A Study on the Accuracy of NIBRS Arrest Data: It's Personal

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From Dan's obituary

Dan managed the Massachusetts State Police Crime Reporting Unit for 27 years, retiring in 2015. He was primarily responsible for collecting, processing, analyzing and disseminating crime data to the FBI for over 300 state and local police agencies in Massachusetts. His last assignment was with the State Police Commonwealth Fusion Center where his knowledge of crime data was used to examine statewide crime trends. He became a national expert in crime statistics, co-authoring numerous professional publications on crime data and its utility for crime control policy. He was passionate about enhancing the data quality of crime statistics throughout the state and worked tirelessly on improving reporting rates and assisting municipalities with data reporting implementation.

My introduction to NIBRS

- I have been studying the criminal justice response to child, adolescent and adult sexual assault for 35 years
- Several studies have used NIBRS to study arrests in sexual assault cases
- Our research team intended to use NIBRS to help us study the relationship between DNA evidence and arrests in sexual assault cases
- But we ran into a problem…

Our initial experience with NIBRS

- Accessed Massachusetts NIBRS arrest data for our NIJ study sample
- The arrest rate we calculated was substantially lower than the national arrest rates for sexual assault
  - This raised questions about the reliability of the arrest data
- Informal interviews with crime data specialists
  - Arrest field not being updated
  - Some agencies not entering arrest data
- Turned to an alternative to NIBRS: we sent individualized data sheets to police chiefs in 144 LEAs, who were asked to complete and return them to the Massachusetts Executive Office of Public Safety and Security

We were able to do the study despite not using NIBRS data

Article

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Biological Evidence in Adult and Adolescent Sexual Assault Cases: Timing and Relationship to Arrest

Theodore P. Cross,[1] Megan Alderden,[2] Alex Wagner,[3] Lisa Sampson,[4] Brittany Peters,[4] and Kaitlin Lounsbury[5]

Abstract

This study examined the timing of the crime laboratory report relative to arrests in sexual assault cases and explored the relationship between biological evidence and arrest in those cases in which the crime laboratory report came first and thus could have influenced the arrest decision. A random sample (*N* = 528) of cases that occurred between 2008 and 2010 and included a report to police was drawn from a Massachusetts statewide database of medical reports on sexual assault cases. Data from medical providers were merged with data abstracted from crime laboratory reports and with data requested from police departments. The vast majority (91.5%) of arrests took place before crime laboratory analysis could be conducted. The crime laboratory report was available before or near in time to the arrest in 11 cases. These cases were significantly more likely than other cases to have DNA profiles of the assailant, DNA matches to the suspect, and a match to another investigation




But it gnawed at me that we were unable to use NIBRS data in the first study

- My response: Do more research!
- We obtained a National Institute Justice grant to study the accuracy of arrest data in NIBRS

Research Methods

- We conducted our study in 2016-2017
- We used a stratified random sample of Massachusetts NIBRS data from 2011-2013
- At that time, 85% of MA agencies participated in NIBRS (but not Boston)
- We reached out to LEAs to obtain data on arrests directly from them
- Of the 165 LEAs represented in the sample, 80.6% participated
- Used weighting to obtain accurate percentages

Agency size considerations

- We anticipated that NIBRS reliability might differ by size of law enforcement agency (LEA)
- Stratified random sample created with equal numbers of cases by LEA (number of FT employees) and type of crime
- We used below definition:
  - Small LEA -> 0 to 25 FT employees
  - Medium LEA -> 26 to 99 FT employees
  - Large LEA -> 100 or more FT employees incidents
- Sample weights were used to correct for oversampling

Crimes we included in our study

Crime We Included	Why We Included It
Aggravated assault	Higher arrest rates than other crimes
Simple assault	Higher arrest rates than other crimes
Intimidation	Higher arrest rates than other crimes
Sexual assault	Our previous research studied it

Stratified random sample

	Small LEA	Medium LEA	Large LEA
Sexual assault	40	40	40
Aggravated assault	40	40	40
Simple assault	40	40	40
Intimidation	40	40	40

