



## DEVELOPING A NATIONAL MODEL FOR PRETRIAL RISK ASSESSMENT

Every day in America, judges have to answer a critical question again and again: What are the chances that a recently arrested defendant, if released before trial, will commit a new crime, a new violent crime, or fail to appear for court?

This may be the single most important decision made in the criminal justice system because it impacts everything that follows: whether or not a defendant is sentenced to jail or prison, how long he is incarcerated, and most importantly, how likely he is to commit violence or other crimes in the future. Yet most of these decisions are made in a subjective manner, without the benefit of data-driven, objective assessments of the risks individual defendants pose to public safety.

Today, in many jurisdictions, judges do their best to apply their experience and instinct to the information they have about a defendant to make a subjective determination of whether he will commit a new crime or fail to return to court if he is released. In other jurisdictions, judges may follow court guidelines that require that all defendants arrested for a specific crime receive the same conditions of release (such as supervision, bail, or drug testing), regardless of risk. But neither method of deciding whether a defendant should be detained or released – a subjective evaluation, or an offense-specific one-

size-fits-all approach – provides a reliable measure of the risk that a defendant poses. And yet this decision – whether to release or detain a defendant – is far too important to be left to chance.

Each year, 12 million people are booked into local jails across the country, the vast majority for nonviolent crimes. More than 60% of inmates in our jails today are awaiting trial, and we spend more than \$9 billion annually to incarcerate them. The goal of most criminal justice decisionmakers is to detain defendants who pose a risk to public safety – particularly those who appear likely to commit crimes of violence – and to release those who do not.

Yet data collected by the Laura and John Arnold Foundation (LJAF) during the past two years shows that although this may be our goal, it is far from being a reality. Indeed, our research has shown that defendants who are high-risk and/or violent are often released. In two large jurisdictions that LJAF examined in detail, nearly half of the highest-risk defendants were released pending trial. And, at the

other end of the spectrum, our data shows that low-risk, non-violent defendants are frequently detained. Moreover, soon-to-be-released LJAF research on low-risk defendants shows that when they are detained pretrial, they are more likely to commit new crimes in both the near and long

factors related to a defendant's risk of committing a new crime or failing to return to court; however, we also knew that it is extremely difficult for judges to know how to accurately and objectively weigh these factors, or to know which factors, when combined with one another, increase

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term, more likely to miss their day in court, more likely to be sentenced to jail and prison, and more likely to receive longer sentences. In other words, failing to appropriately determine the level of risk that a defendant poses impacts future crime and violence, and carries enormous costs – both human and financial.

## **AN OPPORTUNITY FOR TRANSFORMATIONAL CHANGE**

Two years ago, LJAF decided to use data, analytics, and technology to promote transformational change in criminal justice. With the goal of making the system safer, fairer, and less costly, we set out to improve how decisions are made during the earliest part of the criminal justice process, from the time a defendant is arrested until the case is resolved. (Criminal justice professionals refer to this as the “pretrial” period.)

From the beginning, we believed that an easy-to-use, data-driven risk assessment could greatly assist judges in determining whether to release or detain defendants who appear before them. And that this could be transformative. In particular, we believed that switching from a system based solely on instinct and experience to one in which judges have access to scientific, objective risk assessment tools could further our central goals of increasing public safety, reducing crime, and making the most effective, fair, and efficient use of public resources. We understood that judges already consider many of the most critical

the risk of failure exponentially. We were also able to see the impact that risk assessments have had in the limited number of U.S. jurisdictions in which they are presently used: although less than 10% of jurisdictions use data-driven pretrial risk assessments, these jurisdictions have been able to spend less on pretrial incarceration, while at the same time enhancing public safety.

We initially looked for an existing pretrial risk assessment that could be used by any judge throughout the country. This sort of universal risk assessment has been used effectively for probation and parole. However, we quickly found that there was nothing equivalent for the pretrial release/detention decision.

Moreover, there appeared to be no risk assessment instrument that could be scaled to provide data-driven risk analysis to courts across America. In large part, this is because existing pretrial risk assessments are often costly and resource-intensive to administer, since they rely on data that can only be gathered through defendant interviews. These interviews are time-consuming and expensive to conduct and cannot be completed when a defendant refuses to cooperate or provides information that cannot be verified. (For these and other reasons, 40% of all defendants in one jurisdiction we studied were not evaluated for risk.) Further, most existing pretrial risk assessments were developed using data from a single jurisdiction, and other states and counties did not believe they could adopt a tool that was based on case records from

somewhere else. In addition, existing tools also present a single risk level for each defendant, combining – and assigning equal weight to – the risk that a defendant will fail to appear and the risk that he will reoffend. And none of the existing tools determine risk of new violent criminal activity, which is perhaps judges’ greatest concern.

