Contextualizing Person-Based Prediction

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Center for the Study and Practice of Violence Reduction – the VRC

- Located in UMD's Criminology and Criminal Justice Department, the VRC offers solutions to community gun violence by combining rigorous research with practical know-how
  - Reviews research, summarizes it, and then makes available in accessible, easy-to-use formats
  - Provides practical instruction to cities on how to choose right combination of anti-violence strategies for their jurisdiction
  - Convenes stakeholders on subjects of strategic interest to violence reduction field

Predictive policing in theory

- “Predictive policing includes strategies, tactics and enabling tools and technologies that improve the situational awareness of law enforcement concerning individuals or locations before criminal activity takes place (NIJ, 2009).”
  - “Predictive analysis may be useful to guide community policing interventions, including strategies such as those used in the Boston Ceasefire programs (NIJ, 2009).”
- According to NIJ’s original solicitation, almost anything could qualify as predictive policing, and almost any intervention might benefit from using it
- “[L]abeling these different strains of technology with the broad title of ‘predictive policing’ may well encourage such misleading hype and expectations (Ferguson, 2015).”

Predictive policing in practice

- In practice, predictive policing interventions often involve:
  - Large and varied data sets
  - Advanced analytic techniques using algorithms, machine learning, and/or artificial intelligence
  - Actual predictions or forecasts of criminal behavior
  - Used only for law enforcement purposes
  - For-profit vendors and/or consultants
  - Mixed track records when rigorously examined, investigated
- Examples include LAPD's LASER program (discontinued after internal audit) and Chicago's Strategic Subject List (ended after evaluation, OIG report), among others

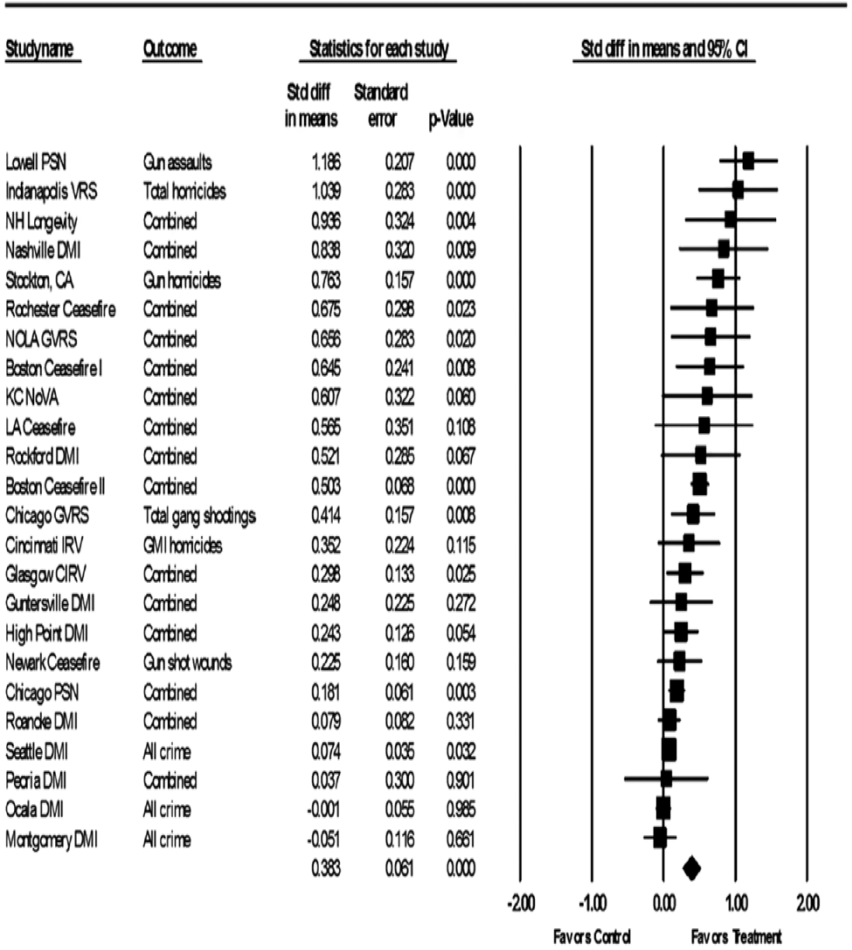
Focused deterrence

- Focused deterrence (also known as GVRS, GVI, or Ceasefire) reduces gun violence by:
  - creating partnerships in response to high rates of violence
  - identifying high-risk people and groups
  - communicating directly to said people and groups the commitment of the police and community to stop violence
  - providing specialized supports and services
  - deploying targeted law enforcement sanctions as a last resort

Focused deterrence

- Unlike predictive policing, focused deterrence interventions typically involve:
  - Limited data sets based on actual criminal conduct
  - Simple analytic techniques involving use of spreadsheets
  - Assessing risk for future offending rather than predictions
  - Partnerships between law enforcement, service providers, and community members
  - Government agencies, nonprofit organizations
  - Strong evidence of effectiveness

- Braga et al. (2018) performed systematic review, identifying 24 tests in total (all quasi-experiments, no RCTs)
- 19 of 24 tests had “noteworthy” crime reduction effects
- Large effect size (.657) indicated significant impact
- Examples: Boston Ceasefire, Oakland Ceasefire, Operation Longevity
- Post-review evaluations indicate continued effectiveness of strategy



Social network analysis

- Social network analysis (SNA) uses statistical and visualization techniques to describe how individuals are affected by those around them and how relationships can affect real-world behaviors (Papachristos and Sierra-Arevelo, 2018)
- SNA used in several focused deterrence efforts. Also used to help develop Chicago's Strategic Subject List, highlighting opportunities for use and misuse
- Papachristos and others advocate for "democratizing" these techniques, putting them in the hands of community members (Papachristos, 2015)

Lessons learned

- Push for greater conceptual and definitional clarity to avoid confusing policymakers, practitioners, and the public
  - Predictive policing in theory applies broadly, but in practice is not particularly well regarded and infrequently used by law enforcement
  - If not careful, controversies associated predictive policing could smear many of the field's most evidence-based approaches, e.g. focused deterrence, hot spots policing, the risk/needs/responsivity framework, etc.
  - Understand the difference between analysis, assessment, and prediction

Lessons learned

- Avoid “fishing with a net,” i.e. using large and potentially unreliable data sets, without strong justifications and controls
- When using advanced analytic techniques, insist on transparency
- Favor assessment and analysis over prediction
- Partner with non-enforcement constituencies when using these technologies
- Avoid for-profit vendors and/or consultants or regulate them heavily
- Insist on evidence, i.e. multiple rigorous evaluations addressing both internal and external concerns, before expanding

Concluding thoughts

- No choice but to continually modernize, which means using new technologies; question is not whether, but how
- Generally speaking, when technology used to narrow scope of governmental intrusion, should be welcomed; when technology expands scope, more scrutiny needed
- Need framework for discussing opportunities and risks associated with technological innovation in criminal justice that is not technology specific – need general principles that can be applied in many contexts
- Need for framework is urgent given rapid expansion of artificial intelligence