



Building Evidence for Effective Investigations

A collaborative workshop to identify research needs

Executive Summary

Investigating crimes, apprehending offenders, and restoring victims are central law enforcement functions. Good investigations can meet the demands of justice and maintain the legitimacy of the police in their communities. But in recent years, both police and communities have been concerned over the seemingly declining ability of the police to solve serious crimes. Media reports have also expressed concerns over potential disparities in clearance rates across communities.

While much research has been conducted on police patrol operations, much less research has been carried out on investigations, leaving many unanswered questions. For example, can police improve investigative outcomes by changing investigative practices, using technology, involving the community more, or employing crime analysis? How should investigative outcomes be measured (clearance or arrest rates, victim restoration, or community satisfaction)? Are racial, ethnic, or socioeconomic disparities reflected in these outcomes, and if so, why? And what can be done about these differences?

To reenergize this research area, Arnold Ventures and the Center for Evidence-Based Crime Policy at George Mason University brought together a workshop of leading police researchers and practitioners in investigations from the U.S. and U.K. Its participants discussed the state of research on investigations and detective work. The primary goal of this workshop, building upon the Prince, Lum, and Koper (2021) evidence assessment of the state of this research, was to identify what is known about effective investigative practices. Almost three dozen academics, practitioners, and policy leaders assembled to discuss the evidence base to improve this research area. The attached report summarizes each of the panels from the two days and proposes a research agenda based on these deliberations.

Cynthia Lum and Christopher Koper (PIs)

Center for Evidence-Based Crime Policy, George Mason University



To cite this report:

Lum, C., Koper, C.S., & Prince, H. (2022). *Building Evidence for Effective Investigations: A Collaborative Workshop to Identify Research Needs*. Workshop summary to Arnold Ventures. Fairfax, VA: Center for Evidence-Based Crime Policy, George Mason University.

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P.I.s: CYNTHIA LUM AND CHRISTOPHER KOPER

Research Assistant: Heather Prince

Center for Evidence-Based Crime Policy

George Mason University

Funded by Arnold Ventures

Disclaimer: The opinions and thoughts expressed in this summary reflect those of the participants and are not the official position of the institutions or projects they are affiliated with. We also note that some scholars reflected in the Prince et al. evidence assessment could not attend this meeting. Please see the evidence assessment for a more comprehensive list of researchers and research in this area.

The workshop began with reflections from policing scholar Professor John E. Eck and investigative leaders from the Philadelphia and Chicago police departments. The workshop was then followed by several interactive discussion panels, reflecting on research and practice on specific investigative topics. The first day's panels explored "internal" investigative concerns, such as the impact of organizational factors, investigative effort and decision-making, technologies, and crime analysis on investigations. The second day focused on "external" concerns, including research on case-related and situational factors of crime clearance, the role of community members in investigations, and variations of clearance rates across places and time. Each panel corresponds with specific research assessments in *Effective police investigative practices: An evidence assessment of the research* (Prince, Lum, and Koper, 2021).¹

Day 1

Setting the stage: Investigative research since the RAND studies and practitioner perspectives on the evolution and mainstays of investigations

Invited Speakers: John Eck (University of Cincinnati), Frank Vanore (Philadelphia Police Department), and Brandon Deenihan (Chicago Police Department)

The workshop opened with Professor John Eck providing context to the development of investigative research since the early RAND studies of the 1970s. He noted at that time, the modern police service was just emerging, with very little use of technology, a lack of diversity

¹ Prince, H., Lum, C., & Koper, C.S. (2021). Effective police investigative practices: An evidence-assessment of the research. *Policing: An International Journal (of Strategies and Management)*, 44(4), 683-707.

(in all of its forms) across its ranks, and a simplified understanding of what was considered “crime.” Police tactics and activity were almost entirely reactive and focused on responding to events on a case-by-case basis. Researchers were uninvolved in policing practices, and policing research was underdeveloped. More generally, the concept of “evidence-based” was not well established in the criminal justice field. Regarding investigative methods, Eck remarked that the focus was on the elements of crimes themselves, patrol response to those crimes, and what detectives generally did to try and solve crimes. Efforts beyond the detective (e.g., prosecution or other post-arrest activities) were not well examined or understood.

Eck argued that our understanding of how outcomes of detective work (or policing more generally) were generated was limited because of these factors. For example, it was unclear at the time whether investigations, arrests, or the prosecution of crimes could create a crime reduction or deterrent effect. We also had little knowledge of whether investigations had a downstream impact on incapacitation, offender treatment and rehabilitation, or victim restoration. Several assumptions were made about investigations that were untested. These assumptions included that crimes could not be prevented or that victim information or aspects of the crime itself mattered the most to solving crimes. Crimes were also treated as unrelated. This led detectives to respond case-by-case to individual crimes. The currently accepted notion that crimes pattern geographically or temporally was not well-developed, and the crime analytic capabilities of the police were limited and mostly absent. Relatedly, there was little understanding of whether investigations could disrupt or change crime patterns. Finally, the links between organizational aspects, investigative actions and decisions, and outcomes were not well developed.

