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Research Brief

Exploring the Relationship Between Time in Pretrial Detention and Four Outcomes

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Introduction

An increasing amount of attention has been paid to the pretrial phase of justice case processing both in research and policy. In particular, the issue of if, when, and how to use pretrial detention (jail time before a case is resolved with guilt or innocence) has been under a great deal of scrutiny. While the study of pretrial detention and its potential effects on case processing and outcome is not new (see for example Rankin, 1964; Tribe, 1971), emerging research has undertaken a more granular analysis of what effect pretrial detention – even short amounts – may have on other outcomes besides findings of guilt or innocence, and/or sentences to incarceration (as opposed to a community-based sanction) and for how long someone is sentenced to incarceration in some form.

Shortly after arrest (and in turn shortly after being booked into a jail, most commonly at the county administrative level) several justice decisions are made. Most jurisdictions have some form of a standardized information collection procedure that gathers basic yet relevant data such as demographic factors and criminal history factors (most often involving the check of an automated database of some form). Likewise, at some point shortly after case initiation, the decision whether or not to assign bail is made and, if bail is assigned, how much. In recent years the use of some form of an actuarial (objective, research-based) risk assessment that determines the relative likelihood of various things like failure to appear is applied as well that will inform several decisions, both immediately and potentially later on. And all these broad factors – criminal

history, bail, actuarial risk to flee – and others work toward influencing the decision regarding whether or not someone should remain in jail until their case is resolved (which in some instances can take several weeks if not months), or, if they should be allowed to remain in the community (Abrams & Rohlfs, 2011; Demuth, 2003; Myers, 2009).

As noted above some of the original research examined pretrial detention through the lens of the effect that it may have on case outcome (Rankin, 1964). Consider, for example, the fact that someone who is detained pretrial is unable to have easy access to defense counsel, is unable to discuss their situation with witnesses and other potential social support, and is, by definition, cut off from the vast majority of their lives. These effects of pretrial detention and others may increase the likelihood that someone is unable to mount an adequate defense, thereby increasing the likelihood of conviction, and in turn a sentence to a secure facility. These effects may hold regardless of whether a person is actually guilty or innocent, in fact (Williams, 2003; Wald, 1964; Spohn, 2009).

While the cumulative disadvantage of pretrial detention (Spohn, 2009; Schlesinger, 2007) has been well documented regarding the potential effect on case outcome, there is value in taking a closer look at other ways in which that disadvantage may accumulate. Put another way, aside from the negative effects noted above (increase likelihood of conviction, increase likelihood of sentencing to a secure as opposed to a community-based sanction upon a finding of guilt), how might the potentially negative effects of pretrial detention manifest themselves in other ways?

As mentioned above, through the denial of liberty and freedom, pretrial detention has an effect on things like access to defense counsel and other resources that can affect case outcome. However, pretrial detention may hold other implications for several other harbingers of adult functionality, which may affect an individual's life in other ways, thereby having further reaching impacts that in turn make serial involvement with the criminal justice system more likely.

LOCAL JUSTICE REINVESTMENT INITIATIVE

Launched in 2010, the Justice Reinvestment Initiative (JRI) is a project of the Bureau of Justice Assistance (BJA). JRI supports data-driven state and local criminal justice reform efforts across the country. BJA and its technical assistance providers work with local and state leaders and stakeholders to examine correctional population trends and criminal justice outcomes and spending to identify options that improve public safety and are more cost-effective. The Crime and Justice Institute at CRJ is the technical assistance provider for eight local JRI sites. CJJ worked with six sites—Johnson County, Kansas; Lane County, Oregon; New York City, New York; San Francisco, California; Santa Cruz County, California; and Yolo County, California—to analyze local jail population drivers, to work with a local stakeholder group to create strategies to reduce the corrections population and spending, and to implement these strategies. CJJ worked with Allegheny County, Pennsylvania and Alachua County, Florida beginning in mid 2011 to develop and implement strategies based on analysis completed in the pilot phase of JRI.

Recent research has undertaken efforts to determine specifically what factors or characteristics may contribute to the likelihood of pretrial failure – factors that are not necessarily confined to criminal justice factors like criminal history (Bechtel, Lowenkamp, & Holsinger, 2011). In addition, new research has begun to focus on the ways in which pretrial detention (or more specifically ways in which varying amounts of pretrial detention) may create disruption regarding things like employment, financial situation, residential stability, and care for dependent children (see Holsinger, forthcoming). Take the hypothetical example of a single parent who is working a minimum wage job and caring for dependent children. It might be likely that someone in the aforementioned situation may experience residential instability, may experience financial hardship, and may have difficulty accessing support in caring for their dependent children. Now imagine the person experiences an arrest and ends up booked into jail. Whether or not that person leaves jail – and soon – may have more reverberating effects than for someone who is better positioned in terms of stable employment, residential stability, and access to social support to assist with care for children. How long might someone in our hypothetical situation have to spend in jail before they were replaced at their minimum wage work setting, before they lost their home (if they were indeed the deed or lease holder to begin with), and experienced nearly insurmountable financial hardship, that in turn makes caring for dependent children even more difficult? The disruption that may occur due to even short stays in jail pretrial may indeed have reverberating effects that make involvement in criminal behavior more likely, which in turn will make involvement with the criminal justice system more likely, magnifying a cycle that makes it exceedingly difficult to live a functional life (see “*The Reality of Pre-Trial Detention*” sponsored by the Colorado Criminal Defense Institute for a detailed narrative exploration into the specific effects of pretrial detention).