Our challenge was to figure out how to provide objective, scientific, data-driven risk assessments to the more than 90% of jurisdictions that did not use them. No existing model did what we wanted it to do: separately analyze risk of new crime, new violent crime, and failure to appear; be

were drawn from the defendant’s criminal history and three that were elicited during the interview process. The team created a new tool, relying solely on criminal history factors from the state’s original instrument. We then used this non-interview tool to evaluate more than 190,000 Kentucky defendants who had already gone through the existing interview-based assessment. The study compared the risk prediction of the new tool – the one without an interview – to the existing interview-dependent tool, and found that the non-interview risk assessment was just as predictive as the existing one.

**When judges can easily, cheaply, and reliably quantify defendant risk, they will be much better able to identify the high-risk defendants who must be detained and the low-risk defendants who can safely be released.**

useable by every judge in the country; be applicable to every defendant; and be highly predictive of the most important risks. In short, what we needed was an instrument that would be accurate, inexpensive to administer, easy to use, and scalable nationally. So we decided to try to create a new, second-generation risk assessment that could be adopted by judges and jurisdictions anywhere in America.

## **DEVELOPING THE RISK ASSESSMENT**

The first step was a study to assess the feasibility of eliminating the costly and time-consuming defendant interviews from the risk assessment process. LJAF’s research team – led by two of the country’s top criminal justice researchers, Dr. Marie VanNostrand and Dr. Christopher Lowenkamp – began its work in Kentucky, which was already using an interview-based risk assessment, and has long been a national leader in the pretrial field. An initial study focused on the core question of whether eliminating the interview would decrease the predictive power of the tool. To test this, the research team looked at the existing Kentucky risk assessment, which consisted of 12 total factors: nine that

That finding led us to the next step: to gather the most comprehensive dataset of pretrial cases ever assembled in the United States with the goal of developing a universal risk assessment. Researchers started with 1.5 million cases drawn from more than 300 U.S. jurisdictions. From the initial dataset, the research team was able to study 746,525 cases, since these defendants had been released at some point in the pretrial process. The researchers had two primary objectives. First, to determine the best predictors across jurisdictions of new criminal activity, failure to appear, and, for the first time, new violent criminal activity. Second, to develop a risk-assessment tool based on these predictors. Although we believed that the interview could likely be eliminated, we considered both interview and non-interview factors in an effort to build the most predictive risk assessment possible.

The study identified and tested hundreds of risk factors, which fell into broad categories, including prior arrests and convictions, prior failures to appear, drug and alcohol use, mental health, family situation, employment, residence, and more. The researchers identified nine factors that

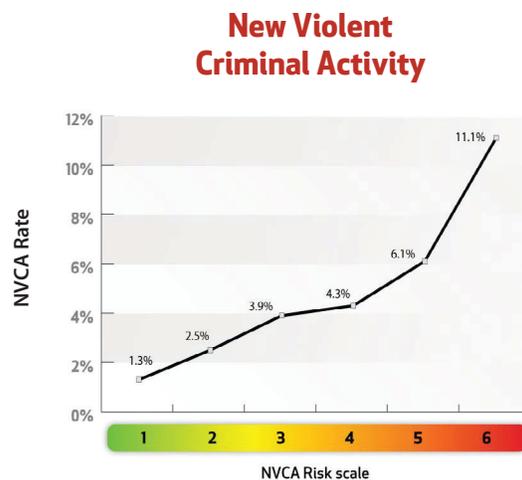
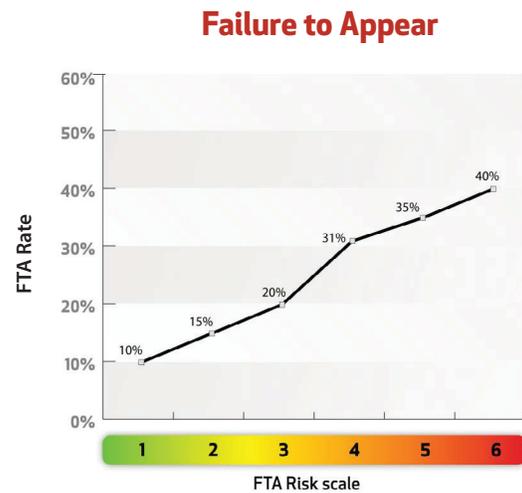
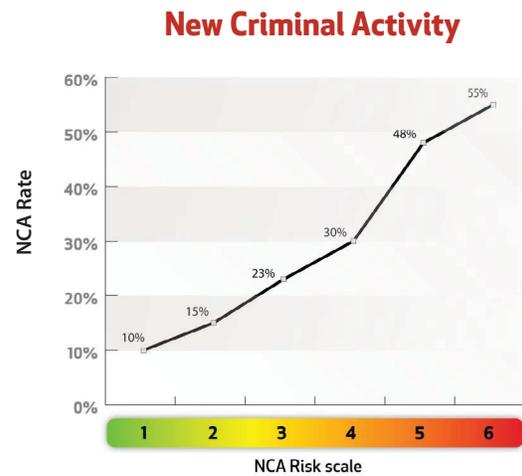
were the most predictive – across jurisdictions – for new crime, new violence, and failure to appear. These factors were drawn from the existing case (e.g., whether or not the current offense is violent) and from the defendant’s prior criminal history. The researchers looked at numerous interview-based factors, including employment, drug use, and residence, and found that, when the nine administrative data factors were present, none of the interview-based factors improved the predictive analytics of the risk assessment. In other words, for all three categories – new criminal activity, new violent crime, or failure to appear – the addition of interview-dependent variables did not improve the risk assessment’s performance.