While we have learned more about investigative outcomes since the 1970s, several questions remain unanswered today. For example, Eck noted, we have learned that victim and witness accounts are essential to solving crimes. We have also learned when and how detectives gather that evidence may matter to case resolution. However, the impact of an investigator’s effort in obtaining these accounts or gathering evidence still is not well measured and understood. In addition, technologies might help investigations in more subtle ways that are not easily determined. And, while we generally believe that how an investigative unit is organized or supervised may matter to investigative outcomes, what this precisely refers to remains ambiguous.

In his closing remarks, Eck advocated against recycling the investigative research or practice frameworks prevalent in the 1970s and 1980s. Instead, he argued that we should investigate crime patterns rather than individual cases. Such an approach might include, for example, detectives taking on problem-solving techniques to tackle patterns of crimes rather than traditional investigative case response strategies for individual crimes. For instance, could investigators focus instead on “Case of Places” (see Lum and Koper, 2017) instead of cases of individuals for shootings? Eck highlighted that a similar successful idea developed in Cincinnati

is PIVOT (see Herold & Eck, 2020; Herold, Engel, Corsaro, & Clouse, 2020),² a place-based program that leverages the expertise of investigators to break crime patterns.

Eck also suggested focusing on cognitive biases and errors in investigative decision-making and not just on the mechanics of how investigators solve cases (Eck & Rossmo, 2019; Rossmo, 2016). Finally, Eck noted that we might need to rethink what justice means in the context of investigations. For example, can justice be served not just when an individual crime is solved but when crime patterns are disrupted? If a crime is not solved, is justice served in other ways (such as when a victim is restored)?

In response, Frank Vanore (Chief of Investigations, Philadelphia Police Department) commented that despite findings from research or current reform aspirations, the investigative framework of policing is deeply engrained in police work and culture. This, in turn, continues to shape what might be considered “good” investigations. Detectives still must be skilled at talking to people, extracting information, and working with prosecutors to develop cases. However, other pressures have become prevalent. For example, prosecutors, courts, and juries are often demanding that technological evidence be collected to move cases forward in addition to traditional forensics evidence. This technical evidence could include body camera videos, cell phone information, social media, and CCTV footage. Having a witness or a confession from an offender may no longer be enough to close a case. These changing demands also mean that detectives must have more comprehensive investigative skills, including extracting information from these technologies.

Brendan Deenihan (Chief of Detectives, Chicago Police Department) also commented that while some technologies and other aspects of policing have changed, investigative work has also stayed the same. The focus continues to be on clearing cases rather than disrupting crime patterns, as preferred by Eck. He noted that detectives might have little shared consciousness on how their cases relate to other cases or community crime patterns. Deenihan argued that this lack of awareness is because the expectations and rhythms of detective work have not substantially changed from the caseload assignment approach. He also noted that a critical advance in his agency was creating “tech rooms” in each division to address growing demands for technology evidence in case development. These collaboratives involve detectives partnering with technology officers to help gather private and public video, track license plates from license plate readers, examine cell phone evidence, or analyze social media posts. Deenihan argued that research on the impacts of these technologies on investigations could be beneficial in addressing increases in violent crimes in some jurisdictions.³

² For more information on PIVOT, see <https://www.cincinnati-oh.gov/police/community-involvement/pivot/>

³ On Day 2, Anthony Berglund from the University of Chicago Crime Lab also alluded to these “Area Technology Centers” designed to provide a dedicated group of individuals trained in technology (e.g., pulling video and analyzing phones) and having a dedicated office space to support investigations.

Other workshop participants similarly remarked on the challenges with the mainstays and evolving demands of investigations. For example, some found that younger officers have more opportunities to become detectives in some agencies, which may coincide with the declining prestige or interest in officers becoming detectives. Relationships between detectives and prosecutors, other agency units and officers, and the community also can vary widely from agency to agency, impacting the outcomes of detective work. In this opening session, researchers emphasized the challenges with measuring this variability of investigative practices and their connections to outcomes. Some suggested rethinking what success means to investigations (beyond crime clearance), including cost-benefit analysis of investigative practices and technologies.

There was some disagreement with focusing on crime patterns from a problem-solving standpoint, as suggested by Eck. Some of the practitioners in the workshop noted that investigators will still need to solve cases and find suspects of crimes. The question, then, is how to improve that effort. However, Eck said that what continues to be missing is whether we need to change the practice (and research) framework for investigators that changes their mandate and approach (see Eck & Rossmo, 2019).

Organizational factors impacting investigations and case clearances

Invited Speakers: John McCluskey (Rochester Institute of Technology), Kevin Strom (RTI Corporation), and reflecting on work by Charles Wellford (in absentia, University of Maryland)

Average clearance rates across the U.S. for many crimes have remained steadily low (or declining in the case of homicide) over the last three decades. However, recent trajectory analyses have found that these national averages mask variations across agencies in long-term trends of crime clearances. Lum, Wellford, Scott, & Vovak (2016), Scott, Wellford, Lum, & Vovak (2019), Vovak (2016), and Worrall (2016), all using group-based trajectory modeling to examine crime clearances over various periods and agencies, have found that some agencies consistently are better (or worse) at clearing crimes than others. Studies, however, have not definitively found whether organizational factors alone are related to these trends (see analysis by Scott et al., 2019 and Worrall, 2016). Nor do crime trends relate to clearance rate trends (Vovak, 2016). Yet, the research reviewed by Prince et al. indicates that there may be aspects of police organizations that impact a given agency's clearance rate. What policies, practices, training, staffing, and targeted resource allocations enhance detectives' abilities to resolve crime at the organizational level?