Historically, many policy makers have argued that regardless of the cost of pretrial detention, and regardless of the potential negative effects on functionality noted above, that the initial (and thereby most important) question is one of public safety, or, put another way, a question of risk (Goldkamp, 1983). In short, jail space used for pretrial detention should be reserved for those who pose the highest degree of risk – most commonly defined as the risk of flight, or failure to appear for court hearings (hereafter FTA), and/or risk of new criminal activity (hereafter NCA) during the pretrial period (i.e., between case booking and case resolution).

In an effort to make the best use of limited (and expensive) jail space for pretrial detention, many justice systems have implemented actuarial risk assessment procedures that identify the relative risk of FTA and/or NCA for groupings of defendants (e.g., low risk, moderate risk, and high risk). In theory, valid risk assessments will allow a justice system to avoid using pretrial incarceration for individuals who pose very low risk of either outcome (FTA/NCA), as well as those who may pose a moderate level of risk but who (with the right resources such as supervision and other accountability

measures) can be successfully managed in the community at a fraction of the cost (Cadigan & Lowenkamp, 2011; Lowenkamp, Lemke, & Latessa, 2008). In turn, the highest risk cases can (again in theory) be considered for placement in jail for the duration of the pretrial period. In at least some ways the aforementioned use of pretrial detention (i.e., reserving community options for low to moderate risk defendants; reserving jail space for highest risk defendants) is an implementation of the “risk principle” (Andrews, Bonta, & Wormith, 2006). Regardless of the best intentions of a risk-based decision making system, and likewise regardless of the level of predictive validity a risk assessment may have, the option of money bail may serve to disrupt the appropriate placement of defendants based on risk. In brief, with the existence of money bail, the possibility remains that a high risk person (meaning someone who is at a high risk to commit a new crime or fail to appear during the pretrial period) will not stay in jail for very long, and likewise a low risk person will remain in jail perhaps even when bail is set at a very low level.

In light of the disruption to functionality (both legal and extra-legal) that can occur due to pretrial incarceration (regardless of a defendant’s risk level), recent research has examined the effects – both immediate and lasting – to which pretrial incarceration (even short stays in jail) may be related. Of most recent note, a report published by the Laura and John Arnold Foundation (“The Hidden Costs of Pretrial Detention”) endeavored to take a close look at varying amounts of pretrial incarceration while controlling for several mitigating factors in order to gain a better understanding of whether or not varying amounts of pretrial detention may be related to the likelihood of FTA and NCA (Lowenkamp, VanNostrand, & Holsinger, 2013). This particular report also, for the first time, attempted to test the relationship between pretrial detention and *post-dispositional outcomes*, most notably 12-month post-disposition arrest, and 24-month post-disposition arrest. In essence, the LJAF report explored whether even short stays in jail pretrial might have some of the lasting and reverberating effects outlined above, as well as those that have been self-reported via bond supervision surveys (Holsinger, forthcoming). The current research is an attempt to follow in Lowenkamp, VanNostrand, and Holsinger’s footsteps by at least partially replicating their analyses using new data from a different location to see if a relationship between pretrial incarceration and both short- and long-term outcomes is revealed.

The Current Study

The current study utilizes two years’ worth of arrest and booking data from a large (~570,000) Midwestern suburban county situated just South and West of Kansas City, Missouri. Due to the ready availability of a sophisticated information management system, several relevant factors (both in terms of practicality as well as theoretical relevance) were utilized in order to investigate two broad research objectives, largely

inspired by the original “Hidden Costs” report issued by the Laura and John Arnold Foundation in 2013:

1. Examine the relationship between the length of pretrial detention and pretrial outcome.
 - a. Is length of pretrial detention related to the likelihood of pretrial FTA once other relevant statistical controls are considered?
 - b. Is length of pretrial detention related to the likelihood of pretrial NCA once other relevant statistical controls are considered?
2. Examine the relationship between pretrial detention, as well as the length of pretrial detention, and new criminal activity post-disposition (NCA-PD).
 - a. Is pretrial detention related to NCA-PD at the 12-month point?
 - b. Is pretrial detention related to NCA-PD at the 24 month point?

It should be noted that the dataset utilized in the LJAF report (2013) was substantially larger (original sample $N > 153,000$, derived from multiple years in an entire state) than the dataset used in the current study, which is derived from just one county for a two year period. As a result it was not possible to replicate some analyses due to low sample size and some missing data for some variables. Regardless, all multivariate models incorporate relevant statistical control as noted above in the broad research objectives.

