bench had many new judges join their ranks and some of the newer judges did not have any knowledge about the elements composing the Pretrial Scale nor did they recognize the pretrial score or know what it meant. They only paid attention to the pretrial recommendation and then followed that recommendation. The bench, after full review, decided to take the back the decision to release a defendant during the pretrial period and make it their own.

Another reason for having the decision rest on their own backs came when the bench found out how the pretrial unit actually conducts their work. There was a difference between the perceptions of how pretrial works by the bench and the reality of how the unit's work is actually organized. What the bench saw, in court, was one of the most senior pretrial officers presenting the release recommendation. In their perception, this senior agent had completed the pretrial/bail evaluation themselves. The reality of the unit was that every pretrial score was composed of elements completed by as many as 4-5 different agents – some of whom were temporary employees. Official records were analyzed and scored by one person, interviews with the defendant by another, collateral phone calls by a third, and sometimes a fourth person would be putting all the elements together on the pretrial form.

Finally, the fifth person would actually make the release recommendation in the courtroom in front of the judge. Once the judges realized this, they felt better about making the final decision on their own.

Testing the New Pretrial Scale Prior to Implementation

Prior to accepting the proposed changes, the Pretrial Committee wanted to test how the new scale was going to affect jail populations and the percentage of defendants who get out of jail prior to disposition. In addition, the judges on the Pretrial Committee needed to feel comfortable with how the scale had changed before they could recommend the changes to their colleagues. To address this need, a panel of three judges reviewed 100 bail evaluations scored using the old 1992 scale and the new 2007 scale. They compared how the old scale slotted the person into one of three groupings (NBR, CR or Bail required) to the new scale. Discussion centered on how both scales, old versus new, categorized each defendant and the judges' comfort in how a defendant's category might have changed under the new scale.

It became very clear why the pretrial unit had been overriding the scale when these three judges reviewed the old scale with the new one. Defendants with quite lengthy criminal histories that were not violent in nature had significantly lower scores with the old scale (where these offenses capped at 3 points). In addition, some non-felony person offenses scored lower under the new scale as well. All three of the judges were very comfortable with how the new scale categorized the defendants and felt that they could argue in its favor to the rest of the bench.

In addition, the results from the panel that examined the 100 cases indicated that the new scale was not going to create overcrowding in the pretrial detention facility since it had nearly the same number of defendants in each of the three categories as the old scale did. However, they were not necessarily the same defendants as were in those categories under the 1992 scale. In other words, some people were deemed less serious than under the old scale and some were categorized as more serious under the new scale but the overall number of people in each of the three categories of NBR, CR and Bail Required remained relatively the same.

Once the testing of the new scale was complete, the judicial representatives on the committee brought the proposed new scale to the Criminal Committee of the Fourth Judicial District and after passing that committee it moved on to the Executive Committee for a vote. Judges in the Fourth District rotate through different courts throughout the course of their careers, so all the judges vote on criminal

matters. After the Executive Committee voted in favor of changing the Pretrial Scale, it was put into effect December 2007.

Training the Bench and the Pretrial Unit on the new Pretrial Scale

The bench needed training not only to ensure their understanding of the new scale but also to prepare them for the pretrial officers no longer giving them release recommendations. Multiple discussions occurred with different groups of judges at the various committee meetings and culminated at bench-wide training in early November. This training was spearheaded by the then Chief Judge (The Honorable Lucy Wieland), the Presiding Criminal Judge (The Honorable Margaret Daly), and a criminal division judge (The Honorable Mark Wernick) all of whom were members of the Pretrial Committee, to prepare the bench for a December 2007 implementation of the new scale. Additional work included training material designed for newly appointed judges educating them on the methods of release available and the elements that are part of the Pretrial Scale in the Fourth Judicial District of Minnesota.

Besides training the judges, the pretrial unit had a new learning curve as well. The managers of these employees, all members of the Pretrial Committee, had been bringing back information to their staff throughout the year of designing, testing and refining the new pretrial tool. Once the bench finalized the scale, members of the Pretrial Committee held meetings with the pretrial staff in its entirety to ensure understanding of the current process. Particularly, the bench wanted to be sure that the pretrial unit knew how to ask for an override of the scale if warranted. Although overrides were discouraged in general⁸, all parties knew that a process was needed that allowed the unit to ask for an override if warranted. Chief Judge Lucy Wieland asked the pretrial unit to write down all overrides and send them weekly to her for review. After about nine months of reviewing the cases and reasons for overriding a scale release recommendation using this manual process, the pretrial unit added this element to the electronic version of their data fields to simplify future analysis.

Validation of the New 2007 Pretrial Scale

The next section includes a comparison of the new scale to the old 1992 scale in terms of release decisions. In addition, this report will examine the validity of the new scale to predict pretrial failure as well as identify any non-valid elements and racially or gender biased elements.

⁸ Recall that the pretrial unit's reasons for overrides, after careful analysis and to the extent possible, were included in the new pretrial scale. Therefore, the goal was to keep the overrides on the new 2007 scale to a minimum (below 10%).

Samples

Samples selected are from the first six months of the implementation year (2008) compared to the first six months of the year prior to implementation (2007)⁹. This comparison allows an examination of the types of cases coming to jail and the pretrial unit. In addition, this comparison examines how cases distribute within the three release categories. Sample sizes for both years are over 4,000 cases.

For the validation of the new scale, a case had to have a pretrial window (was released from the jail prior to disposition of the case) to be used in the sample. This sample size was 2,779.

Comparison of Old Scale and New Scale on Release Decisions

Table 1 examines the release decision from two different perspectives: what the scale suggests and what actually happened. This table includes the whole sample from each year; therefore, cases charged with an offense on the Judicial Review list are included. These cases are not eligible for release by the pretrial unit so the reader will notice that the second column under each scale is a combination of pretrial views and judicial decision.