To provide context to these issues, we invited John McCluskey, Kevin Strom, and Charles Wellford to share their research insights in this area. McCluskey (Rochester Institute of Technology) discussed a Bureau of Justice Assistance (BJA) project in San Antonio (McCluskey, Cancino, Tillyer, & Tillyer, 2014), where he and colleagues examined the impact of moving from decentralized detective units (at local districts and precincts) to a more centralized approach

(across districts and precincts). They found that centralizing detectives helped to modestly improve case clearance rates. In addition, interviews with detectives revealed that centralization helped with information sharing, investigator focus, and detective relationships with prosecutors. However, McCluskey noted that centralization and other organizational aspects related to detective work were only a starting point and a proxy for more specific factors that may improve clearance rates. He emphasized that single agency studies do not lend themselves to understanding how variations in organizational aspects (like centralization) impact clearance rates or other investigative outcomes. Identifying and measuring these specific aspects of organizational infrastructure is needed to expand research in this area.

Eck added that there are tradeoffs between decentralization and centralization. The critical lessons should focus on effective strategies and benefits arising from centralization or decentralization. On the one hand, some believe that decentralization gets investigators closer to the public's problems. Still, it might also mean a decline in information sharing among investigators. However, increased use of information sharing technologies or better supervision may reduce centralization's importance on detective information sharing. Moreover, information sharing or weak supervision may be a cultural problem and less related to the physical location of detectives. On Day 2, Charles LoFaso (Ohio State University) also commented that the Rochester (N.Y.) Police Department (where he worked as a detective) similarly restructured its centralized investigations into teams led by a supervisor who would work on homicide cases together. As a result, detectives could spend more time on specific aspects of cases, including witness development.

Strom reflected on RTI's efforts to examine sexual assaults and cold case homicide investigations. He noted there is variation across agencies in the U.S. as to their organizational layouts for investigative work. He also noted that we need to consider stronger quality control and consistency in conducting investigations. (Thomas Abt also suggested a similar point for investigators within prosecution units). Strom argued for evidence-based standards that cases have to meet. These might include, for example, who should be interviewed and how extensively or what types of evidence must be collected (and also analyzed). He and his colleague Jim Markey, a retired Phoenix Police Department detective, also raised questions about whether detectives had adequate resources, training, tools, and time to effectively manage their often growing caseloads. Another essential organizational aspect that has not been examined has been the role of supervisors in managing and guiding their investigators. Several participants noted the wide variation in supervisory styles within investigative units.

During this panel, multiple participants raised concerns about measuring inputs and outcomes of organizational aspects of investigations. Regarding inputs, proxy measures continue to be used in research (e.g., centralization versus decentralization, presence of resources, numbers of detectives, resources available). However, more substantive aspects of those elements (e.g., supervision, information sharing, quality standards, skill sets, and training) have not been well developed or measured. Others discussed what success would look like from an organizational level beyond clearance rates. For example, if burglaries are rarely solved, is there another

metric of organizational success for these crimes? Charles Wellford (University of Maryland) and colleagues have emphasized using large-scale multi-agency, multi-level research to better understand the interaction between organizational characteristics, investigative effort, and case characteristics (see Wellford, Lum, Scott, Vovak, & Scherer, 2019).

Investigative effort and detective decision making

Lisa Barao (Westfield State University), Melissa Morabito (University of Massachusetts, Lowell), and Jim Markey (retired, Phoenix Police Department and RTI)

Recent research indicates that investigative effort matters to case resolution and victim satisfaction. This assertion departs from early research that focused more on the aspects of a crime as the primary drivers of solvability. Investigative efforts may include how often and frequently detectives try to interview victims, witnesses, suspects, and bystanders, how persistent they are in checking databases and other information sources throughout an investigation, and how extensively they pursue leads. In the past, proxy measures of effort included caseload per detective or numbers of detectives per indexed crime. However, an important theme of this workshop was that researchers and practitioners need to develop much more accurate and specific measures of investigative effort. John Jarvis (Federal Bureau of Investigations), who has researched in this arena for several years, remarked that effort is often measured dichotomously (i.e., “yes” or “no”) in terms of whether a detective carried out an action. Rarely does research examine how much time was devoted to specific activities or the quality, nature, and supervision of the time spent. Jarvis noted that this lack of research about investigative effort is relevant for both local and federal law enforcement agencies.

Lisa Barao (Westfield State University) discussed her work with Anthony Braga in the Boston Police Department (Braga, Turchan, & Barao, 2019) and her research in the Hartford, Connecticut, Police Department. In the Boston studies, homicide detectives made significant adjustments to their effort and approach to homicide investigations. These adjustments included increasing resources used, allocating more personnel, and improving protocols for investigations. The latter involved improving efforts to interview witnesses at the scene and post-scene, obtain victim cooperation, and increase investigator follow-ups. However, Barao emphasized that much more work was needed in developing better measures of detective effort beyond previously used measures such as workload or time spent on cases. Barao also reflected on her work in the Hartford Police Department, which adopted a more victim-centric approach in forming a shooting response team (a dedicated group of detectives assigned to investigate all shootings, with guidance from the Denver Police Department). Despite being understaffed, this helped Hartford increase their clearance rate fourfold. One important part of that work was leveraging technology (video, evidence from cell phones, analysis) to investigate cases, especially when victims were uncooperative.