The Data

The sample used for the current study includes all defendants arrested and booked into a county jail during calendar years 2011 and 2012. Those years were chosen in order to allow for both short-term outcomes (FTA and NCA) as well as longer-term outcomes (NCA-PD, 12 month and NCA-PD 24 month) to be assessed and appended to the base sample. The original sample (referred to as the base sample) was comprised of 9,441 cases, though some individuals had been booked into the jail system more than once during this time frame. In addition, due to missing data for some data elements (as well as selection of certain subgroups within the dataset for some analyses) some analyses involve fewer than 9,441 cases. Data management activities included receiving and readying the base sample for analysis, and then appending the four measures of outcome (FTA, NCA, NCA-PD 12 month, NCA-PD 24 month) which were received separately. Cases were matched using case number (the number that is appended to a specific case), though the same case number could be attached to multiple charges, and booking number (a unique identifier). The first booking and first outcome was utilized in instances of duplicate cases.

Unlike traditional recidivism studies that typically utilize system-involved offenders only (i.e., people who have been found guilty of one or more crimes and who have been

assigned to a correctional sanction either in the community or within a secure facility), the current study involves people who were arrested and booked into jail. A finding of guilty may not result, and the individual may not be placed on supervision after the case is resolved. As such, the failure rates (particularly the post-disposition recidivism rates) may appear slightly to somewhat lower than other recidivism studies that utilize only system-involved offenders in some capacity.

The measures involved in the current study include the following domains:

- defendant demographics
- defendant risk, assessed and used for some analyses as a model of a pretrial risk assessment currently in use in the county from which the data came, but which did not exist during the time frame from which these data were extracted. In other words, the analyses retrospectively re-created the risk assessment that is currently in use, using the same data elements from the archival dataset.
- offense characteristics (offense level, violent or not) for some analyses
- details of pretrial status (released or detained, and length of detention)
- failure to appear and arrest for new criminal activity during pretrial release
- time at risk in the community (total)
- new criminal activity post-disposition, at both the 12 month and 24 month post-disposition point.

Analyses

Descriptive analysis will present the characteristics of the sample as a whole, while multivariate logistic regression will serve as the primary source of statistical testing for any relationships between the variables and outcome, with a particular focus on number of days spent in pretrial detention.

RESULTS – DESCRIPTIVE

Table 1 presents the descriptive data for the base sample. As mentioned above the base sample served as the foundation for all analyses, and as such, the demographic, criminal history and administrative variables have been presented in an aggregated fashion though some analyses may have fewer cases than the total number indicated as the sample size (“N”) in the descriptive tables. All variables that could serve as predictors or control variables in one or more models are presented in descriptive tables, though some of the models will use select sets of variables specific to outcome, for example.

As for demographics, the sample had a mean age of 33.91 years, and was mostly white (79.9%), male (75.3%), single (80.3%) with an average of .599 children.

TABLE 1. DESCRIPTIVE DATA – BASE SAMPLE N = 9,441

DEMOGRAPHICS		
VARIABLE	N	% MEAN
Age	9,439	33.91 years (range 14-88)
Race¹		
White	7,528	79.9%
African American	1,895	20.1%
Sex		
Male	7,107	75.3%
Female	2,334	24.7%
Marital status²		
Single	3,491	80.3%
Married	855	19.7%
Number of children	9,411	0.599 (range 0-20)
ADMINISTRATIVE		
Amount of bail assigned	9,441	\$3,686.81 (range 0-300,000)
Mental health flag turned on³		
No	8,602	91.1%
Yes	839	8.9%
Disposition of immediate case		
Dismissed	2,573	27.7%
Guilty	6,462	69.7%
Other	241	2.6%
Assigned to supervision		
No	4,167	44.1%
Yes	5,274	55.9%

¹ The remaining categories of race according to the data were Asian, Indian, and Other which cumulatively made up less than 0.3% of the sample. These categories were recoded to system missing.

² The category "single" included divorced, legally separated, single, and widower. The category "married" included common law, and married. Also note that over 50% of this variable is missing valid data relative to many of the other variables precluding it from being included in analyses other than descriptive.

³ The "mental health flag" is an indicator that is either "turned on" in the database (with a "Y" indicating that yes, the flag has been turned on), or it is left blank indicating that the mental health flag is not turned on. The mental health flag is turned on when a correctional and/or medical professional assess the individual has having a mental health issue that is disruptive of functionality to some degree. The mental health flag, as a variable, also played a role in the pretrial risk assessment that was constructed from the data and used in two of the models (those predicting FTA and NCA).