Article

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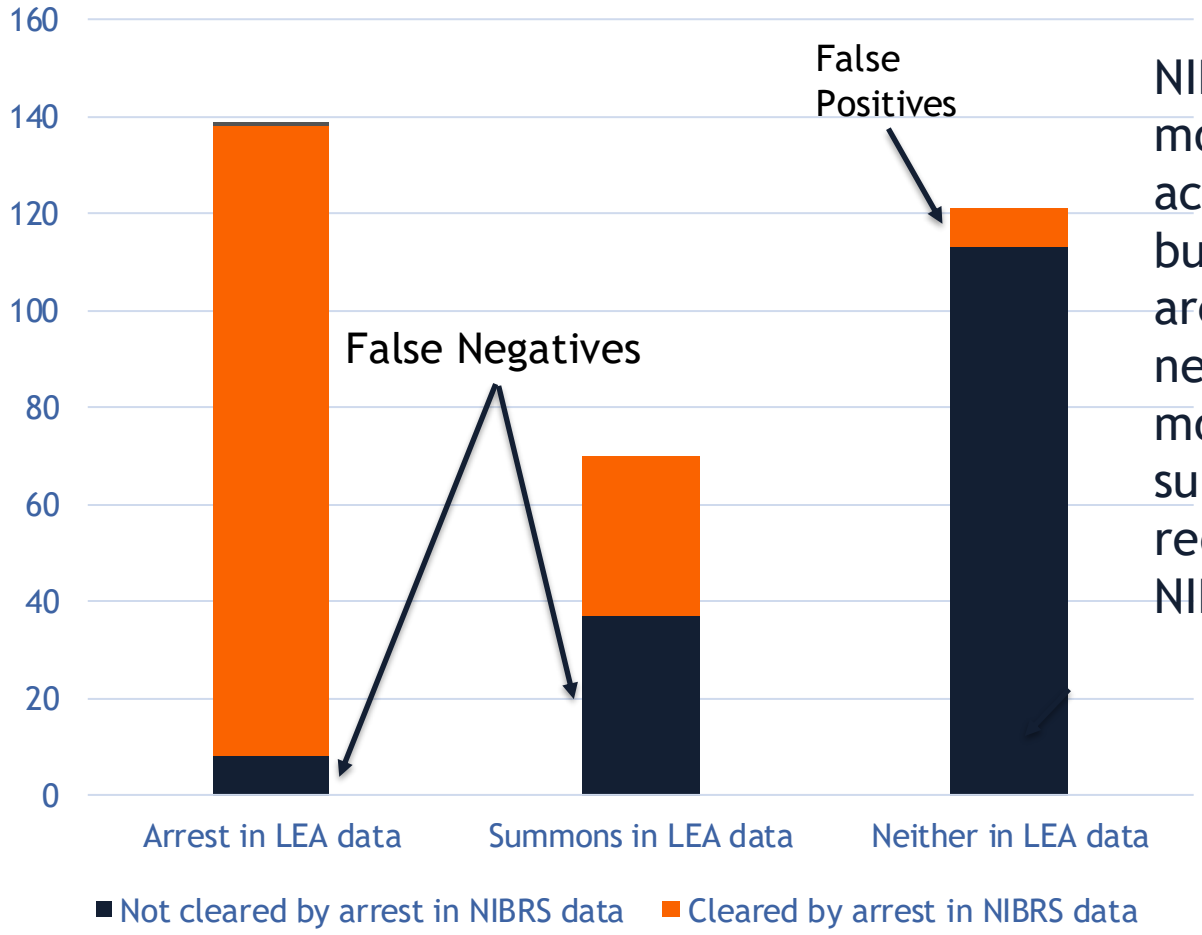
The Accuracy of Arrest Data in the National Incident-Based Reporting System (NIBRS)

Theodore P. Cross[1], Alex Wagner[2], and Daniel Bibel[3]

Abstract

This study compared NIBRS arrest data in a statewide sample with arrest and summons data on the same cases collected directly from law enforcement agencies (LEAs). NIBRS matched LEA data in 84.1% of cases. However, 5.8% of LEA arrests and 52.9% of LEA summons were false negatives, that is, they were incorrectly represented as not cleared by arrest in NIBRS. False negatives were more likely when more than 1 day elapsed between incident and arrest and when the crimes were sexual assault or intimidation. False negatives were less likely in small LEAs (for summons) Recommendations are presented for improving accuracy.