Melissa Morabito (University of Massachusetts at Lowell) focused more specifically on vulnerable populations and cases of sexual assaults (see Morabito, Williams, & Pattavina, 2019). She argued that while more resources are often needed for these investigations, these needs are not in the traditional ways once believed. For example, she noted that part of the problem lies in how the organization treats and prioritizes these cases. For example, one detective might be working on several sexual assault cases. At the same time, several investigators might be assigned to a bank robbery or homicide. Morabito emphasized that case clearances are not only about effort but also about the interaction between organizational infrastructure, prioritization, and effort (an argument made by others, including Wellford et al., 2019; Braga & Dusseault, 2019; and Vaughn, 2020). Specifically, organizational infrastructure and resources can support, facilitate, and institutionalize investigator effort and signify the prioritization of certain types of cases.

Morabito also noted that much more research is needed on the role of third parties and victim advocates to understand the quality and nature of investigator effort. For example, advocates can play an important role in increasing victims' cooperation and interaction with the investigative process. However, empowering advocates to assist victims may rely on detective effort (and how much priority is given to such cases). For example, many sexual violence cases are often "cleared by exception" due to victims refusing to cooperate. However, Morabito argued that this lack of cooperation may be linked to victims' needs for various services, such as childcare, cellphone access, and offender monitoring services. Victims may also need different types of advocates (for example, a domestic violence advocate may not be helpful for a sexual assault victim).

Morabito also noted that a victim's refusal to cooperate may be "active" (an outright refusal) or "passive" (a victim cannot be contacted or is not proactive). Advocates and investigative efforts may more successfully impact passive rather than active refusals. She also noted that the terms "active" and "passive" could also characterize prosecutor or detective effort and cooperation (in terms of how much effort they put into a case based on their belief about the prospects of a case). For example, a detective might not prioritize a case because they believe that the prosecutor won't care about the case or that a victim might not cooperate. Prosecutors might also put little effort into some cases because of their beliefs about whether those cases will be successful in court. Finally, she emphasized that vulnerable victims are not necessarily getting less effort, but that effort may be contingent on victim cooperation and perceptions about downstream outcomes.

Jim Markey (retired sexual assault detective for Phoenix Police Department) commented that several factors contribute to investigative effort. He also concurred with Morabito that low effort may correspond to a belief that a case will not be prioritized. The challenge is how to measure investigative effort, the decisions made by detectives, and the factors that contribute to those decisions. He noted that sex crimes are a good example. Not only are sex crimes not often prioritized by police agencies, but investigators may hold biases about victims themselves, which might impact their effort in any given case. He suggested that supervision

and training are essential facilitators of investigative effort, as are accountability mechanisms that ensure detectives conduct investigations in uniform ways. Beliefs that some detectives are good at one thing and not another may rely on an old-fashioned, ad hoc, or loose system that may impede more standardized approaches to measuring and supervising investigative effort.

Similarly, Chris Mastroianni, a sergeant working with Barao in Hartford, emphasized the need for more highly trained investigative supervisors who can be skilled mentors to their officers and detectives. Understanding what motivates detectives is also important. For example, in the shooting response teams they developed, he noted that one of the more essential actions was to reduce caseloads for detectives, so they don't get overwhelmed. Matt Ashby (from the U.K.) also said that the increase in workload has impacted the ability to do proper investigations, and Lum noted in her research, there is little incentive to become an investigator because of the workload or overtime requirements. Other participants asserted that investigative effort relies not only on supervision and workload but also accountability mechanisms for investigators.

On Day 2, Aki Roberts (University of Wisconsin-Milwaukee) also commented that agencies differ in resources and cooperation provided by communities. Often, the availability of these resources is beyond the control of police agencies. For example, in comparing 85 agencies, she found that about 16% of agencies were not as low-performing as perhaps believed once clearance rates are adjusted for factors outside of police control (see Roberts, 2014; Roberts & Roberts, 2016). She said that police workload is hard to measure accurately. She and her colleagues have analyzed daily fluctuations in workload and found that a higher daily workload was associated with lower clearance rates. Roberts explained that more organizational and management information is needed to measure workload. For example, how many personnel are allocated to special units? What types of agency screening practices are used for incoming cases? What are some daily measures of time spent on investigation activity and calls for service? Wendy Regoecki also commented on Day 2 about the importance of studying the relationship between increasing caseloads for detectives and clearance rates.

Technology, crime analysis, and investigations

Matthew Ashby (University College London), John Roman (NORC of the University of Chicago), David Schroeder (University of New Haven), and Bryanna Fox (University of South Florida)

In addition to organizational structure and investigative effort, technology may also impact the ability of agencies to solve crimes. Police detectives have several technologies that they might use for investigations, including technology used by the public. These technologies include CCTV and body-worn cameras, cell phones, social media, crime analysis, and other information technologies (license plate readers, for example). There are several opportunities for research in this arena, and many questions remain unanswered. For example: How much does evidence from these technologies matter for investigations? How can technologies be optimized for investigations? When should detectives use investigative technologies in the investigative

process? Are there times when technology becomes less meaningful or cost-beneficial in the investigation? How can crime analysis and other information technologies be used for investigations?