TABLE 1. DESCRIPTIVE DATA – BASE SAMPLE N = 9,441 *CONTINUED*

VARIABLE	N	% MEAN
CRIMINAL HISTORY (PRA SCALE ITEMS)⁴		
State of residence		
Kansas (0 pts.)	7,355	78.0%
Other (2 pts.)	2,078	22.0%
Current employment		
Yes (0 pts.)	5,561	58.9%
No (1 pt.)	3,880	41.1%
Age first charge		
22 years + (0 pts.)	5,813	61.7%
21 years – (1 pt.)	3,610	38.3%
Current charge level		
Misdemeanor (0 pts.)	5,919	63.6%
Felony (1 pt.)	3,391	36.4%
Current charge type		
Not DUI or drug (0 pts.)	6,818	72.2%
DUI (1 pt.)	1,385	14.7%
Drug (2 pts.)	1,238	13.1%
Any prior jail time		
No (0 pts.)	6,416	68.0%
Yes (1 pt.)	3,025	32.0%
Composite scale	9,287	2.51 ⁵ (range 0-10)

⁴These criminal history went into the construction of the pretrial risk scale, used in the models predicting FTA and NCA. Also please note that the mental health flag, listed under “Administrative” variables also went into the risk scale and contributes 2 points total.

⁵Relationship between PRA scale and FTA: $r = .181^{***}$; AUC-ROC = .629, when those who were released before their case was disposed were selected. Relationship between PRA scale and NCA: $r = .121^{***}$; AUC-ROC = .595.

TABLE 1. DESCRIPTIVE DATA – BASE SAMPLE N = 9,441 *CONTINUED*

VARIABLE	N	% MEAN
CRIMINAL HISTORY		
Current charge violent		
No	5,498	64.8%
Yes	2,982	35.2%
Prior case count	9,441	1.451 (range 0-24)
Prior case count (capped at 8)⁶	9,441	1.3989 (range 0-8)
Prior FTA	9,441	.528 (range 0-31)
No	7,468	79.1%
Yes	1,973	20.9%
Days in Jail		
1 or less	4,205	44.5%
2 to 3	1,868	19.8%
4 to 7	542	5.7%
8 to 14	528	5.6%
15 to 30	457	4.8%
31+	1,841	19.5%
Detained pretrial		
No (less than 12 hours)	2,462	26.7%
Yes (more than 12 hours)	6,979	73.9%
OUTCOME		
FTA⁷		
No	6,446	80.9%
Yes	1,519	19.1%
NCA		
No	7,162	89.9%
Yes	803	10.1%
PD-NCA-12		
No	8,220	87.1%
Yes	1,221	12.9%
PD-NCA-24		
No	7,572	80.2%
Yes	1,869	19.8%

⁶ Values above 8 were recoded to equal 8 for this version of the variable.⁷ Only cases that had been released before their case was disposed of were selected for these frequencies and rates.

Analysis of the administrative variables revealed the mean bail assigned was nearly \$3,700. Less than 10% of the cases had what is referred to as the “mental health flagged” turned on (an item that was included in the pretrial risk assessment, hereafter PRA, which was a risk scale used in the models predicting NCA and FTA). The mental health flag is an item that is assessed via correctional professionals and/or health professionals and indicates that the defendant may be confronted with active mental health issues that are impeding functionality to some extent. Most of the cases booked into the jail were resolved via a plea of guilty (69.7%), with the majority of the total number of cases ultimately assigned to supervision of some type (as such, those cases that were not assigned to supervision also include cases that were dismissed at some point during the pretrial stage of case processing).

Seven items (most of them current charge and/or criminal history factors) went into a composite pretrial risk assessment. The county from which the data were obtained currently uses an actuarial pretrial risk assessment that has demonstrated predictive validity. However, the data used in the current project were gathered before the risk assessment had been developed and/or put fully into use. The items that went into the risk assessment were requested so the risk assessment could be re-created “retrospectively,” as closely as possible. The risk assessment includes state of residence (with 78.0% of the sample residing in Kansas – otherwise contributed two points to the scale). Also included is current employment (“No” – contributing 1 point – accounted for 41.1% of the sample), age at first charge (21 or younger contributing 1 point; 38.3% of the sample), current charge level (felony = 1 pt.; 36.4%), current charge type (DUI = 1 pt., 14.7%; drug = 2 pts., 13.1%), and any prior jail time before the current instance (yes = 1 pt.; 32.0%). The mean score for the PRA was 2.51 points, with a possible range of 0 to 10 points. Also, as noted above, the mental health flag was also included in the PRA, where “Yes” (the flag was turned on by one or more assessors) contributed 2 points to the composite score.

Several other criminal history items were assessed as potential descriptive and control variables, and are displayed in Table 1 as well. Over a third (35.2%) of the sample had been charged with a violent offense. In addition, the sample had a mean of 1.45 prior cases (total number of priors ranged from 0 to 24 cases), however based on an examination of the distribution for this variable a second version was created where prior cases over 8 was recoded to equal 8. When this was done the mean was affected only slightly (1.40), and logically the range was 0 to 8 for this recoded version of prior cases. The sample had a mean of .528 for prior FTAs, with 20.9% of the sample having one or more prior FTAs.

