POLICY PAPER

Implementation science (IS)—A game changer for criminology and criminal justice

Faye S. Taxman

Schar School of Policy and Government, George Mason University, Arlington, Virginia, USA

Correspondence
Faye S. Taxman, George Mason University, Arlington, VA, USA.
Email: ftaxman@gmu.edu

Abstract

Research summary: Implementation science (IS) is an emerging field that is infrequently used in criminology and criminal justice. IS offers criminology and criminal justice new methods to describe and measure innovations, and new and rigorous research designs that include measuring the implementation of innovations, examining implementation or change strategies, and pursuing a myriad of implementation outcomes. Most important is that the emphasis is on the organizations and/or systems themselves, instead of a focus on individuals. A science of implementation will help to advance reform efforts in justice/legal organizations, whether the reforms are at the policy or practice level. Criminologists' use of IS methods and techniques should enlarge our knowledge about "what works" to include answers to contextual questions regarding "what works under what circumstances" or "how does it works." Further, IS can help identify the processes needed to ensure reform efforts are successful and to build capacity for long-term change.

Policy implications: IS is a field that is growing in importance in medicine and health-related disciplines and is relevant to criminology/criminal justice.

Receptivity to reforming police, judicial, prosecutorial, institutional corrections, and community corrections organizations is typically met with a bit of a cold shoulder, often because researchers do not understand or address the operational issues that affect reform. Of particular importance is understanding which change procedures are useful for what types of reforms—an understudied and underappreciated feature of the implementation conundrum. Policy makers and practitioners will benefit from more information on effective change procedures. IS can be used to understand strategies to define innovations, to master change processes, to study implementation, and to expand outcomes to include organizational and system measures to benefit all stakeholders.

KEYWORDS
change practices, implementation, implementation strategies, scientific methods

IS—A Game Changer for Criminology and Criminal Justic
2023 Vollmer Award recipient, Faye S. Taxman.

In the medical field, it takes around 17 years for a scientific finding to become part of typical medical practice, and then only 14% of practices resemble the studied innovations (Morris et al., 2011). The same assessment has not been done in the field of criminology/criminal justice, but the best guess is that it takes our discipline slightly less time for a research-based finding to be *acknowledged* by the field, slightly more time to be tried, and probably even less rigor or fidelity when implemented in real-world operations. In fact, implementation is the Achilles heel of reform in most justice settings, as acknowledged by the former Director of the National Institute of Justice, Nancy LaVigne and a long list of scholars, including Martinson (1974) and Latessa et al. (2002), to name a few. Part of the issue is that implementation is not generally considered within the researcher's bailiwick—implementation is thought to be about operations and organizations related to policy, practice, or treatments—an area that is typically foreign to a scientific exercise.

The August Vollmer Award acknowledges me and my career to identify programs, practices, and systems reforms that can have a positive impact on individuals who work in the criminal legal system and individuals who are served (often involuntarily) by the criminal legal system. I have had a long, fruitful journey pursuing different pathways, beginning as an evaluator and then moving on to be an experimenter, technical assistance provider, and implementor. Along this journey, I have had the company of many who have inspired, guided, and propelled me— the list is too long to acknowledge everyone, including the panel that was assembled to discuss my talk at the 2023 American Society of Criminology meeting (Steve Belenko, James Byrne, Fer-

gus McNeil, and Shadd Maruno), colleagues (Susan Turner, the late Joan Petersilia, the late Ed Latessa, Jill Viglione, Warren Ferguson, Peter Friedmann, and Ed McGarrell, to name a few), the numerous students that I mentored (CJ Appleton, Ben Mackey, Teneshia Thurman, Jill Viglione, Jennifer Lerch, Stephanie Maass, and Lindsay Smith, to name a few), the awesome team at ACE! (Amy Murphy, Angie Warren, and many of the students), the practitioners that have partnered with me along the way (Judith Sachwald and Jessica Hulsey, to name a few), and my mentors (Jim Finckenauer, David Twain, and Don Gottfredson). All have paved the way to this award and to the numerous studies that I have designed or have been part of. I have also had the pleasure of working with police, prosecutors, courts and problem-solving courts, institutional corrections including jails and prisons, and community corrections agencies that have taught me invaluable lessons and who have partnered with me over the years. I have pursued research–practitioner partnerships, including the newest method of community-based partnerships—all of which include organizations and practitioners in the research process in various ways. I am grateful to Dr. Danielle Rudes for her nomination of me for this award and to ASC for this recognition of my career.