Matthew Ashby (University College London) highlighted that technology could be a double-edged sword in policing. For example, digital evidence can be helpful in solving cases. However, if courts expect digital evidence or if the evidence a great deal of time to collect or sift through, demands for digital evidence could impede investigations by increasing workloads, requiring specialists and analysts, or reducing the probability that a case will make it to court. He provided CCTV as an example (see Ashby, 2017). In addition, technology evidence has a high cost to collect and use, raising concerns about their cost-benefits.

John Roman (NORC at the University of Chicago) is one of the few scholars who have conducted an experimental evaluation of the use of technology (in his case, forensics technology) on case clearances (Roman, Reid, Chalfin, & Knight, 2009). Roman and his colleagues found that detectives could significantly increase case closures for burglaries by collecting DNA evidence and processing it. They also discovered that the use of DNA could be cost-beneficial for burglary investigations. However, he reiterated organizational challenges to using forensics technologies like DNA analysis for crimes other than homicides (and sometimes even for homicides – see Schroeder and White, 2009). DNA analysis may be very useful for offenses where the offender is unknown but is often used in situations where the offender is already known. However, not all agencies will commit to testing all DNA evidence collected (including when DNA is regularly collected, such as for sexual assaults). For example, many agencies do not treat burglaries seriously and therefore would not run DNA analysis on them, despite the high potential for DNA to solve those cases (which continue to have very low clearance rates).

David Schroeder (University of New Haven) emphasized that detectives need to use technology more intentionally and have specific purposes for using technology. Some prosecutors may require technology evidence for every case, even though technology use may not be necessary to resolve every case. He noted that we need uniform training or standards that link the use of technology or the collection of technical data and video to specific investigative questions. For example, some technologies may be beneficial for known offenders. In contrast, other technologies may be more useful for unknown offenders (as raised by Roman above). Schroeder has found a lack of strategic or intentional use of technology in detective work. He said that it is crucial to understand when technology is used during an investigation (for example, whether it was used before or after an arrest was made and for what specific purpose). In their studies of license plate reader (LPR) use for investigations, Koper and Lum (2019) found that while the use of large numbers of LPRs or CCTVs may be associated with modest improvements in clearance rates, both the use and usefulness of LPRs vary a great deal across cases. Further, detectives rarely record how and when they use technology for investigations or whether those technologies contributed to solving cases. Because of this, Koper and Lum found it was unclear exactly how and to what extent LPRs facilitated case closures. Schroeder noted that participant observation research could be very useful to

understand the impact when technology or forensics are applied. Such research methods could also be used to measure and analyze detective decision making throughout the investigative process.

Bryanna Fox (University of South Florida) then reflected on crime analysis as an essential investigative technology, especially for burglaries, auto thefts, and robberies. While police departments often prioritize homicide investigations, she said that providing justice for victims and potentially creating deterrent effects for offenders for other serious crimes are also important goals. However, these crimes are less prioritized, resulting in agencies claiming they don't have time to get fingerprints or collect DNA for these events. The ratio of detectives to these crimes is also low.

In her research, she attempted to develop a crime analytic framework and technology that might help investigators better identify possible offenders to increase clearance rates for burglaries (see Fox & Farrington, 2012; 2015). The analytic approach included looking at a wide variety of case features and methods to create "burglary profiles" to try and better identify suspects, especially since many burglaries had similarities (in both method and offender). She argued that analysts are often incorrectly used in investigations. For example, in her own experience as an analyst, she noted that much of her job was to create a photo or a "be-on-the-lookout" alert rather than analyzing crime patterns (as Eck suggested). As a result, crime analytic technologies are underused or misused in investigations.

DAY 2

Day 2 focused on research and practice related to "external" factors associated with crime clearances and investigations. These issues include the impact that case and situational characteristics of crimes had on case outcomes, the role of community members in investigations, and variations of clearance rates across jurisdictions and geography. The workshop concluded with comments from Jim Burch, President of the National Police Foundation.

Case and situational factors of crime clearance

Wendy Regoeczi (Cleveland State University of Ohio), Aki Roberts (University of Wisconsin-Milwaukee), and John Jarvis (Federal Bureau of Investigation)

As Prince et al. (2021) note, most research on investigations does not focus on investigative effort or organizational aspects but on the relationship between case characteristics (situational, crime-related, person-related) and case resolution. While this is a large area of research, there is room for growth and improvement concerning how case and situational factors are analyzed and how they relate to investigative effort and community characteristics.

Wendy Regoeczi (Cleveland State University of Ohio) described her research using data she collected from Cleveland and the National Incident-Based Reporting System (NIBRS). As Wellford et al. (2019) noted with homicide studies, case data from individual agencies and large datasets like NIBRS have been the most common approach to examining the correlations between case information and crime clearance. Some researchers have also incorporated neighborhood-level characteristics (see LoFaso, 2020). Regoeczi and other participants emphasized that NIBRS and other large datasets have a limited range of characteristics and measures that can be used to understand investigations or crime. She prefers original data collection from primary sources (such as case files, which can be more challenging to obtain). She also said that case clearance is not simply about characteristics of cases that correlate with solvability. Instead, case characteristics (and therefore their clearances) also are linked to the conditions and environments under which cases are investigated and solved. For example, Regoeczi has examined whether witness cooperation varies across neighborhoods with differing levels of disadvantage and residential instability (Regoeczi and Jarvis, 2011). Witnesses may matter more in some communities than others (also found by Mancik below). Thus, understanding when witnesses come forward and under what circumstances they do not is important.