**Table 1. Comparison of New and Old Scale Recommendations and Release Decisions
Percent of Cases in Each of the Three Release Categories**

Release Categories	Old Scale - developed in 1992 Number of Cases = 4,300 (47% Override)		New Scale - developed in 2007 Number of Cases =4,032 (3.4% Override)	
	A. Scale Recommendation	B. Pretrial Recommendation/ Judge Decision	C. Scale Recommendation	D. Pretrial Decision/ Judge Decision
No Bail Required (0-8 points)	25%	18%	21%	20%
Conditional Release (9-17 points)	39%	15%	30%	28%
Bail Required: Held for Review (18+ points)	37%	66%	47%	50%

When the comparison is on the scale recommendation (columns A and C), it is obvious that the changes made to the scale would keep more defendants in jail initially; compare 37% bail required to

⁹ Actual dates for both samples were December 6, 2006 - May 31, 2007 compared to December 6, 2007-May 31, 2008.

47% bail required on the new scale. However, given the high override rate, the more telling comparison is between the Pretrial Recommendation/Judicial Decision on the old scale to what the new scale recommended (column B compared to column C). Under column B scenario, 66% of the defendants fall into the bail hearing or review before a judge category compared to 47% under the new scale. Clearly, adding the different elements to compensate for the overrides moved the overall scale into a direction that was more comfortable for the pretrial unit, as hoped. Also, notice that the differences between the release decisions and the new scale recommendations are very similar to each other (columns C and D). This is also evident by the fact that the override rate is 3.4% for the new scale compared to nearly half of the cases under the old scale.

As mentioned above, Table 1 includes all cases, even cases for which the pretrial unit has no release authority. Table 2 below removes the cases that automatically funnel to a judge for a decision and includes only those cases with current charges of a less serious nature (about 50% of the total bail evaluations in each sample). Some of these cases will still be 'bail required' cases due to the number of overall points a defendant receives on the scale but most of them will be candidates for outright release or conditional release. In this group of less serious cases, the override rate was even higher than 47%; two-thirds of the arrests (66%) were overrides on the old 1992 scale.

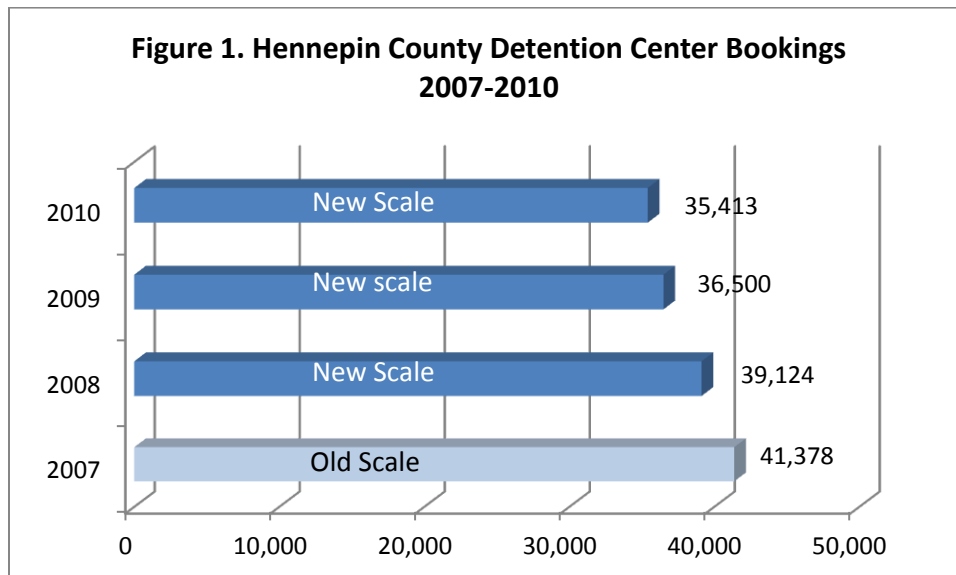
In reviewing columns A and B, notice the percentages of cases for which the old scale would recommend a straight release, 52% compared to 27% that pretrial recommended. At the opposite end of the spectrum, the scale recommended 18% of the cases to require bail while the pretrial unit wanted bail in 50% of the cases. These comparisons show even stronger evidence of how this older scale was not working as designed. The new scale percentages look much more similar to the pretrial unit recommendations – again by design (comparing columns B and C). In addition, the override rate is still under 10%¹⁰.

¹⁰ This seven percent override rate is the same number of cases that but from a smaller set of overall cases.

**Table 2. Non-Judicial Review Case Scale Recommendations and Release Decisions
Percent of Cases in Each of the Three Release Categories**

Release Categories	Old Scale - developed in 1992 Number of Cases = 1,937 Override=66%		New Scale - developed in 2007 Number of Cases =2,124 Override=7%	
	A. Scale Recommendation	B. Pretrial Recommendation	C. Scale Recommendation	D. Pretrial Decision
No Bail Required (0-8 points)	52%	27%	30%	27%
Conditional Release (9-17 points)	29%	22%	29%	26%
Bail Required: Held for Review (18+ points)	18%	50%	41%	47%

The data above would suggest that pretrial detention facility would be not be overcrowded since the number of defendants where bail is required is less than it was previously. To validate this finding, Figure 1 below lists the Hennepin County Detention Center total bookings. As of the end of 2010, the bookings are 14% lower than when the previous pretrial scale was in place. In addition, each of the years since implementing the new scale, the jail population has decreased. One cannot presume that this was *only* because of the pretrial scale since crime rates and arrest rates have decreased during this same time but it is clear that the new pretrial scale is not exacerbating a higher jail population.



Scale Validation

Each element on a risk scale should help to predict the outcome of pretrial failure and the scale as a whole should predict those defendants who will fail. In addition, the scale should classify those more at risk to fail as being the riskier defendants. In other words, defendants with a higher number of points should fail during the pretrial process at a higher rate. Likewise, there should be a rank order in the level of failure among defendants categorized into each release category: those defendants failing at the highest rate should be those in the 'bail required' category followed by defendants in the 'conditional release' and those categorized as a straight release should fail least of all.