The number of days in jail was calculated from a variable that originally assessed the actual number of hours the individual spent in jail. Ultimately a categorical variable was created that indicated whether or not an individual spent 1 day (24 hours) or less in jail (N = 4,205; 44.5%), 2 to 3 days (N = 1,868; 19.8%), 4 to 7 days (N = 542; 5.7%), 8 to 14

days (N = 528; 5.6%), 15 to 30 days (N = 457; 4.8%), or 31 or more days in jail (N = 1,841; 19.5%). Another variable was calculated that indicates whether or not someone was “detained pretrial,” at all, or not, those less than 12 hours placed in the “not detained” category. A total of 2,462 defendants were classified as having not been detained (26.7%), while 6,979 were detained for 12 hours or more (73.9%).

Finally, Table 1 contains the rates of each of the four outcomes under consideration (FTA, NCA, PD-NCA-12, and PD-NCA-24). It is important to note that for the FTA and NCA analyses (including the multivariate models – see below – only included cases that had been released some time before their case was resolved. In other words, some cases were resolved (via a guilty plea, for example) either before they were released from jail, or, on the day of their release. As such, those individuals did not have the opportunity to FTA or NCA, and as such, were excluded from the analyses. When only those cases that could have committed a FTA or NCA were included, 19.1% of them had at least one FTA, while 10.1% of the cases had a NCA. Of all the bookings – 100% of the sample – almost 13% had a new charge during the 12 months after case disposition, while nearly 20% had a new charge during the 24 months after case disposition.

TABLE 2. BIVARIATE TEST: DAYS IN DETENTION X FTA

	FTA			
	No		Yes	
Days in Detention	N	%	N	%
1 day	3630	86.7%	555	13.3%
2 to 3 days	1492	80.3%	366	19.7%
4 to 7 days	376	70.7%	156	29.3%
8 to 14 days	342	68.3%	159	31.7%
15 to 30 days	223	65.0%	120	35.0%
31+ days	383	70.7%	163	29.9%

*Chi-square = 277.704*** of days in detention).*

**** - $p < 0.001$ / ** $p < 0.01$ / * $p < 0.05$ / *n.s* = not significant*

RESULTS – INVESTIGATING THE RELATIONSHIP BETWEEN DAYS IN DETENTION AND FTA

Table 2 presents a bivariate analysis examining the relationship between the categorical measure of days in detention (shown in Table 1 and discussed above) and FTA. The relationship is statistically significant (meaning factors other than chance are causing the difference in rates of FTA across categories of days in detention). Likewise, the rates of FTA appear to be lowest (13.3%) for those who spent 1 day (or less) in jail pretrial, and increase for every amount of time spent in jail, peaking at the 15 to 30 day mark (35.0%), and then decreasing only slightly for the category 31+ days in jail. The decrease is likely due to reduced opportunity to FTA (i.e., the closer the case is to disposition) the

longer someone stays in jail. In addition, even though the variable “days in detention” is categorical, a zero-order correlation was calculated with FTA, revealing a statistically significant relationship as well ($r = .173$; $p < .001$) indicating that as days in detention increases (categorically) the likelihood of FTA increases significantly .

A multivariate logistic regression analysis was conducted in order to further investigate the relationship between the categorical measures of days spent in jail pretrial and likelihood of FTA (see Table 3). Several control variables were entered into the model, including: age, race, sex, number of children, amount of bail, pretrial risk assessment score, whether or not the current charge was violent, number of prior cases, prior FTA, and days spent in detention. As noted above days spent in detention was categorized in ascending order as seen in Table 1 (1 day, 2 to 3 days, 4 to 7 days, 8 to 14 days, 15 to 30 days and 31 or more days). In addition, this variable was included in the model as a categorical variable, which means each category of time acted as its own variable, and was compared against 1 day in jail. For each of the categories of days in jail, when the odds ratios are above 1.00 and statistically significant ($p < .05$), that means that the particular amount of time had significantly higher likelihood of FTA, compared to spending 1 day in jail. For example, the odds ratio for the category 2 to 3 days in jail had an odds ratio of 1.609. That means that spending 2 to 3 days in jail was associated with a significantly higher likelihood of committing a FTA, than those who spent 1 day in jail (in fact approximately 60% higher). Those who spent 4 to 7 days in jail had a statistically significant and even larger magnitude likelihood of FTA, at 2.47 (i.e., a nearly 2.5 times statistical increase in the likelihood of FTA, relative to those who spent 1 day in jail). The likelihood of FTA increases for each category of time spent in jail (again, significantly, and relative to those who spend 1 day in jail pretrial), until the longest amount of time, where the likelihood is still significantly higher than those who spent 1 day in jail but decreases somewhat (from an odds ratio of 2.802 for those who spend 15 to 30 days in jail, to an odds ratio of 1.941 for those who spend 31 or more days in jail pretrial). Again, as noted in the bivariate analyses (which these multivariate analyses mirror fairly consistently) this decrease in likelihood is probably due to the passage of time increasing the chance that the case will be resolved, thereby reducing the opportunity for FTA to occur (i.e., fewer court appearances to miss). It is important to note that these results were observed in a multivariate model that controlled for several relevant criminogenic and other evidently salient predictors, thereby holding their potential effects constant and allowing the relationship between days spent in detention and likelihood of FTA to be revealed.