An exchange between Lum, Jarvis, and Regoeczi focused on investigative triaging based on case characteristics (determining whether cases will be investigated using elements of the crimes themselves). Jarvis noted that very little about case triaging is known. Preliminary studies by Lum et al. (2018) indicate that agencies often use the lack of solvability factors as a justification (in addition to resource constraints) for not investigating crimes beyond the initial patrol response. This could also signal that agencies believe solvability factors are more important than investigative effort in case resolution. The problem with this practice is that not only do we now know that investigative effort matters, but we also know that implicit biases, beliefs about victims and case priority, and witness behaviors may lead to unwarranted disparities and poor decisions when triaging cases based on perceived solvability factors.

In her research, Aki Roberts has used NIBRS and LEMAS data to focus on how case clearances relate to victim and offender race and other situational factors (see Roberts & Lyons, 2009, 2011). She mentioned that as homicides between strangers and gun homicides increase, that can negatively impact crime clearance, given that these are much harder to solve. She added that a limitation of NIBRS is that the smallest geographic aggregation of NIBRS is the city or county. More valuable data would include more specific information about precisely where crimes occur to better understand how specific place-based characteristics contribute to crime and crime clearances. However, this information is not provided by NIBRS or other national-level data collections.

John Jarvis (Federal Bureau of Investigations) noted that the increase in the use of firearms in homicides has impacted the ability to solve homicides. Further, in the 1960s the ratio of cops to community members was much larger. There is now much less trust in the police, which may impact witness cooperation. (Wendy Regoeczi also discussed in her historical studies of

Cleveland homicides how homicides were much more quickly solved in the '50s and '60s.) In other words, the decline in homicide clearance may be the result of crime characteristics, but it also may be the result of other factors (e.g., community trust and willingness of people to serve as witnesses, greater workload for detectives, less quality in investigations, and how well patrol officers are doing their job). Jarvis noted that offenses, victims, and police activity could be devalued in different ways, contributing to lower clearance rates for homicides. Kim Rossmo (Texas State University) countered by noting that in the 1950s and 1960s, the standards for clearing homicides were much less stringent than today (with a greater likelihood for errors and wrongful arrest).

Further, the factors that have reduced clearance rates for homicides may not be the same ones that explain low clearance rates for other types of offenses. How and why cases are “closed” or “closed by exception” can vary significantly across NIBRS agencies and crime types. NIBRS provides little detail about how cases are solved. Jarvis also noted that previous analysis focused on the offense, victim, offender, and witness. However, several other people may be relevant in the clearance of a crime. These include accountants, bankers, rental agents, medical or social services, or technology vendors who partner with the police to resolve a crime. He said that understanding crime clearance was not simply about measuring law enforcement effort but also police partnerships with the community.

All three speakers emphasized that it was not simply the characteristics of crimes that led to solvability but the context of those crimes (both in the community and the police organization). In other words, the interaction between organizational aspects, investigative effort, case characteristics, and community context contributed to clearances, not just one factor. Koper noted an example of this was ballistic imaging technology, where agencies that invested in using ballistic imaging technology could counter some of the downward clearance trends in gun crimes and homicides with the right effort and organizational infrastructure. He described the Milwaukee Police Department’s efforts in this space. That agency implemented policies to ensure that every gun was tested, which created a large dataset of guns and bullets that could link firearms to multiple incidents. While gun crimes are challenging to solve, such testing and technology could potentially link enough crimes together to result in identifying a suspect for at least one crime that could be prosecuted.

Role of citizens and the community in investigations

Rod Brunson (University of Maryland), Charles LoFaso (Ohio State University), with practitioner perspectives from Frank Vanore (Philadelphia Police Department)

As already noted, community members and residents are recipients of investigative activity and outcomes. At the same time, they may contribute to higher or lower clearance rates through their cooperation and collective efficacy. Lum said that the role of community members in policing continues to remain opaque in investigative research and practice. For example, how

do community members contribute to effective investigations, and how do community groups and neighborhoods influence investigative outcomes? At the same time, there has been greater awareness of the importance of community to police legitimacy, and demands for police accountability have dramatically increased in recent years. News stories have also highlighted the racial, ethnic, and socioeconomic inequities in investigation outcomes across jurisdictions and neighborhoods. Still, it is unclear whether those inequities arise from law enforcement practices, characteristics of the communities, or some combination thereof.

Rod Brunson (University of Maryland) agreed with these assessments and noted that scholars have not done a good job mobilizing communities as partners in research. Instead, researchers have used community members as passive sources of information than active research partners. Generally, we need a better understanding of what the community wants and the diversity of voices within what may seem like homogenous communities. Brunson also advocated for including individuals who have criminal justice involvement in research, as they may be uniquely positioned to illuminate why crimes are not solved (see Brunson & Wade, 2019). He said more generally that the Black community doesn't want to be over-policed and disrespected, but they also don't want to see homicides and shootings unsolved. He commented that while the defunding rhetoric comes from righteous anger, he fears that communities that need the police the most will suffer from defunding efforts.