Components of validation include analyzing whether each element on the scale is associated with the outcome variables (pretrial crime and failing to appear for a hearing pretrial) through an appropriate analysis. Relationships between scale elements and the outcome variables should be significant while relationships between the elements themselves should not be overly associated (Multicollinear). Examination of correlations will determine multicollinearity. Logistic regression will determine scale strength and unique contributions for each element on the scale. The level of failure for each risk category will be determined by reviewing the percentage of defendants who fail in each.

The population for the validation analysis is slightly different from those listed above. For this analysis, all defendants should have a pretrial window regardless of whether they are released by a judge after Judicial Review or by the Pretrial Unit. The pretrial window includes cases released from detention (as the start of the window) and with a disposition on the case (as the end of the window). There are 2,779 cases handled under the new scale with a valid pretrial window. Table 3 below provides the reader with frequency and percentage on the indicators of interest for the population included in the remaining analysis.

Demographics:

About 80% of the population is male and the average age of the defendants is about 30 years old. The racial breakdown for the population is 40% white, 51% Black or African American, 4% American Indian, 3% Hispanic and 2% Asian. Race will be a dichotomy for the purposes of the regression analysis: minority /non-minority where white non-Hispanic defendants compose the non-minority category.

Table 3. Demographics for Cases for Validation Analysis

N=2,779

-Demographics-

Indicator	Distribution - Category
Gender	20.4% - Female 79.6% - Male
Race	2.1% - Asian 51.1% - Black 4.1% - Indian 42.5% - White 0.3% - Unknown
Age	33 average years old 30 median years old 25% = 24 years old 50% = 30 years old 75% = 41 years old

Dependent Variables

About 17% of the population missed at least one of their hearings during the course of the case for which they were on pretrial release, 12% had a new crime *charged* during the pretrial stage but convictions during the pretrial window defined only 7% of the defendants (see Table 4). Only convictions will define pretrial crime for the regression analysis. About 21% of the validation sample failed during pretrial with either a failure to appear or a new conviction.

Table 4. Dependent and Independent Variables in Validation Analysis

-Dependent Variables-

Indicator (level of measurement)	Distribution - Category
Pretrial Failure to Appear (dichotomy)	17.4% - Yes 82.6% - No
Pretrial Charges (dichotomy)	12.6% - Yes 87.4% - No
Pretrial Convictions (dichotomy)	6.8% - Yes 93.2% - No
Either Pretrial Convictions or FTA (dichotomy)	20.8% - Yes 79.2% - No

Scale Elements:

Serious charges requiring judicial review depict 46% of the population that receive a bail evaluation and have a pretrial window (see Table 5). Other felonies not included in Judicial Review as well as non-felonies on the Judicial Review list (misdemeanor level person offenses such as domestic assault or domestic related offenses) make up another 30% of the population. Finally, 18% represent gross misdemeanor DUI charges and another 6% of the population have misdemeanor charges. For the regression analysis, this variable will be a categorical indicator with four levels: Judicial Review offenses, Other Felony offenses combined with non-felony person offenses, GM driving under the influence and all other offenses.

Other risk factors for this population included unemployment for about 37% of the population, housing instability for about 17% of the population and problematic chemical use for another 17% of the population. Only 3% of the population had all three of these risk factors.

The vast majority of the defendants had no prior failure to appear for hearings (72%), 17% had missed one or two hearings and 12% had missed three or more appearances within the last three years. Prior criminal history, defined here as convictions only (not charges or arrests), averaged 7 points for this population but about half of the defendants had only 2 points. Indeed, 35% of the population had no prior convictions but 10% had between 22-106 points in their history.

Table 5. Scale Elements in Validation Analysis

-Independent Variables-	
Indicator (level of measurement)	Distribution - Category
Current Offense (categorical)	45.8% - Judicial Review Felonies 30.2% - Other Felony or Non-Felony person offense 17.8% - GM DUI 6.2% - Other non-Felony
Unemployed (dichotomy)	63.1% - No 36.9% - Yes
Housing Instability (dichotomy)	83.3% - No 16.7% - Yes
Problematic Chemical Use (dichotomy)	83.3% - No 16.7% - Yes
Prior Criminal History (interval level)	7.2 points average 2.0 points median
	35% = 0 points 50% = 2 or less points 75% = 9 or less points 90%+= 22-106 points
Prior FTA Warrants (categorical)	71.6% - None in last 3 years 16.7% - One or two in last 3 years 11.7% - Three or more in last 3 years

Bivariate Analysis

Table 6 below shows the relationships between the scale elements and the two outcome variables. Recall that all elements on the scale should have a relationship with one or both of the outcome variables in order to be legitimately on the scale. Categorical indicators (current offense and prior bench warrants) are analyzed using Chi-Square statistics since their measurement is at the ordinal level. Current offense goes from Serious Offenses (required Judicial Review prior to the decision to release) to Other Felony Offenses to finally All other Offenses. Prior Bench Warrants have three levels from no prior bench warrants to one-to-two prior bench warrants and finally three or more prior bench warrants. Prior conviction points is an interval level variable and the three ‘Other Risk Factors’ are dichotomized in order to treat them as an interval level indicators. The outcome variables are both interval level indicators where a one indicates pretrial failure and zero if not. These factors that are at an interval level of measurement and those dichotomized are examined with Pearson’s Correction Coefficient.

Table 6. Significance of Relationships between Outcome Indicators and Scale Elements

N=2,779

Indicators	Statistic	Convictions during	Failure to Appear
		Pretrial	Pretrial
Current Offense	Chi-square	***	***
Not Employed	Correlation	**	**
Problematic Substance Abuse	Correlation	*	***
Housing Instability	Correlation	**	***
Prior Conviction Points	Correlation	***	***
Prior Bench Warrants	Chi-Square	***	***

*** significant at .001 level, ** significant at .01 level, * significant at .05 level

All indicators on the scale relate to one or both of the pretrial failure elements. Since they all relate to the outcome variables, they are valid indicators of pretrial risk and therefore there is no need to test for racial bias. Again, the definition in use for bias in a pretrial scale indicator is that the indicators relate to race but are unrelated to pretrial failure. Recall that the older scale (1992) had three elements that awarded points differentially based on a race even though that variable was not significant in predicting pretrial failure. Living alone assigned more points to white defendants while carrying a weapon and being under 21 at the time of the instant offense assigned more points to minority defendants and none of these three indicators predicted pretrial failure.

