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

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Overview

How this all started & brief recap
Delays and extended data collection
Results
Recommendations & future research
Questions?
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

<table>
<thead>
<tr>
<th></th>
<th>Small LEA</th>
<th>Medium LEA</th>
<th>Large LEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual assault</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Aggravated assault</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Simple assault</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Intimidation</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Arrest/Summons recorded by LEA</th>
<th>NIBRS Clearance Status</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Not Cleared by Arrest</td>
<td>Cleared by Arrest</td>
</tr>
<tr>
<td>Arrest</td>
<td></td>
<td>8</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.8%</td>
<td>94.2%</td>
</tr>
<tr>
<td>Summons</td>
<td></td>
<td>37</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>52.9%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Neither</td>
<td></td>
<td>113</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>93.4%</td>
<td>6.6%</td>
</tr>
</tbody>
</table>

*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 $\chi^2 (2, N=181) = 7.07, p = .037$)

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 $\chi^2(3, N=182) = 8.22, p = .042$
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?

<table>
<thead>
<tr>
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