Lum asked Brunson what types of community-based investigative interventions might be effective. Brunson said that the violence interrupters in Boston and Newark come to mind. These are interventions in which community members help interrupt violence or retaliation and use intermediaries to help deal with youth with guns. However, he also noted that clergy (who sometimes play these mediating roles) have expressed the need for police to develop more trusting relationships with youth to reduce the need for community brokers.

Charlie LoFaso (Ohio State University) has analyzed the effect on clearance rates of individual case factors and found them similar to what Regoeczi, Jarvis, and Roberts discussed. At the incident level, the presence of witnesses significantly increases the odds of clearance, but when you include neighborhood factors like socioeconomic disadvantage, the effect of witnesses on clearance decreases (see LoFaso, 2020). He noted this is likely due to community factors, including lower collective efficacy and legal cynicism in communities with lower clearance rates. As a former practitioner, he saw witnesses who provided information at a crime scene but refused to go to court. LoFaso asserted that efforts by police leadership and city administration in strengthening relationships with communities as well as patrol officer behavior could positively (or negatively) impact detective work as well.

Frank Vanore (Philadelphia Police Department) remarked on the loss of public trust, particularly after the shooting of Michael Brown by the police in Ferguson in 2014. While some strides have been made in regaining this trust, Floyd and the pandemic again pushed the police back in terms of investigators building rapport with the community. He noted that some counterforces to these challenges had been the use of body-worn cameras, which might capture information

at the scene by witnesses who don't want to come forward later. In addition, having anonymous tip lines and the ability of people to provide information in confidential ways can also help. However, Vanore noted that building trust also requires face-to-face interaction, which was negatively impacted by the pandemic. He also pointed out that training on how officers and detectives can build rapport and trust with people is often done ad hoc rather than in more intentional or structured ways. The same is true with communication between officers and detectives. Vanore reiterated (in response to a question by Walter Katz) that poor relationships between patrol officers and the community may negatively impact trust-building between detectives and witnesses. At the same time, some people are more likely to speak to a plainclothes detective than a uniformed officer.

Brunson noted the heterogeneity within and across agencies about community rapport-building efforts. Some members of an agency are better at building rapport than others, and relationships that police leaders have with the community may not trickle down to the rank and file. The challenge is that everyday interactions and how patrol officers treat people impact the agency (and other activities within that agency). Therefore, relying on a few effective community-oriented officers may not be enough to affect police legitimacy as a whole. In addition to in-custody deaths and use of force, LoFaso commented that other factors impact overall police legitimacy and trust, including some officers' and detectives' mechanical approach to their work.

Clearance rates across places and time

Paige Vaughn (Spring Hill College and Yale Law School's Justice Collaboratory), John Worrall (University of Texas at Dallas), and Ashley Mancik (University of South Carolina)

Recent news coverage has suggested variation in clearance rates across different neighborhoods, raising concerns about racial disparity in investigations and services by the police. As previously noted, this discussion is also linked to case and situational characteristics of crime and crime clearance, investigative effort, organizational aspects, and community involvement. Research seems to indicate that variations in crime clearance across jurisdictions and geography are not simply explained by disparate treatment by police agencies but by community context and the nature of crimes themselves. Vaughn, Worrall, and Mancik were invited to discuss their research on these issues.

Vaughn has examined the relationship between case characteristics, witness cooperation, and the "devaluation" of cases. As Vaughn (2020) described, the devaluation hypothesis asserts that disadvantaged, minority individuals and neighborhoods will not be prioritized by the police, resulting in lower clearance rates for these cases. She has attempted to delineate various types of devaluation that can occur in investigations – case devaluation, witness devaluation, or group devaluation (see Vaughn, 2020). In her work, Vaughn analyzes case characteristics with officer workload and effort to unpack some of these relationships, especially whether officers

devalue (or provide less effort) for particular types of cases or people. She noted that race matters to crime clearance in different ways and that the case factors that influence clearance by detectives may matter less in prosecution and vice versa. For example, witnesses in Black neighborhoods may be more critical for clearing crimes than White neighborhoods, although it isn't clear why. This may also mean that detectives might need to put in more effort to cultivate witnesses in Black neighborhoods. Vaughn also noted that based on her research, she is unsure whether police devalue cases based on victim-suspect relationships. She argued that we need ethnographic work on detectives to uncover these issues better (also advocated by Schroeder above). Vaughn raised other nuances: witnesses (or technologies) may matter at different stages of the investigation. Finally, she argued that we also need to look at non-clearance-related outcomes, such as victim satisfaction, restitution, advocacy, and treatment by prosecutors and judges. Victims of different races may receive, perceive, or prefer different non-clearance outcomes. Finally, for those who do not get justice, however measured, are they more likely to be revictimized in the future? Are neighborhoods that do not receive good investigative services more likely to experience crime increases? Do improvements in clearances in some neighborhoods in turn help to improve cooperation? Nuances in the variations of clearance rates across neighborhoods and communities still need a great deal of understanding and study.