Table 7 shows the relationship between the outcome variables and the scale elements in a different format and one that some readers might find easier to understand; percentages and averages. For each outcome element, Table 5 gives the percentage of cases that did not fail during pretrial and did fail during pretrial at each level of the scale element or the average/median of each level of the category.

Overall, the base rate of failure is low for pretrial convictions (about 7%) and slightly higher for failure to appear during pretrial at 17%. With the exception of current offense, each risk factor shows clearly that there is a higher percentage of failure in the expected direction. That is, more people fail pretrial when they are unemployed, live in unstable housing situations, have problems with chemical use, have already failed to attend court appearances in the past and have more prior convictions than

less. For the current offense, the category with the highest failure rate is the ‘Other Felony’ category that includes property and drug felonies. These two crime categories have the highest failure rate across many different studies regardless of whether it is pretrial failure or post-disposition/post-incarceration failure (recidivism). This is true whether the length of time to recidivate is 1 year, 2 years, or 3 years.¹¹ Those defendants charged with a Judicial Review felony are the next most likely to fail with new pretrial crime but is one of the least likely of the four categories to fail to appear for a hearing on their case. The offenses selected for Judicial Review are in that category not just because of the failure rate but also because of the cost to public safety in the event of a failure.

Table 7. Relationships between Outcome Indicators and Scale Elements

N=2,779

Scale Elements	Pretrial Crime		Pretrial Failure to Appear	
	None	One or more Convictions	None	One or more Failure to Appear
Current Offense				
Judicial Review Felonies (N=1,274)	93.4%	6.6%	85.5%	14.5%
Other Felonies + (N=838)	90.1%	9.9%	77.8%	22.2%
GM DUI (N=495)	96.8%	3.2%	85.7%	14.3%
Non-Felony (N=172)	96.7%	3.3%	83.2%	16.8%
Employment				
Employed (N=1,754)	94.5%	5.5%	85.5%	14.5%
Not Employed (N=1,025)	90.9%	9.1%	77.8%	22.2%
Housing Stability				
Stable (N=2,314)	93.8%	6.2%	83.9%	16.1%
Unstable (N=465)	90.3%	9.7%	76.3%	23.7%
Chemical Use Problems				
No Problem (N=1,950)	93.7%	6.3%	84.3%	15.7%
Problematic (N=829)	91.9%	8.1%	78.8%	21.2%
Prior Bench Warrants for FTA				
None (N=1,989)	95.2%	4.8%	87.0%	13.0%
One or Two within 3 years (N=464)	89.7%	10.3%	73.7%	26.3%
Three or more within 3 years (N=326)	85.9%	14.1%	68.4%	31.6%
Average Prior Conviction Points	6.7	12.6	6.5	10.3
Median Prior Conviction Points	2.0	6.0	1.5	4.0
Overall Population Percentage	93.2%	6.8%	82.6%	17.4%

¹¹ Some of the most recent Bureau of Justice Statistics can be reviewed at: <http://www.bjs.gov/content/reentry/recidivism.cfm>

Multivariate Analysis

The method used for this multivariate analysis is Binary Logistic Regression; a statistical technique that uses a set of variables to predict an outcome when the outcome has only two options. In this case, the two options for the dependent or outcome variable is failure or no failure. Failure can mean that the defendant committed a new offense for which there was a conviction during the pretrial period or it can mean that they failed to appear for court hearing during pretrial. All regression analyses controls each variable while looking for independent contribution of each element or independent variable to the outcome. In addition, it measures the goodness of fit of the entire set of independent variables or the model. This technique is appropriate for a validation study, as it uses elements on the pretrial tool to predict the presence or absence of pretrial failure.

The two elements on the scale that measure prior history, prior convictions and prior FTA are the most powerful pretrial failure predictors (see Table 8). Total prior conviction history significantly and independently helps to predict both pretrial crime and failure to appear. This variable is an interval level scale that ranges from zero to 106. The higher the prior criminal conviction points, the more likely the defendant will fail pretrial.

Prior failure to appear history is in the equation as a categorical variable. The variable as a whole is a significant and independent contributor to explaining the outcome variables of pretrial failure. As a categorical variable, the last category, three or more failures to show up at a court hearing is the excluded category and as such does not show in the table. In regression models, the included category of a categorical element is compared to the excluded category. Therefore, for example, defendants with no prior FTAs show a significant negative coefficient and that means that they are significantly less likely to fail pretrial compared to those with three or more failures. Additionally, there is no significant difference between those with one or two prior FTAs and those with three or more FTAs.¹²

The current offense is also a categorical variable and in this case, the excluded or reference category is the most serious type of offense: those on the Judicial Review list. This variable, as a whole, is significantly related to both pretrial crime and failure to appear. Those defendants charged with Other Felony offenses are significantly more likely to commit pretrial crime compared to those

¹² Recall from the interviews with the Pretrial Unit that they believed that this distinction was important. The logistic regression model indicates that this is not true overall.

defendants charged with the excluded category of Judicial Review felonies. In contrast, those defendants charged with a GM DUI or a non-felony offense were not more likely to fail during pretrial by committing and being convicted of a new crime compared to those who allegedly committed a felony on the Judicial Review list. The current offense is also important in determining those most at risk of failing by missing a court appearance. Offenders charged with an Other Felony or a non-felony fail to appear significantly more than those charged with a Judicial Review offense.

The model as a whole is significant and meets the goodness of fit criteria. The amount of explained variance is somewhat low: 7% for pretrial crime and 9% for pretrial failure to appear, but similar to other pretrial models. Crime is a rare event and pretrial crime is even rarer, making prediction of this event difficult with statistical models. Some analysts believe that other statistical techniques such as Rare Events analysis (for example, analysis of wars or epidemiological infections) might reveal a higher percentage of explanation¹³ and that logistic regression sharply underestimate the probability of rare events. The authors and others consider a rare event anything that occurs less than 10% of the time. Since the failure rate in this study is only 7% for pretrial conviction it could fit the definition of rare event, however, the FTA rate is above the 10% threshold. Most pretrial analyses continue to use logistic regression.