TABLE 3. MULTIVARIATE LOGISTIC REGRESSION PREDICTING PRETRIAL FTA

Variable	Odds Ratio	<i>p</i>
Days in Detention	.992	.007
Age	1.301	.001
Race	.957	.550
Sex	1.055	.037
Number children	1.000	.307
Bail amount	223	120
PRA score	383	163
Current violent charge	1.210	<.001
Prior cases	.815	.005
Prior FTA	.997	.884
Days spent in detention (reference = 1 day)	1.564	<.001
2 to 3 days	1.609	<.001
4 to 7 days	2.457	<.001
8 to 14 days	2.518	<.001
15 to 30 days	2.802	<.001
31+ days	1.941	<.001
Constant	.232	<.001

N = 7,080

Model chi-square = 479.784***

RESULTS – INVESTIGATING THE RELATIONSHIP BETWEEN DAYS IN DETENTION AND NCA

Table 4 reveals markedly different results regarding the bivariate relationship between days in detention and NCA. The relationship was non-significant, as can be seen from the only slightly varying percentage of cases that had a NCA during the pretrial period for each category of time. The rate of NCA for each category of time is around 10% with the one exception being those that spent 31 or more days in jail having a slightly reduced rate of NCA (8.6%). This lattermost change is again likely due to the lack of opportunity since the pretrial period would have naturally been coming to an end the longer someone stays in jail thereby reducing the possibility to commit FTA. The zero-order correlation between the categorical measure of days in jail and NCA was non-significant as well (not shown).

TABLE 4. BIVARIATE TEST: DAYS IN DETENTION X NCA

Days in Detention	NCA			
	No		Yes	
	N	%	N	%
1 day	3764	89.9%	421	10.1%
2 to 3 days	1666	89.7%	192	10.3%
4 to 7 days	478	89.8%	54	10.2%
8 to 14 days	448	89.4%	53	10.6%
15 to 30 days	307	89.5%	36	10.5%
31+ days	499	91.4%	47	8.6%

Chi-square = 1.645 n.s.

Table 5 presents the same model that was calculated for FTA, only NCA was used as the outcome criteria. The same control variables were used (age, race, sex, number of children, amount of bail, PRA risk score, current violent charge, number of prior cases, prior FTA) while examining the relationship between days in detention (categorical) and NCA.

TABLE 5. MULTIVARIATE LOGISTIC REGRESSION PREDICTING PRETRIAL NCA

VARIABLE	ODDS RATIO	<i>p</i>
Age	.990	.012
Race	.856	.149
Sex	.795	.020
Number children	1.001	.978
Bail amount	1.000	.005
PRA score	1.060	.037
Current violent charge	1.375	<.001
Prior cases	1.202	<.001
Prior FTA	1.090	.427
Days spent in detention (reference = 1 day)		
2 to 3 days	.961	.696
4 to 7 days	.897	.531
8 to 14 days	.976	.882
15 to 30 days	.871	.476
31+ days	.596	.001
Constant	.086	<.001

N = 7,080

*Model chi-square = 178.436****

Days spent in detention was again calculated as a categorical variable, with each amount of time serving as its own category, compared against those who spent one day (or less) in jail during the pretrial period. Only one of the categories of time – those who spent 31+ days in jail – differed significantly from those who spent 1 in jail, and they did so in a lesser direction (meaning those who spent 31+ days in jail were significantly less likely to commit a NCA than those who spent 1 day in jail – again likely due to lessened opportunity).

RESULTS – INVESTIGATING THE RELATIONSHIP BETWEEN DAYS IN DETENTION AND 12 MONTH PDNCA

Table 6 presents a bivariate test of the relationship between the categorical measures of days spent in jail pretrial, and 12-month post-disposition NCA. The relationship is statistically significant, with an apparent upward trend, with rates of 12 month NCA increasing as days in jail increases, with a decline at 31+ days. Rates of 12 month post-disposition NCA are lowest for those who spent 1 day in jail (11.3%) and highest for those that spend 15 to 30 days (21.7%). In addition, the zero-order correlation between the categorical measure of days spent in jail and 12 month post-disposition NCA was statistically significant and positive (.047***) indicating that as days in jail increased so does the likelihood of post-disposition 12 month NCA.