The resulting product is the Public Safety Assessment-Court (PSA-Court), a tool that reliably predicts the risk a given defendant will reoffend, commit violent acts, or fail to come back to court with just nine readily available data points. What this means is that there are no time-consuming interviews, no extra staff, and very minimal expense. And it can be applied to every defendant in every case.

**PROMISING RESULTS**

The PSA-Court’s three six-point scales – one each for new crime, new violence, and failure to appear – do a remarkable job distinguishing among defendants of different risk levels. As the charts demonstrate, the likelihood of a negative pretrial outcome increases with each successive point on the scale. Each scale begins with the lowest level of risk, identified by the number one, and increases point-by-point until reaching the highest level of risk, identified by the number six.

**PSA-Court Failure Rates by Risk Level**



The promise of the PSA-Court was further validated using historical data from one state and one major city. Moreover, researchers found that defendants in each category failed at similar rates, regardless of their race or gender. The results confirmed that the assessment does not over-classify non-whites' risk levels, which has been a concern in some other areas of risk assessment.

failures put the public in danger and place unnecessary strain on budgets, jails, law enforcement, families, and communities. The PSA-Court, and instruments like it, can help recalibrate the equation. When judges can easily, cheaply, and reliably quantify defendant risk, they will be much better able to identify the high-risk defendants who must be detained and the low-risk

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All of Kentucky's 120 counties began using the instrument in July of 2013. Preliminary analysis shows that the PSA-Court is, thus far, successfully predicting criminal reoffending and failing to return to court.

defendants who can safely be released. They will also be able to better identify what conditions can be imposed on defendants to minimize risk.

LJAF plans to roll out the PSA-Court in additional pilot sites soon and then to make the tool widely available. We will also continue to collect more data, as this will allow us to rigorously evaluate whether we can improve upon the existing universal risk assessment. LJAF also plans to create data-driven risk assessments for police and prosecutors; and to evaluate or create tools that will specifically predict the likelihood of repeat domestic violence and driving under the influence.

It is critically important to note that tools such as this are not meant to replace the independent discretion of judges; rather, they are meant to be one part of the equation. We expect that judges who use these instruments will look at the facts of a case, and at the risk a defendant poses, and will then make the best decision possible using their judgment and experience.

## **LOOKING AHEAD**

Under the current system, we make decisions based on gut and intuition instead of using rigorous, scientific, data-driven risk assessments. This has led to a public safety crisis nationally, where too many high-risk defendants go free, and too many low-risk defendants remain locked up for long periods. These systemic

Our goal is that every judge in America will use a data-driven, objective risk assessment within the next five years. We believe that this one change can make our communities safer and stronger, our corrections budgets smaller, and our system fairer. The Laura and John Arnold Foundation is dedicated to bringing transformational change to criminal justice through advanced data analysis and technology. Getting the PSA-Court in the hands of judges across America is one of our first major steps in that effort.

## **About Laura and John Arnold Foundation**

Laura and John Arnold Foundation is a private foundation that currently focuses its strategic investments on criminal justice, education, public accountability, and research integrity. LJAF has offices in Houston and New York City.