¹³ King and Jeng, 2001. "Logistic Regression with Rare Events Data" *Political Analysis*, 9:137-163

Table 8. Testing the Model Effectiveness						
N=2,779						
Independent Variables	Pretrial Convictions ¹⁴			Failure to Appear		
	<i>Coef.</i>	<i>SE</i>	<i>Sig.*</i>	<i>Coef.</i>	<i>SE</i>	<i>Sig.*</i>
Current Offense Total*			.008			.000
Judicial Review Felonies	reference category			reference category		
Other Felonies	.350	.165	.034	.416	.119	.000
GM DUI	-515	.286	.072	.219	.160	.171
Non-Felonies	-.356	.437	.415	.981	.205	.000
Not employed/Not a Student or on Subsidies	.278	.157	.077	.347	.107	.001
Problematic Chemical Use	.138	.164	.402	.254	.112	.023
Housing Instability	.224	.185	.225	.335	.129	.010
Failed to appear within the last 3 years			.000			.000
No prior FTA	-.782	.203	.000	-.883	.147	.000
1or 2 prior FTA	-.204	.224	.362	-.169	.163	.300
3 or more prior FTA	reference category			reference category		
Total prior conviction history score	.018	.005	.000	.013	.004	.001
Constant	-2.5089	.36	.000	-1.591	.170	.000
Sample Size	2,779			2,779		
Nagelkerke R-squared	.072			.087		
Model Chi-square	79.122			150.451		
Percent correctly classified	93.2			82.5		

*p<=0.05 criteria

Table 9 shows the model if the dependent variable includes any type of pretrial failure (either pretrial convictions or failure to appear). Results look very similar to Table 6 except that, when the two different outcome variables are combined, a few of the personal risk factors are no longer significant. In particular, problematic chemical use and housing instability are no longer significant factors. This is not reason enough to remove these elements from the scale since they each significantly predict pretrial failure to appear and there is a loss of explanatory power when these elements are removed.

¹⁴ See Appendix xx for the logistic model for Pretrial Charges.

Table 9. Testing the Model Effectiveness			
N=2,779			
Independent Variables	Any Failure Pretrial Crime Or Pretrial FTA		
	<i>Coef.</i>	<i>SE</i>	<i>Sig.*</i>
Current Offense Total*			.005
Judicial Review Felonies	reference category		
Other Felonies	.352	.111	.001
GM DUI	.025	.151	.868
Non-Felonies	.766	.197	.000
Not employed/Not a Student or on Subsidies	.341	.101	.001
Problematic Chemical Use	.193	.106	.068
Housing Instability	.224	.185	.225
Failed to appear within the last 3 years			.000
No prior FTA	-.857	.139	.000
1 or 2 prior FTA	-.151	.156	.334
3 or more prior FTA	reference category		
Total prior conviction history score	.015	.004	.000
Constant	-1.299	.160	.000
Sample Size	2,779		
Nagelkerke R-squared	.090		
Model Chi-square	164.970		
Percent correctly classified	78.9		

*p<=0.05 criteria

ROC Curve Analysis for Goodness of Fit

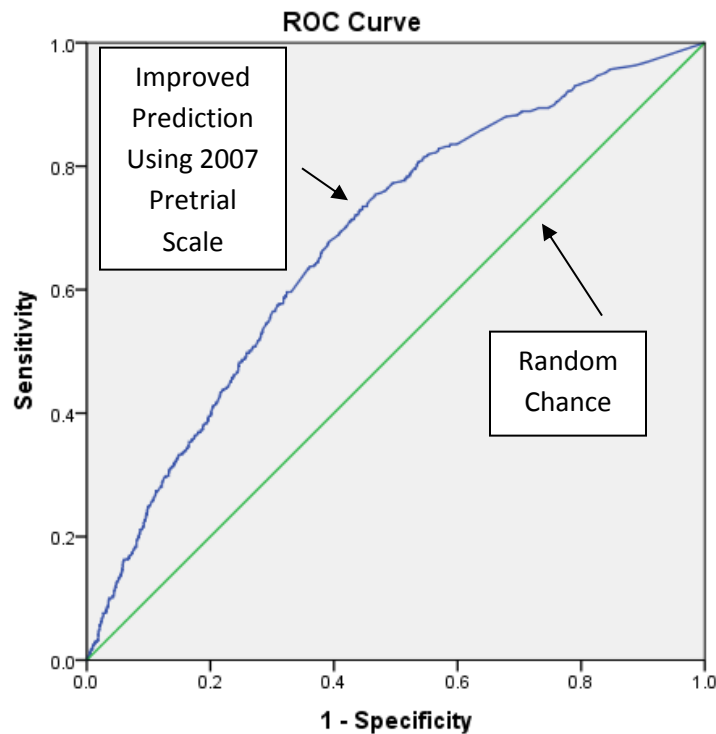
A ROC curve analysis (Receiver Operator Characteristic) helps determine the goodness of fit of the regression models. It uses predicted group classification (either failing pretrial or not) by plotting points on a Y-axis that measures sensitivity and an X-axis that measures specificity. Sensitivity refers to the number of cases correctly predicted as failures (i.e. true positives or those defendants that failed and the model predicted failure). The specificity refers to the number of cases correctly predicted as successes (i.e. true negatives or those defendants that did not fail pretrial and the model predicted that

they would not fail). The plots create a curve from which the ‘area under the curve’ is calculated. The area ranges from .50 to 1.0; the larger the area under the curve, the better the model predicts failure.

Each of the regression models tested in this analysis has an area under the curve of around .68-.69. These values are significant, meaning that the 2007 Pretrial Scale elements predict failure at a rate significantly better than chance alone. This holds true for each of the three ways to view failure: pretrial crime, failure to appear and any pretrial failure.