TABLE 6. BIVARIATE TEST: DAYS IN DETENTION X PDNCA – 12 MONTH

	NCA			
	No		Yes	
Days in Detention	N	%	N	%
1 day	3729	88.7%	476	11.3%
2 to 3 days	1638	87.7%	230	12.3%
4 to 7 days	461	85.1%	81	14.9%
8 to 14 days	451	85.4%	77	14.6%
15 to 30 days	358	78.3%	99	21.7%
31+ days	1583	86.0%	258	14.0%

Chi-square = 46.423***

Table 7 displays the results of a multivariate logistic regression predicting post-disposition 12 month NCA, using a slightly different set of control variables than those present in Tables 3 and 5. Specifically the following controls were included in the model: age, race, sex, number of children, number of prior cases, whether or not the person was supervised post-disposition, the case disposition (guilty = 1), whether or not the current charge was violent, and days in jail categorized as before. Days in jail was run as an automated categorical variable where each category (amount of time) was compared against a reference category which was spending 1 day in jail. Defendants who spent 2 to 3 days in jail did not differ significantly from those who spent

one day in jail, regarding the likelihood of 12-month post-disposition NCA. Every other category however did differ significantly, with each category displaying a significantly higher likelihood of post-disposition NCA at the 12 month point, compared to those who spent one day in jail (save the category 8 to 14 days, which approached statistical significance). For example, defendants that spent 15 to 30 days in jail pretrial had an 83 percent higher likelihood of post-disposition NCA relative to those who spent one day in jail while controlling for all other variables in the model. Based on these results, the relationship between days in jail and the likelihood of post-disposition NCA at the 12 month mark appears to be generally positive, with the likelihood of NCA (12 month) increasing for each category of time spent in jail, relative to spending just 1 day in jail (with the exception being those who spent 2 to 3 days on jail). In short, those who spend 1 day in jail appear like those who spend 2 to 3 days in jail, at the 12 month post-disposition point.

TABLE 7. MULTIVARIATE LOGISTIC REGRESSION PREDICTING POST-DISPOSITION NCA – 12 MONTH

VARIABLE	ODDS RATIO	<i>p</i>
Age	.978	<.001
Race	1.098	.264
Sex	.775	.003
Number children	1.002	.955
Prior cases	1.252	<.001
Under supervision	2.381	<.001
Case Disposition	.391	<.001
Current Violent Charges	1.117	.116
Days spent in detention (reference = 1 day)		
2 to 3 days	.981	.844
4 to 7 days	1.408	.016
8 to 14 days	1.318	.055
15 to 30 days	1.830	<.001
31+ days	1.226	.039
Constant	.275	<.001

N = 8,338

Model *chi-square* = 393.042 ***

RESULTS – INVESTIGATING THE RELATIONSHIP BETWEEN DAYS IN DETENTION AND 24 MONTH PDNCA

Table 8 presents a bivariate test of days spent in detention and 24 month post-disposition NCA. The relationship is statistically significant, with the percentage of 24 month post-disposition NCA increasing, approximately with each increase in days spent in detention with some slight anomalies. Those who spent 1 day in jail did have the lowest rate of post-disposition NCA at the 24 month point (18.2%), while those who spent 15 to 30 days in jail had the highest rate (29.1%). As before, the rate of NCA at the 24 month post-disposition point declines for those who spent 31 or longer in jail at the pretrial phase. The data are not currently available to investigate this anomaly further, however, it is possible that those who spent the longest amounts of time in jail were of a higher risk/need classification that ultimately led to more intervention relative to other categories. The zero-order correlation was statistically significant as well ($r = .045^{***}$).

TABLE 8. BIVARIATE TEST: DAYS IN DETENTION X PDNCA – 24 MONTH

	NCA			
	No		Yes	
Days in Detention	N	%	N	%
1 day	3441	81.8%	764	18.2%
2 to 3 days	1512	80.9%	356	19.1%
4 to 7 days	430	79.3%	112	20.7%
8 to 14 days	421	79.7%	107	20.3%
15 to 30 days	324	70.9%	133	29.1%
31+ days	1444	78.4%	397	21.6%

*Chi-square = 36.540****

Table 9 displays the multivariate logistic regression model predicting post-disposition NCA at the 24 month point. The same control variables as those that appear in the 12-month post-disposition NCA model were used (age, race, sex, number of children, number of prior cases, whether or not the person was on supervision in the community, the case disposition, whether or not the most recent charge was violent – meaning the charge captured in the base data).

TABLE 9. MULTIVARIATE LOGISTIC REGRESSION PREDICTING POST-DISPOSITION NCA – 24 MONTH

VARIABLE	ODDS RATIO	<i>p</i>
Age	.977	<.001
Race	1.067	.365
Sex	.776	<.001
Number children	1.017	.502
Prior cases	1.272	<.001
Under supervision	2.071	<.001
Case Disposition	.531	<.001
Current Violent Charges	1.095	.132
Days spent in detention (reference = 1 day)		
2 to 3 days	.957	.588
4 to 7 days	1.127	.344
8 to 14 days	1.077	.562
15 to 30 days	1.493	.002
31+ days	1.065	.465
Constant	.383	<.001

N = 8338

Model *chi-square* = 524.064***

In keeping with the precedent established above, days spent in jail pretrial was analyzed as an automated categorical variable where each category of time spent in jail was compared to those who spent one day in jail which served as the referent category. Only one amount of time – 15 to 30 days in jail – differed significantly from those who spent 1 day in jail regarding the likelihood that post-disposition at the 24 month point would occur. Defendants who spent 15 to 30 days in jail were at a 49 percent higher likelihood of committing post-disposition NCA at the 24 month point.