Results on match between LEA and NIBRS weighted data on arrest

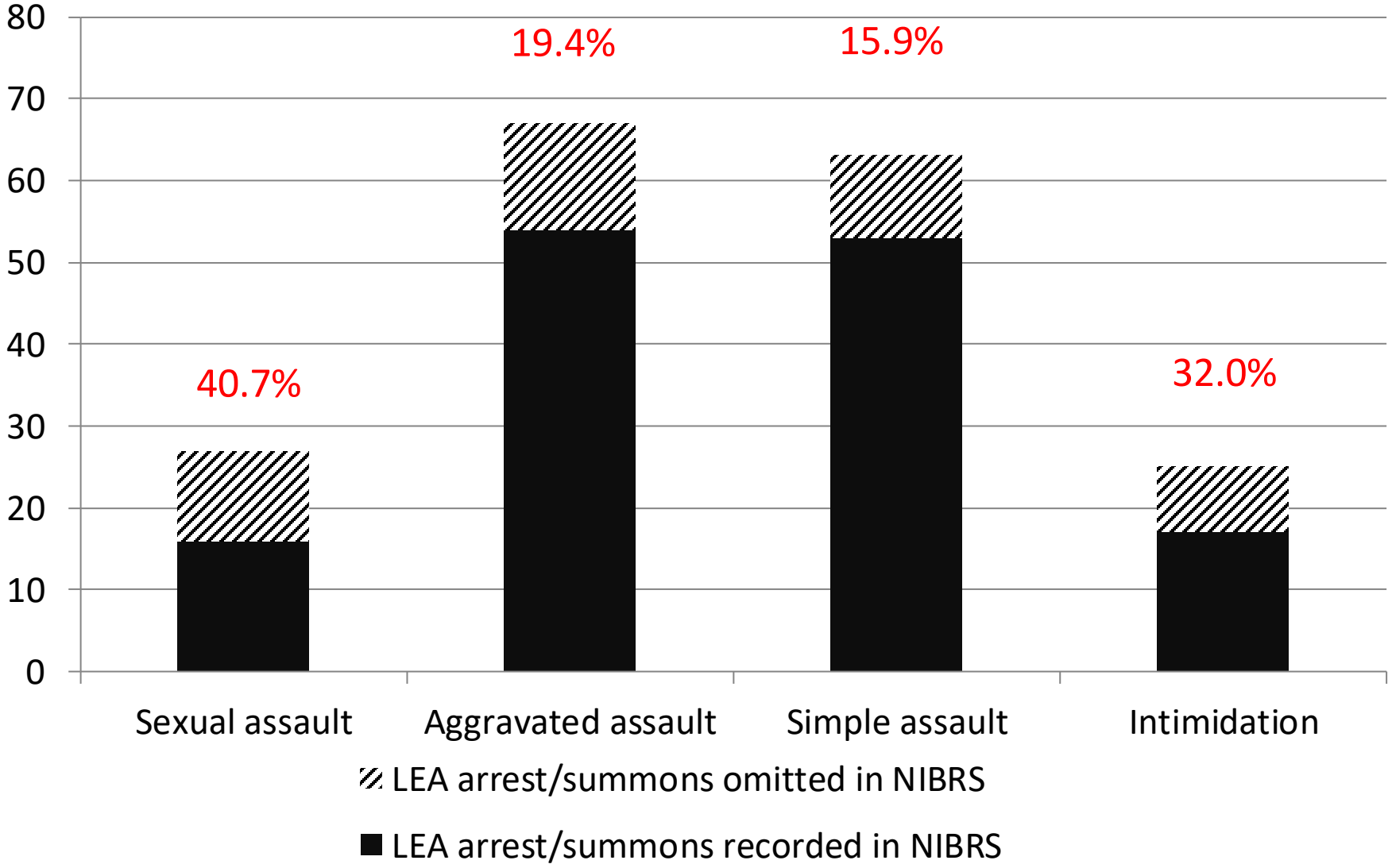


NIBRS is mostly accurate, but there are “false negatives”, mostly summons not recorded in NIBRS