Table 8. Predictive Ability of the 2007 Pretrial Scale –ROC Curve

Outcome Variable or Dependent Variable	Area Under the Curve	Significant
Failure to Appear	.681	Yes
Pretrial Crime	.688	Yes
Any Type of Failure	.680	Yes



Summary

The Fourth Judicial District of Minnesota has a long history of utilizing an objective method of making pretrial release decisions. The 2007 Pretrial Scale is the fifth tool actively used by the members of the bench in this district. The new 2007 scale improves the predictive ability of the decision to release a defendant pretrial significantly. All of the elements help to predict either one or both of the outcome variables; pretrial crime or pretrial FTA. None of the elements present bias racially or related to gender.

Changes to the scale included items that previously were reasons given by Pretrial officers for not following the 1992 scale (override reasons). By adding these elements, the newest Pretrial tool allows for better identification of chronic offenders while it continues to do a good job of identifying serious offenders. The three judges who pre-tested the new tool compared to the 1992 scale were comfortable with those defendants requiring bail, those they could conditionally release and those for whom outright release was appropriate.

With the change in the scale's ability to identify chronic offenders, there was some concern about increasing the jail population. In reality, in each of the next three years, jail population actually decreased.

Recommendation:

Re-validate this pretrial tool within five years to determine if it continues to meet the needs of this district.

Bibliography

Albonetti, Celesta A., Robert M. Hauser, John Hagen, and Ilene H. Nagel. 1989. "Criminal Justice Decision Making as a Stratification Process: The Role of Race and Stratification Resources on Pretrial Release." *Journal of Quantitative Criminology* 5(1): 57-82.

Aldrich, John and Forrest Nelson, 1984., *Linear Probability, Logit, and Probit Models*. Beverly Hills, California: Sage Publications

Demaris, Alfred, 1992. *Logit Modeling: Practical Applications*. Newbury Park, California: Sage publications

Department of Administration, Management Analysis Division, State of Minnesota, 1999. *Pretrial, Presentence and Conditional Release of Criminal Defendants and Convicted Offenders*

Field, Andy, 2005. *Discovering Statistics Using SPSS*. London, England: Sage Publications

Gendrau, Paul, Tracy Little, and Claire Goggin. 1996. "A Meta-Analysis of the Predictors of Adult Offender Recidivism. What Works!" *Criminology* 34 (4):575-596.

Goldkamp, John. 1987. "Prediction in Criminal Justice Policy Development" in *Prediction and Classification: Criminal Justice Decision Making*, ed. Don Gottfredson and Michael Tonry. Chicago: University of Chicago Press.

Goldkamp, John, et. al. 1981. *Bail Decision Making: A Study of Policy Guidelines*; NYC Criminal Justice Agency, (2005), *Predicting the Likelihood of Pretrial Re-Arrest: An Examination of New York City Defendants*.

Goldkamp, John S., Michael R. Gottfredson and Peter R. Jones. 1995. *Personal Liberty and Community Safety: Pretrial Release in the Criminal Court*. New York: Plenum Press.

Goodman, Rebecca, 1992. "Pretrial Release Study." Minneapolis, Minnesota: Hennepin County Bureau of Community Corrections, Planning and Evaluation Unit.

King, Gary and Langche Zeng, 2001. "Logistics Regression in Rare Events Data" *Political Analysis*, 9:137-163.

Latessa, Edward, Paula Smith, Richard Lemke, Matthew Makarios, and Christopher Lowenkamp. 2009. "Creation and Validation of the Ohio Risk Assessment System: Final Report." Cincinnati, Ohio: Ohio Department of Rehabilitation and Correction (grant numbers 2005-JG-EOR-6269, and 2005-JG-C01-T8307).

Osterbaan, Constance. 1986. "Pretrial Release Study." Minneapolis, Minnesota: Hennepin County Bureau of Community Corrections: Planning and Evaluation Unit.

Petersilia, Joan and Susan Turner, (1987), 'Guideline-based Justice: Prediction and Racial Minorities,' in *Prediction and Classification : Criminal Justice Decision Making*, ed. Don Gottfredson and Michael Tonry. Chicago: University of Chicago Press.

Podkopacz, Marcy R. 2006. "Fourth Judicial District Pretrial Evaluation: Scale Validation Study." Minneapolis, Minnesota: Fourth Judicial District

Siddiqi, Qudsia. 2005. "Predicting the Likelihood of Pretrial Re-Arrest: An Examination of New York City Defendants. New York, New York: New York City Criminal Justice Agency.

Visher, Christy A. and Richard L. Linster. 1990. "A Survival Model of Pretrial Failure." *Journal of Qualitative Criminology* 6(2): 153-184.

Von Nostrand, Marie. 2003. "Assessing Risk among Pretrial Defendants in Virginia: The Virginia Pretrial Risk Assessment." Richmond, VA: Virginia Department of Criminal Justice Services.

Appendix A: 1992 Pretrial Scale

HC 11561
7/30/92

Screening Date: _____

Hennepin County Pretrial Services Point Scale

Name: _____ Date of Birth ____/____/____
Last First Middle Name

Address: _____

Charge: _____
 (If more than one use most serious as defined by Sentencing Guidelines Commission)

Public Defender: ___ Eligible ___ Ineligible

I. Present Offense/Main Charge Requiring Judicial Review
 ___ A. See reverse side for list of offenses +9
 ___ B. Weapon used +9
 (Pursuant to Minnesota Statute §609.11, Subd. 4 and 5)

II. Present Offense/Main Charge Not Requiring Judicial Review
 ___ Other felony offense not on judicial review list +3
 ___ Gross/misdemeanor/traffic offense 0

III. Current Minnesota Residence
 ___ Three months or less +1
 ___ Over three months 0

IV. Living Situation
 ___ Living alone +1
 ___ Living with relatives or any other unrelated person 0

V. Employment/Income
 Employed less than 20 hours per week
 Unemployed or not a student
 ___ Not receiving public assistance/other entitlements +3

 Employed 20 hours or more per week
 Full time student
 ___ Receiving public assistance/other entitlements 0