This journey has led me to realize that it is time for criminology and criminal justice to join many other disciplines in unraveling how reforms and system or organizational change occur—particularly how to implement scientific findings. It is referred to as the bench-to-trench (research to justice operations) trajectory. Other fields are embracing implementation science (IS), a variety of methods to study the processes (operational issues) and strategies that implement innovations into routine practice or use. IS is proposed to address the lack of science utilization in real-world settings, including dilemmas regarding the nature of the innovation, trust in science, and belief that the reforms will bring about better, desired changes. Other fields are now taking the implementation challenges by prioritizing IS to address the grand challenges in their field. Nancy LaVigne, former Director of the National Institute of Justice, sums it up quite well by defining the "titanium law" of evaluation:

> *The less deliberate the implementation of a social program is, the more likely its net impact will be zero.* This concept is almost axiomatic, yet only a relatively small share of published evaluations in our field address even basic aspects of implementation fidelity, much less the need to tailor programs to account for local conditions. (LaVigne, 2024)

My talk is to challenge us as scholars and scientists to advance research in the criminology/criminal justice field on the harder issues of "*how* does it work?" and "what are the mechanisms of change?" For way too long, we have been fixated on the question, "does it work?" without fully defining what "it" is or how the change occurred. The elephant in the room is *what is truly implemented*. Justice reforms in policing, prosecution, courts, institutional and community corrections, and treatment are extremely resilient and resist transformative change, and we know very little about the strategies that are effective and feasible in justice settings to counter this resistance. The status quo is difficult to alter. In other words, although evidence-based/informed policies and practices are research-based, research findings are not persuasive in and of themselves, and they seldom result in a sustainable change to policy, practice, or treatments. Often that is due to the underlying research that does not fully address operations that impact policy, practice, or treatments. After defining IS, I devote the rest of this talk to three principles that would benefit our discipline: (1) IS offers rigorous scientific methods to augment "what works" studies; (2) implementation can tell us about effective change practices; and (3) outcomes in IS are related to change at the organizational or system level. I conclude with a discussion of the added value of IS.

We must acknowledge the difficulties associated with change. As discussed above, it takes an average of 17 years (or two generations of practitioners or clinicians) for findings to translate into practice, and then only 14% of the scientific findings make their way into actual clinical practice. Besides focusing on the value added of IS, it is the 14% conundrum (fidelity of the research-based policy or practice) that I feel we need to be committed to addressing. In doing so, we will reinforce the credibility of science and scientists, which should increase practitioners' receptivity to research findings. In other words, the lack of fidelity results in evidence-based practices not producing the outcomes that policy makers and practitioners expect given the research findings, which contributes to a lack of trust between scientists and real-world practitioners. Practitioners do not believe that scientists understand operations or the drivers of the way the justice system functions, the pressures that exist in their world, and the resources and staffing that are needed. IS is a strategy that can address this trust issue.

Implementation deserves to be its own area of inquiry where rigorous scientific methods are available to answer key questions about the nature of the policy, practice, and/or treatments (referred to as innovations in this article) in the real world. Implementation allows us to delve into the culture and environment of justice (or health, education, service, etc.) agencies and the attendant factors that affect how an innovation operates. In other disciplines, IS has emerged as a research-based strategy to understand the issues related to whether innovations or reforms affect operations or "stick." IS also helps us understand if the strategy to implement is effective, whether implementation affects organizational-related outcomes like procedural justice, legitimacy, safety, equity, and other desired system issues, and finally, how the implemented practice affects the staff and/or recipients of the innovation. IS explores the black box to determine whether the components are related to and affect the outcomes. For the criminology/criminal justice discipline, an emphasis on implementation can be a game changer because it helps identify the ingredients of reform that will produce something different than current practices. The first challenge is for our discipline to recognize the value of IS and to recognize that rigorous IS methods can be incorporated into our studies. It is what I am devoting my talk to: IS and its value to criminology/criminal justice.

1 | WHAT IS IMPLEMENTATION SCIENCE?

IS emerged in the health services field to address many of the impediments to using research findings in practice and fidelity problems related to the correct nature of the innovations. IS, to quote Proctor et al. (2009), designers of implementation outcomes,

> Implementation research comprises study of processes and strategies that move, or integrate, evidence-based effective treatments into routine use, in usual care settings. Understanding these processes is crucial for improving care, but currently this research is largely case study or anecdotal report. Systematic, empirical or robust research on implementation is just beginning to emerge, and this field requires substantial methodological development (2009, p. 28).