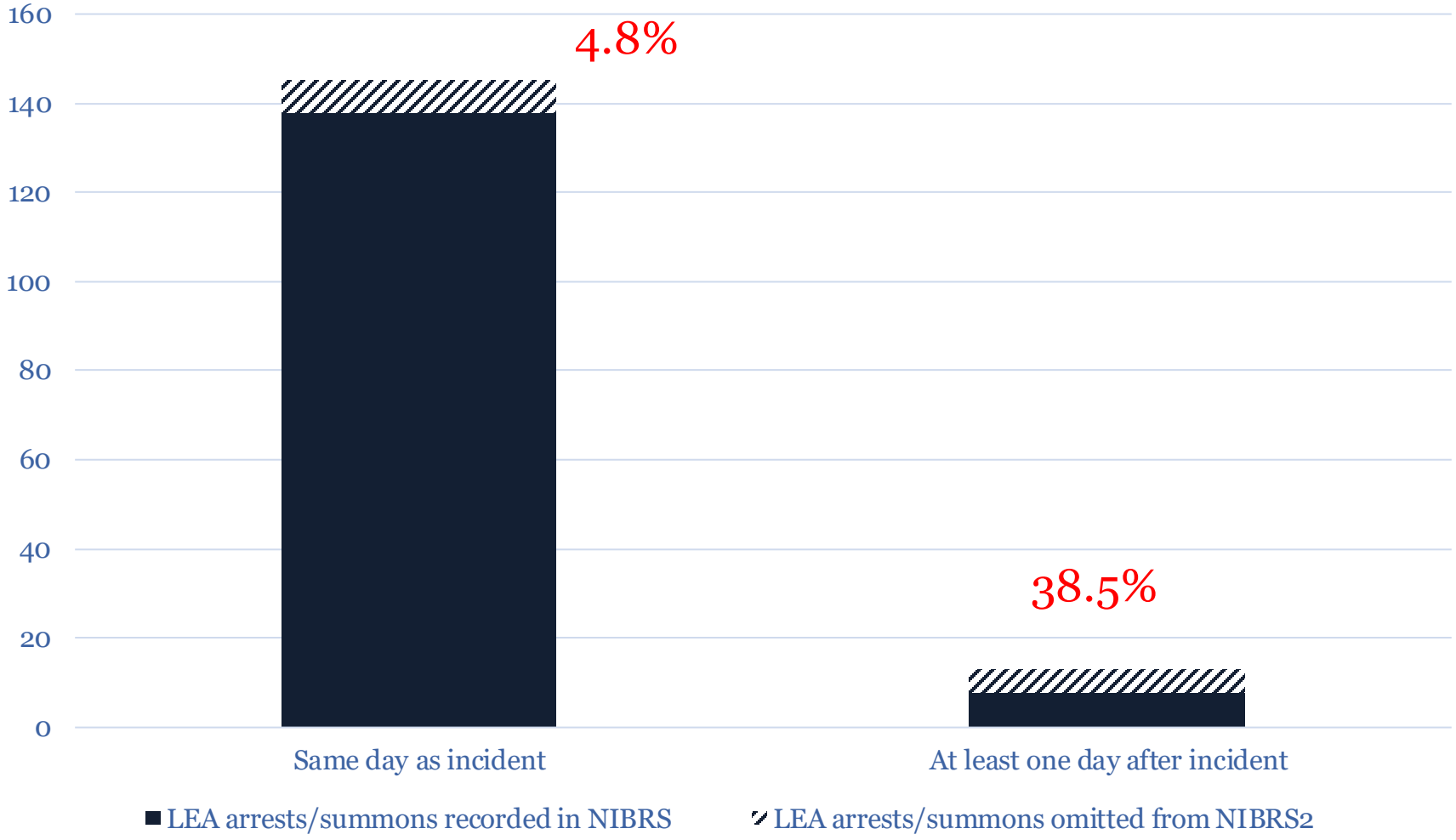




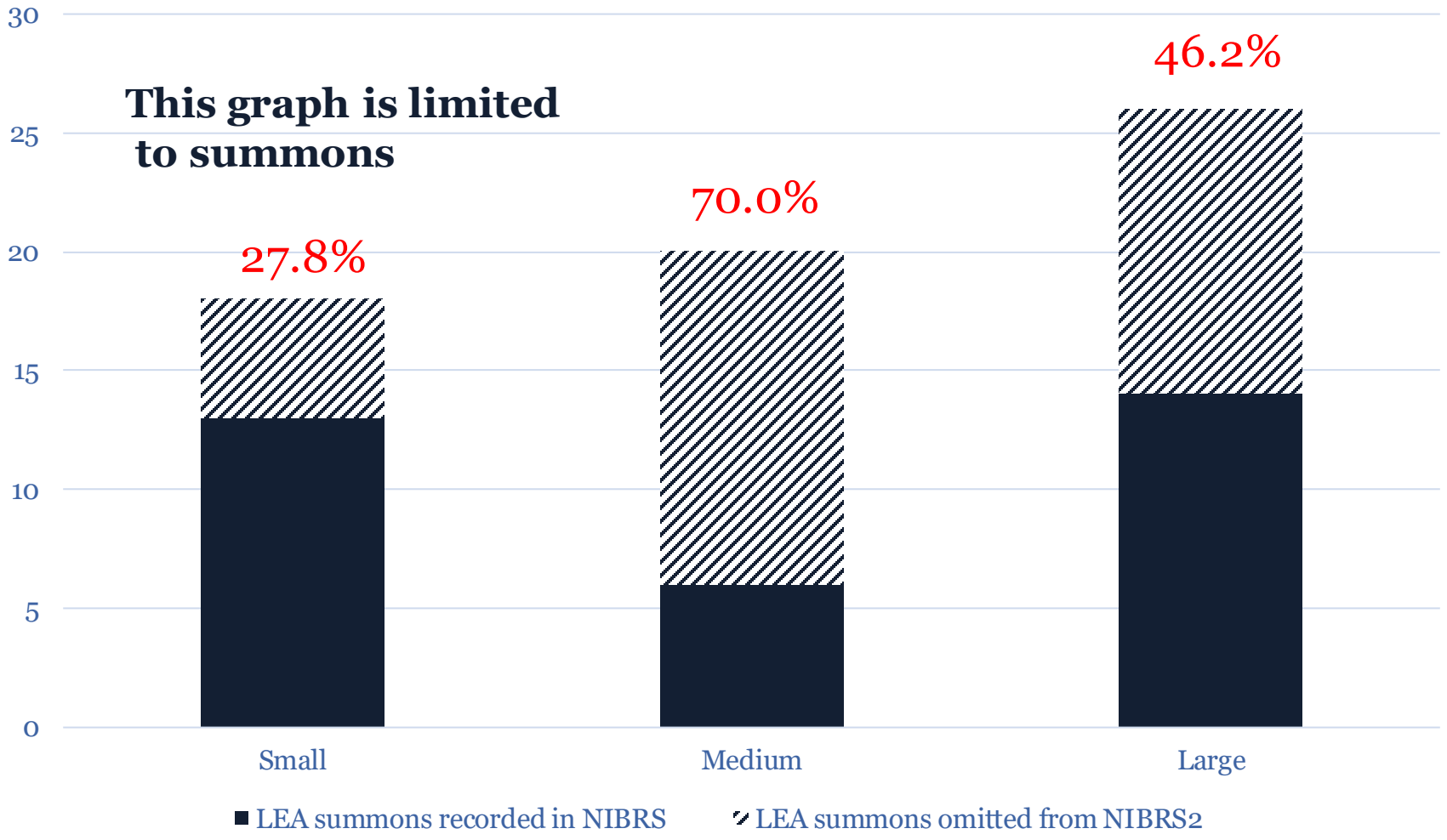
The percentage of false negatives differed by crime