VI. Age (as of date of booking)
 ___ Age 21 or under +3
 ___ Age 22 or over 0

VII. Failure to Appear (including present offense)
 ___ Failure to appear within last three years +6
 (documented by bench warrant(s))
 ___ No prior failure to appear 0

VIII. Prior Criminal Record
 ___ A. Felony/gross misd. person convictions
 (violent, assaultive, C.S.C.) 9 points each
 ___ B. Misdemeanor person convictions 6 points each
 ___ C. 1 or more other felony convictions +3
 ___ D. 1 or more other gross/misd. convictions
 (excluding other non-alcohol related traffic) + 1
 ___ E. No prior convictions 0

Recommendation:
 NBR (0-8) _____
 CR (9-17) _____
 Review Required-Score (18 or above) _____
 Holds _____
 Detainer _____


Verified: ___ Yes ___ No Total Score: _____

Comments/Rationale: _____

Probation Officer Override: ___ Yes ___ No

Probation Officer's Signature: _____ Date: _____

Appendix B: 2007 HENNEPIN COUNTY PRE-TRIAL EVALUATION

Screen Date:	Div.	SILS Tracking #	Case #	SID/FBI #			
Name (Last)		(First)	(Middle)	D.O.B.	Age	Sex	Race
Street Address (Verified? Y or N)		Apt#	City	State	Zip		
Telephone #		Most Recent Prior Address					
Social Security #	Aliases:		Birth Place:	Marital Status S M D Sep W		# Kids:	# Dep:
Arrest Type:	Arrest Location:	Bail/Bond Amount:	Main Charge: F GM M Other Charges:				Points Assigned
Income Sources/School Status							
Current Problematic Chemical Use							
Homeless or 3 or More Address Changes in Past Year							
Criminal History Points							
Failure to Appear or Conditional Release Violation Warrant Points							
Holds/Type:		Complaint/Police Report:			Scale Score		
							
Collateral Source/Phone #:		Collateral Comments:			<u>Pretrial Score</u> Lower = 0-8 points Moderate = 9-17 points Higher = 18 or more points		
Victim Name:		Victim Comments:					
Address/Phone #:							
Current Probation/Parole: County: P.O. Name/Phone #:				Pending Cases:			

Probation Officer Comments/Observations (include mental health concerns and other relevant information used to assess the defendant):

Systems Checked

CIS GLWS JMS BCA MNCIS DL S3

P.O.

***** shaded area includes Pretrial Scale items*****

**Appendix C: Fourth Judicial District of Minnesota
Hennepin County 2007 Pretrial Scale**

TYPE	NEW WEIGHT	ITEM
<i>Charged Current Offense Information</i>	+12	All felony offenses on the Judicial Review list *
	+6	Felonies not on the Judicial Review list and gross misdemeanor or misdemeanor <i>person</i> offenses
	+3	Gross misdemeanor DWI
<i>Personal Information On Defendant</i>	+3	Employed less than 20 hours per week, not a full time student, not receiving public assistance/other (if yes)
	+1	Homeless or 3 or more addresses during the past 12 months or moved around between friends and shelters ** (if yes)
	+2	Current Problematic Chemical Use: The defendant either admits to current substance abuse issues or is engaging in a pattern of problematic chemical use that represents an increased risk of pretrial failure (if yes)
<i>Prior History</i> Prior Conviction Information and Prior Warrants for failure to appear or conditional release violations	+9 for each	Prior felony level <i>person</i> convictions
	+6 for each	Prior non-felony level <i>person</i> convictions
	+2 for each	Prior other felony convictions
	+1 for each	Other non-felony level convictions (EXCLUDE traffic offenses that do not involve alcohol/drugs)
	+6 if 1-2 Warrants	Prior warrants for failure to appear or conditional release violations within last three years
	+9 if 3 or more Warrants	

* Cases with these charge offenses must be reviewed by a judge and cannot be released by Pretrial regardless of total score on this scale.

**The Hennepin Risk and Needs Triage tools defines this indicator as 'Count as homeless if the individual tended not to have a steady address or moved around between friends, family and/or shelters – do not include address changes due to incarceration, residential placement, hospitalization, job relocation or military service'.

Appendix D: Charge Offense Points

PRE-TRIAL POINTS FOR CHARGED OFFENSES 12 POINTS (JUDICIAL REVIEW REQUIRED)

- 609.11 Use of Weapon
- 609.185 Murder in the 1st Degree
- 609.19 Murder in the 2nd Degree
- 609.195 Murder in the 3rd Degree
- 609.20 Manslaughter in the 1st Degree
- 609.205 Manslaughter in the 2nd Degree
- 609.21 Criminal Vehicular Homicide and Operation
- 609.2661 Murder of Unborn Child in the 1st Degree
- 609.2662 Murder of Unborn Child in the 2nd Degree
- 609.2663 Murder of Unborn Child in the 3rd Degree
- 609.2664 Manslaughter of an Unborn Child in the 1st Degree
- 609.2665 Manslaughter of an Unborn Child in the 2nd Degree
- 609.221 Assault in the 1st Degree
- 609.222 Assault in the 2nd Degree
- 609.223 Assault in the 3rd Degree
- 609.224S4 Assault in the 5th Degree IF Felony
- 609.2247 Strangulation
- 609.2242S4 Felony Domestic Assault
- 609.267 Assault of an Unborn Child in the 1st Degree
- 609.2671 Assault of an Unborn Child in the 2nd Degree
- 609.2672 Assault of an Unborn Child in the 3rd Degree
- 609.268 Injury or Death of Unborn of Child in commission
of crime
- 609.713 Terroristic Threats
- 609.245 Aggravated Robbery
- 609.24 Simple Robbery
- 609.25 Kidnapping
- 609.342 Criminal Sexual Conduct in the 1st Degree
- 609.343 Criminal Sexual Conduct in the 2nd Degree
- 609.344 Criminal Sexual Conduct in the 3rd Degree
- 609.345 Criminal Sexual Conduct in the 4th Degree
- 609.352 Solicitation of Children to Engage In Sexual Conduct
- 609.322S1 Solicitation, Inducement & Promotion of Prostitution
of minors only
- 609.561 Arson in the 1st Degree
- 609.582S1 Burglary in the 1st Degree
- 609.582S2 Burglary in the 2nd Degree
- 609.485 Escape from Justice, Fugitive from Justice
- 609.495 Aiding an Offender (for 12 pt offenses)
- 609.66 Dangerous Weapons (firearms or knives only)
- 609.67 Machine Guns and Short Barreled Shotguns
- 624.713 Prohibited Persons in Possession of Firearms
- 152.021 Controlled Substance 1st Degree
- 152.022 Controlled Substance 2nd Degree
- 617.247 Child Pornography