Ashley Mancik (University of South Carolina) said that she had examined the impact of collective efficacy on clearance rates (Mancik, Parker, & Williams, 2018). Legal cynicism, collective efficacy, and clearance rates seem more negative in places with concentrated disadvantage. However, what is the relationship between all three? In describing her research in Chicago, she noted that while clearances were consistently lower in areas of concentrated disadvantage, collective efficacy, not legal cynicism, was a key factor to crime clearance. She hypothesizes that legal cynicism may not matter as much in places with low trust between citizens and between police and residents. Specifically, although witnesses fear retaliation when cooperating with the police, greater neighborhood collective efficacy may increase witness cooperation even if the legitimacy that the community affords to the police is low. As with Vaughn, Mancik is trying to decipher these relationships using various data sources, including victimization data. She advocates for combining and merging datasets to create a more complete understanding of what might be going on in terms of variations of crime clearance over geography. She also notes that both neighborhood and city-wide characteristics may matter to investigations.

John Worrall (University of Texas at Dallas) also discussed his trajectory analysis of clearance rates, reiterating the limitations of existing data in understanding variations of clearance rates across jurisdictions. He also spoke of policing research more generally on investigations as the editor-in-chief of *Police Quarterly*. He notes that despite the popularity of investigations in the media, very few submissions to *Police Quarterly* are focused on investigations. As a result, there is much room to build the evidence-base in this area.

Closing remarks by Jim Burch, President of the National Police Foundation

Jim Burch, president of the National Police Foundation, provided closing remarks. Burch noted that one significant theme of the workshop was how much more research was needed and how little we still know about investigative effectiveness. The focus on specific aspects of cases and their solvability takes away from broader concerns about organizational infrastructure, policies, political influence, and the context of investigations. Furthermore, researchers also need to pay attention to the realities and environments of investigations. This includes the quality and training of investigators, how detective units are led, and the actual work that investigators are conducting. He also noted the connectivity of agency work and the relationships between various units, technology, and outside groups (including the community). Often researchers are focused on specific research questions but are not connecting that research with the broader context or with other stakeholders.

Burch further stressed the importance of thinking outside of policing for ideas, such as looking at business practices that improve effectiveness and efficiency. He also highlighted the importance of not just understanding large urban communities and their investigative concerns but also smaller towns and rural communities where much of policing in the U.S. happens. Many of these places do not have crime analysis centers or the resources to develop technology working groups. Regional approaches to investigations are an essential consideration for these places. Other discussions focused on what would be considered success in terms of outcomes. Clearance? Solvability? Justice? Victim restoration? The role of non-investigative units, including the community, third parties, patrol officers, police managers and leaders, still needs to be explored, as does investigative training, supervision, policies, and standardized practices.

Priorities for future research

In conclusion, the workshop revealed that key research questions raised about investigations four decades ago are still very relevant today (points #1-3, below). New and significant questions have been raised as well. Unfortunately, many of these questions have not been adequately answered. Researchers may need to approach them innovatively, using more robust and detailed data sources, precise measurements, and novel research approaches (points #4 and 5, below). In addition, we continue to have very little knowledge of how investigators can be used outside of the traditional case paradigm (point #6, below). Priorities for future research, therefore, should include:

1. Understanding individual detective practices, effort, and decision-making that contribute to an array of investigative outcomes. Central to advancing research in this area will be developing improved measures of effort. What skills, practices, techniques, and decision-making characterize an effective investigator? Exploring investigative effort would also include

developing a better understanding of the interaction between effort, case factors, and community characteristics.

2. What organizational policies, processes, technologies, and structures facilitate or impede investigative effort and contribute to successful investigative outcomes? How do we operationalize these organizational aspects in research designs and measure them more precisely than in the past?

3. How do community characteristics or actions facilitate or impede investigations? How do those characteristics impact detective decision-making or interact with organizational practices to produce positive or negative outcomes? How can agencies improve investigations in different community contexts? Can witness cooperation be improved by building police legitimacy in the community and strengthening a community's collective efficacy?

4. The above questions may require more in-depth research and novel research designs, including ethnographies, systematic observations, interviews of investigators and support staff (e.g., crime analysts and crime lab personnel), prospective studies of case development, in-depth case studies of organizational change, original coding of case files, data collection from third party stakeholders and other community members, and linking of various agency and community data sources. Methodologies that allow researchers to watch cases unfold will be vital to understanding investigative processes, efforts, and the interactions between organizational aspects, effort, case elements, and community characteristics. Outcome evaluation research is essential to test different interventions and their impacts. Finally, large multi-agency, multi-level, and mixed-method studies will be required to compare the impact of variations on outcomes.

5. The above questions also prompt expanded thinking about defining and measuring investigative processes and successful outcomes. Outcomes may include not only case clearance but also victim or witness restoration or empowerment, broader deterrence or preventative effects, increases in community cooperation or police agency legitimacy amongst specific groups, greater procedural justice for offenders, reductions in disparities of outcomes across groups, and greater cost-efficiencies in investigations. Better measures of explanatory variables could include more precise or temporally accurate measurements of effort, technology use, information sharing, investigative efficiencies, workload, time spent on cases, and the like.

6. Finally, how can we think about new investigation frameworks, particularly integrating investigations into proactive, problem-solving policing? Eck (above), Braga, Flynn, Kelling, and Cole (2011), Koper, Egge, and Lum (2015; see also Lum & Koper, 2017), and Herold and Eck (2020) have all discussed using detectives to investigate and target places, problems, crime patterns, or networks, rather than just individual crimes and suspects. Innovations in the use of detective work should be explored.

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