The percentage of false negatives differed by time to arrest – more likely when the arrest was delayed by 1 or more days



The percentage of false negatives **on summons** differed by LEA size



We surveyed LEAs about NIBRS

- 28 agencies responded
- 62% reported no issues with updating data
- 88% reported no challenges for arrests and exceptional clearances
- Fewer than 40% received training from RMS vendors
- About 77% received training/support from Massachusetts State Police Crime Reporting Unit, usually from Dan Bibel




We interviewed those tasked with NIBRS data in 6 LEAs

- Only two of the LEAs updated information on arrest if an arrest occurred in a later month than the month of the incident
- LEAs varied in how they handled summons in NIBRS
- Two did not enter summons as an arrest type (not aware of NIBRS instructions to enter data in arrest fields for summons)

Issues in accuracy of NIBRS arrest data

- LEAs often did NOT enter summons as arrest per instructions of the NIBRS manual
- Arrest data was often **not** being updated if the arrest occurred in the next month after the incident or later
- Thus NIBRS appears to undercount arrests in some cases





Conceptual issue about counting summons as arrests

- NIBRS includes summons as a type of arrest
- The common law definition of arrest involves an officer obtaining custody over a suspect
- But summons was developed as an alternative to arresting an individual and does not involve an officer obtaining custody over a suspect
- Thus the NIBRS Manual appears to require personnel to "override" the common understanding of what an arrest and a summons are

3.3.7.4 Data Element 43-Type of Arrest

Type of Arrest is used to indicate how the offender was arrested.

Group: A, B
Format: 1-Character Alphabetic
Position: 60 Arrestee Segment
48 Group B Arrest Report Segment
Occurrence: Once per Arrestee Segment/Group B Arrest Report Segment
Mandatory: Yes
Edits:
Note: Error Codes 600–699 are used for Arrestee Segment edits. Error Codes 700–799 are used for Group B Arrest Report Segment edits.

Table 3-60 Type of Arrest Edit Description

Type of Arrest Element Edits		
Data Element	**Edit Description**	**Associated Error Code**
Data Element 43	(Type of Arrest) The referenced data element in an incident must contain data when the referenced data element is mandatory or when the conditions are met for data that must be entered into a conditionally mandatory field.	601, 701
Data Element 43	(Type of Arrest) The referenced data element must contain a valid data value when it is entered; blank is permissible on nonmandatory fields.	604, 704

Data Values:

O = On-View Arrest (apprehension without a warrant or previous incident report)
S = Summoned/Cited (not taken into custody)
T = Taken Into Custody (based on a warrant and/or previously submitted incident report)

3.3.7.5 Data Element 44-Multiple Arrestee Segments Indicator

Multiple Arrestee Segments Indicator is used to ensure that an arrestee is counted only once when the arrestee's apprehension causes the reporting agency to submit two or more Arrestee Segments concerning separate Group A Incident Reports.

Data management issues

- Many LEAs had no comprehensive quality assurance
- Many LEAS submitted data without examining the generated data file first
- Many LEAs only fixed the errors that prevent file submission
- Many LEAs lack the personnel to develop complete understanding of their software's data structures and procedures

Recommendations we made in the article

1. Increased attention to the accuracy of arrest and summons in NIBRS training, instructional material, and data audits should
2. Training specifically focused on updating data
3. LEA's should assess (with state and Federal technical assistance)
    1. Software quality
    2. Internal communication about incident data
    3. Access to and responsibility for NIBRS data.





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