243.166 Failure to Register as a Sex Offender

6 POINTS (JUDICIAL REVIEW REQUIRED)

609.2242 Domestic Assault
518B.01S22 Violation of No Contact Order
518B.01S14 Violation of Orders for Protection
609.749 Harassment/Stalking
609.498 Tampering with a Witness
609.78 Interfering Emergency 911 call

6 POINTS (NO JUDICIAL REVIEW REQUIRED)

609.2231 Assault in the 4th Degree
609.225 Assault in the 5th Degree if NOT felony
609.255 False Imprisonment
609.377 Malicious Punishment of a Child
609.232 Assault of a Vulnerable Adult
609.233 Criminal Neglect
609.2325 Criminal Abuse
609.378 Child Abuse Neglect
609.746 Interference with Privacy (peeping)
617.23 Indecent Exposure
609.3451 Criminal Sexual Conduct 5th Degree
152.023 Controlled Substance 3rd Degree
152.024 Controlled Substance 4th Degree
152.025 Controlled Substance 5th Degree
609.562 Arson 2nd Degree
609.563 Arson 3rd Degree
609.582S3 Burglary 3rd Degree
609.52 Theft (including Motor Vehicle)
609.52S3(i) Theft from Person
169A.24 Felony DWI
609.687 Food Adulteration
609.495 Aiding an Offender (for 6 pt offenses)

6 POINTS FOR ALL OTHER FELONIES NOT LISTED

3 POINTS

609.21 Criminal Vehicular Operation (GM)
169A.25 DWI 2nd Degree
169A.26 DWI 3rd Degree

Appendix E: Pretrial Method of Data Collection

Three of the primary areas being assessed and scored, employment, chemical health, and housing status, are assigned points based mainly on self-report information from the defendant, although information from collateral sources and the probation officer's professional judgment may play a role in determining whether the factor should be scored or not.

Criminal history and bench warrant information is scored based on reviews of various official criminal justice data sources. The score assigned to the main charge is based on the severity of the most serious offense currently charged. The narrative portions (collateral and victim information, and probation officer's comments), which are not scored, provide further context for making release decisions.

The following specific criteria are used in scoring the evaluation:

Factor	Description	Points Assigned
Income Sources/School Status	The defendant does not meet the employment criteria below and is considered unemployed	+3 points
	The defendant is employed at least 20 hours per week, is attending school at least part-time, or some combination of the two.	0 points
Current Problematic Chemical Use	The defendant either admits to current substance abuse issues or is engaging in a pattern of problematic chemical use that represents an increased risk of pretrial failure.	+2 points
	The defendant does not meet the above criteria and does not appear to have a chemical health issue.	0 points
Housing Status	The defendant had 3 or more addresses during the past 12 months, or tended not to have a steady address, or moved around between friends and/or shelters during that time.	+1 point
	The defendant does not meet the criteria above and appears to have a stable residence.	0 points
Criminal History	Prior felony level person conviction	+9 points each
	Prior non-felony level person conviction	+6 points each
	Prior other felony conviction	+2 points each
	Other non-felony level convictions (excluding non-alcohol related traffic offenses)	+1 point each
Bench Warrants	Either 1 or 2 failure to appear bench warrants in the last 3 years	+6 points
	Three or more FTA bench warrants in the last 3 years	+9 points

Appendix F: Correlation Coefficients

		Not Employed	Housing Instability	Problematic Chemical Use	Current Offense	Prior Bench Warrants - FTA	Prior Conviction Points	Pretrial Failure to Appear
Housing Instability	Pearson Significance	.103** .000						
Problematic Chemical Use	Pearson Significance	.105** .000	.053** .002					
Current Offense	Chi-Square Significance	-.135** .000	-.118** .000	.083** .000				
Prior Bench Warrants – FTA	Chi-Square Significance	.179** .000	.104** .000	.074** .000	-.071** .000			
Prior Conviction Points	Pearson Significance	.094** .000	.069** .000	.096** .000	-.124** .000	.276** .000		
Pretrial Failure to Appear	Pearson Significance	.098** .000	.074** .000	.066** .000	.038* .022	.185** .000	.116** .000	
Pretrial Conviction	Pearson Significance	.069** .000	.051** .003	.033* .040	-.037* .027	.133** .000	.119** .000	.234** .000

** . Correlation is significant at the 0.01 level

* . Correlation is significant at the 0.05 level

Appendix G: Binary Logistic Regression of Pretrial Charges

Table 9. Testing the Model Effectiveness			
N=2,779			
Independent Variables	Pretrial Charges		
	<i>Coef.</i>	<i>SE</i>	<i>Sig.*</i>
Current Offense Total*			.000
Judicial Review Felonies	reference category		
Other Felonies	.332	.129	.010
GM DUI	-.809	.236	.001
Non-Felonies	.370	.252	.142
Not employed/Not a Student or on Subsidies	.265	.122	.029
Problematic Chemical Use	.083	.130	.520
Housing Instability	.237	.144	.100
Failed to appear within the last 3 years			.000
No prior FTA	-1.015	.158	.000
1 or 2 prior FTA	-.272	.175	.119
3 or more prior FTA	reference category		
Total prior conviction history score	.016	.004	.000
Constant	-1.613	.182	.000
Sample Size	2,779		
Nagelkerke R-squared	.104		
Model Chi-square	157.469		
Percent correctly classified	87.4		

*p<=0.05 criteria