Discussion, implications, and limitations

The effect of days spent in detention pretrial on the four outcomes analyzed above appears to be mixed. While there is some clear indication that as days spent in jail pretrial increases, the likelihood of FTA likewise increases, the relationship did not hold when using days in jail to predict NCA. In fact, the only significant comparison when predicting NCA appeared for those who spent 31+ days in jail pretrial, who had a significantly lower likelihood of committing pretrial NCA (which makes intuitive sense, as noted above).

The findings presented above corroborate a sizable portion of the results found in the Arnold Foundations study which served as a template for the current analyses. Specifically, the likelihood of FTA increased with the amount of time spent in jail during the pretrial period. Further, the likelihood of NCA at the 12 month mark appeared to be impacted to some degree, but not the 24 month point (see further discussion below), via increasing amounts of time in jail pretrial. Regardless of these mixed findings (relative to the Arnold Foundation's study) these results lend further support to the notion that time spent in jail pretrial leads to more negative outcomes for defendants. Further, these results were revealed while controlling for important factors that may also impact FTA and NCA such as demographic variables and of course risk level.

Interestingly, the relationship between days spent in jail pretrial and NCA at the 12 month mark reappeared but then was not evident at the 24 month mark. The data were extracted from the same source, using the same procedures, and likely were managed and treated the same way for each of the four outcomes. As such, the inconsistencies in the results may be due to factors that were not included in any of the data extracts. Further prospective research where cases are enrolled in the study going forward and that utilizes unique measures may shed more light on the relationship between days spent in jail pretrial, and other justice-related outcomes.

The policy implications for the current study appear to center mainly on systemic decisions that relate to defendants spending time in jail. As noted above, increasing amounts of evidence are emerging that explore in detail the impact that jail has on outcomes (the current study included). In addition, when considering the literal monetary cost of jail, it would behoove jurisdictions of any size to use jail space judiciously and efficiently. In light of the fact that jail time has impacts on the likelihood of FTA, NCA, and may also impact the likelihood of post-disposition NCA, good policy would suggest that only those cases that pose the absolute highest actuarial risk of FTA and NCA to begin with be detained in jail during the pretrial period. The remainder of defendants should be remain in the community, with necessary resources in place (based on risk level) to increase accountability and reduce the likelihood of potential new criminal behavior. Doing so will allow expensive jail space to be used more efficiently, and will reduce the likelihood of the apparent negative impact of jail time on FTA, NCA, and post-dispositional NCA.

Aside from the above there are some additional limitations that should be observed when considering these results. For example, these data came from a county that has been recognized for innovation and progressive policies as it relates to justice case processing, and corrections. As a result it might be possible that changes that occurred on an agency-wide level could have affected the results (i.e., an historical effect). In addition, the pretrial risk assessment scale (PRA, noted above), was not used in the models predicting post-disposition NCA. Preliminary analysis revealed that the scale, which was developed after these data were exported, did not predict for post-disposition NCA. This did not come as a surprise, since the scale (which was statistically related to pretrial FTA, and to a lesser extent pretrial NCA) was not developed as a means to predict post-disposition outcome. Nonetheless, there was a need to control for criminal history at the very least, and efforts were made to do so on a limited basis using the variables that were available (e.g., current violent offense, number of priors, etc.). The analyses would have likely benefited from the availability of a post-disposition risk/need assessment in order to control for potential differences in the propensity to commit crime generally.

Another limitation of the current analysis has to do with the mixing of cases that were under supervision in the local correctional system, with those who were not. Efforts were made to control for these differences (much like the risk-based controls mentioned above), however, it is likely that those two populations may have contained (unmeasured) differences that related to the propensity to commit new crime.

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Appendix

Johnson County Pre-Trial Risk Assessment

State of Residence

- Kansas (0 pts.)
 Missouri/Other (2 pts.)

Employment Status (current)

- Yes (0 pts.)
 No (1 pt.)

Age at First Charge

- 22 or older (0 pts.)
 21 or younger (1 pt.)

Current Charge

- Misdemeanor (0 pts.)
 Felony (1 pt.)

Current Charge Drug/DUI related?

- No (0 pts.)
 DUI-related (1 pt.)
 Drug-related (2 pts.)

Any prior jail time?

- No (0 pts.)
 Yes (1 pt.)

Substance abuse flag

- No (0 pts.)
 Yes (2 pts.)

Mental Health Flag

- No (0 pts.)
 Yes (2 pts.)