Improving the Collection and Reporting of Arrest Data in the National Incident-Based Reporting System (NIBRS)

Alex Wagner, Fisher College
Theodore Cross, University of Illinois at Urbana-Champaign
Dan Bibel, Consultant
Rosa Mazzeo, Fisher College

Overview

How this all started & brief recap

Delays and extended data collection

Results

Recommendations & future research

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How this all started

One goal of NIBRS was to improve the measurement of clearance data, including arrest data

One strength of NIBRS is the opportunity to update data, which can improve accuracy of NIBRS data if items change after initial reporting

But failures to update and other problems appear to be limiting reliability of NIBRS data

NIBRS requires entering summons as a type of arrest, which is somewhat counter-intuitive

An inaccurate arrest rate for sexual assault led us to avoid NIBRS in a previous research project and get data directly from police agencies

Our study is the first study we know of specifically focusing on the reliability of NIBRS arrest data

How this all started

Current project spun out of the previous project

Research arrest data quality in NIBRS for:
◦ Sexual Assaults
◦ Aggravated Assaults
◦ Simple Assaults
◦ Intimidation

Stratified random sample of 172,716 assault incidents (2011-2013)

165 agencies and 480 incidents are in our sample data set

Also review potential Record Management System (RMS) impact on data quality

Qualitative component with surveys and interviews of LE personnel

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, 160 incidents
- Medium LEA ->   26 to 99 FT employees, 160 incidents
- Large LEA ->   100 or more FT employees, 160 incidents

Sample weights were used to correct for oversampling

Stratified random sampling method

	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

Project delays & extended data collection

This was designed as a 9 months project

Encountered delays with a stakeholder and data collection was delayed for months and took multiple rounds for data sheets and surveys. Additional rounds for interviews

Multiple rounds of data collections were necessary to get the desired response rates (letters, emails, phone calls)

Would not have been possible without support from MassChiefs, MACA, and our research analyst!

Match between LEA and NIBRS weighted data on arrest

Arrest/Summons recorded by LEA	NIBRS Clearance Status	
	Not Cleared by Arrest	Cleared by Arrest
Arrest	8	130
	5.8%	94.2%
Summons	37	33
	52.9%	47.1%
Neither	113	8
	93.4%	6.6%

Note. Cells present weighted frequencies and row percentages.

# Agency size impact on false negatives

Unweighted analysis (agency size was strata variable)

Likelihood for false negative differed significantly by agency for summons but not for arrest (likelihood ratio χ^2 (2, N=181) = 7.07, p = .037)

False negatives for summons occurred in:
- 27.8% of cases for small agencies
- 70% of cases for medium-size agencies
- 46.2% of cases for large agencies

False negatives in NIBRS by offense type
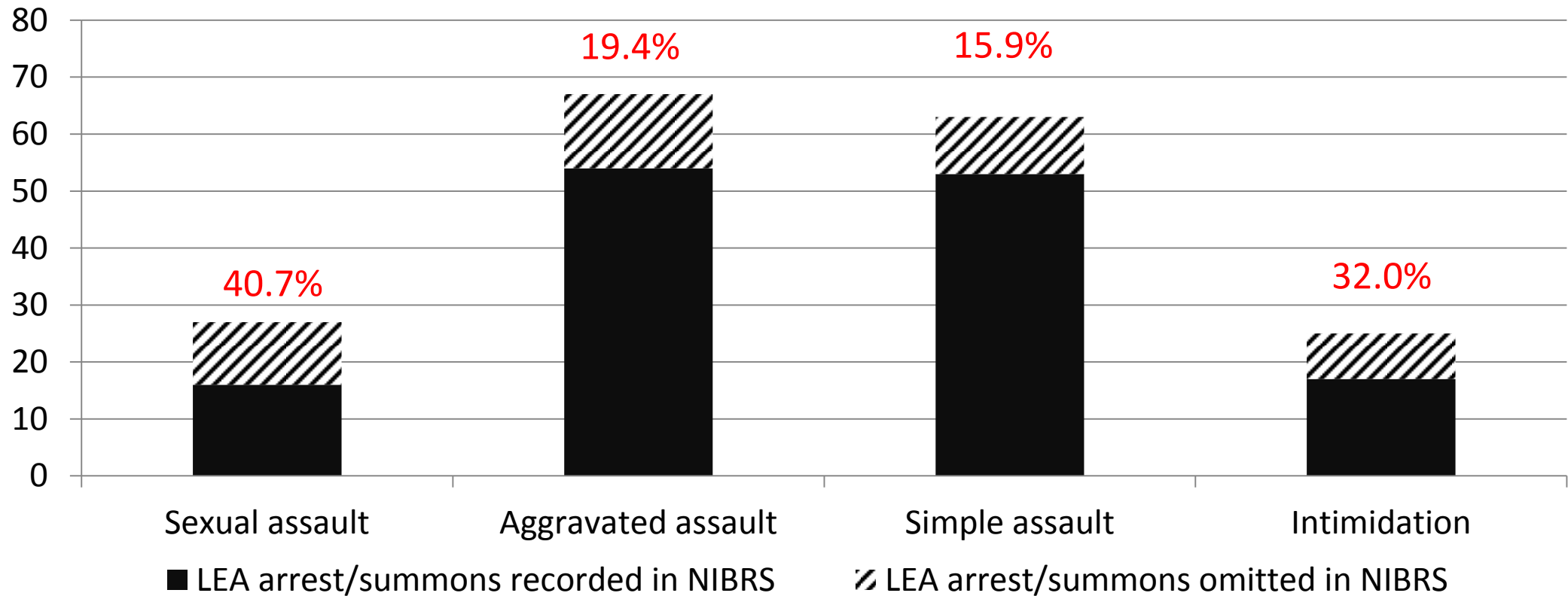
Note. Unweighted data used. Likelihood ratio χ^2 (3, N=182) = 8.22, p = .042

Selected survey findings

28 agencies overall responded, n as small as 21 depending on question

62% reported no issues with updating data

88% reported no considerations/challenges for arrests and exceptional clearances

Fewer than 40% received training from RMS vendors

About 77% received training/support form Massachusetts State Police Crime Reporting Unit, usually from Dan Bibel

Respondents also had recommendations on other issues, e.g.
- More vendor training after RMS software updates
- More training on resolving NIBRS errors
- CRU training should be tied more to specific RMS rather than general NIBRS issues only

Selected interview findings

Only able to conduct 6 interviews

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)

Data management issues

Many LEAs have no comprehensive quality assurance

Many LEAS submit data without examining the generated data file first

Many LEAs are focused on only fixing the errors that prevent file submission

Many LEAs lack the personnel to develop complete understanding of their RMSs' data structures and procedures

Recommendations & future research

Increase attention to the problem

Improve updating of NIBRS data

Improve recording of summons

Changes to the NIBRS manual

Future research

Questions?

Alex Wagner   awagner@fisher.edu

Ted Cross   tpcross@illinois.edu

Rosa Mazzeo   rmazzeo@fisher.edu

Dan Bibel   dbibel@verizon.net