IS employs rigorous methods to examine the characteristics of the innovation and strategies to implement it, their impact on implementation outcomes or client-level outcomes, and a multi-level approach to examining how different contextual factors affect the organization, system, and clients. Unlike process evaluations that focus on what was implemented (compared to the desired)
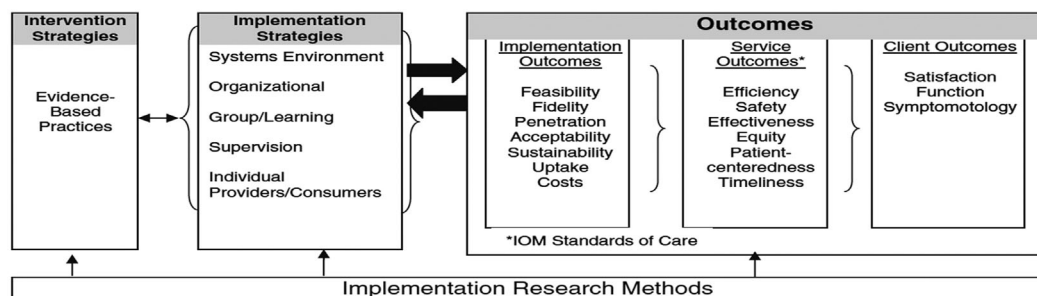
FIGURE 1 Implementation science model for exploring implementation strategies and outcomes. *Source*: Proctor et al. (2009).

or outcome studies that focus on how well clients do (sometimes at the organization or system level), IS addresses the "why" and "how" that are often missed in these other evaluation methods.

To this end, Proctor et al. (2009) proposed a new framework for research to get into the "black box" of an intervention, as shown in Figure 1 above. The model encompasses areas that are infrequently assessed in criminology/criminal justice but can help us better understand why innovations do not make it into the trench, why only an estimated 14% of the research findings make it into practices, or why we receive null outcomes in the typical scientific studies.

I will not go into this model with much detail here because the points below outline why and how criminology and criminal justice should embrace IS. The model has five main components that are rarely seen in studies in our discipline. The *intervention strategy* refers to the innovation—whether it is an evidence-based or informed practice or whether it is a new idea. It reflects what it is we are testing. *Implementation strategies* identify the ways in which change can occur in a structured, planned manner, including how best to engage policy makers or practitioners in the change process. Powell et al. (2015) outlined 73 different implementation strategies that can contribute to organizational change. *Implementation outcomes* refer to the impacts on the organization (referred to as inner setting) and system (stakeholders or outer setting) that are desired. In many ways, these are moderators and mediators of change that assist in understanding various outcomes; for example, when the outcomes do not show progressive improvement, then the change did not occur in a sustainable way. *Service outcomes* refer to programmatic and systems improvements in procedural justice, safety, equity, and other desired results, whereas client-level outcomes include recidivism, functionality, and crime rates.

More importantly, IS encourages a holistic approach that explores individual, community, organizational, and stakeholder relationships and how these factors impact policy, practice, and programs/interventions. IS generally focuses on five components: (1) the characteristics of the innovation that need to be specified (and not in vague terms, which is characteristic of criminology/criminal justice studies), (2) the change processes, (3) the inner setting (the organization/agencies involved in the change), (4) the outer setting (stakeholders or those with vested interest in the change processes), and (5) the characteristics of the actors and recipients of the innovation. This holistic approach recognizes the barriers and facilitators that affect whether an innovation is implemented, including how much of the innovation is present.

Let us take a criminology and criminal justice example to consider how IS can help answer questions that can give insights into how we can reform the system. A common evidence-based practice is risk and need assessment (RNA) tools. RNA tools were developed over 100 years ago to systemize decision making by justice actors, first in parole and then in other parts of the justice

system. Beginning in the 1990s, RNA was identified as an evidence-based practice, and today it is common practice in correctional agencies to have an RNA tool. But RNAs are not generally used in the most fundamental way: to make decisions as to the conditions/obligations/requirements of supervision. In fact, in a study that Teneshia Thurman and I did a few years back, we found that case plans are usually based on the conditions mandated by the court instead of the results of an RNA tool (Thurman et al., 2019). Viglione et al. (2015), in a study of probation agencies, noted that RNA was not used in case planning because the tool did not capture the stakes involved in supervising the individual (particularly for sex offenders, DUI offenders, etc.), and the officers did not believe the results from the tool. They expressed concern that the RNA was not as good as their experiential judgments and that they do not trust the instrument (Viglione et al., 2015). Most recently, in a current study examining how to minimize conditions of supervision to the need categories, interviews with officers and administrators revealed that conditions and requirements are generally set during plea bargaining with little input from the RNA tool or probation staff (Mackey et al., under review). The RNA tool is completed downstream, not at a point where conditions are set, and officers indicated that some judges prefer for individuals to have violation warrants filed to adjust the conditions/requirements. If we were to apply the analogy of the bench-to-trench, we would state that the RNA is an innovation that has taken anywhere from 40 to 100 years to be used in practice, but very little of the tool is driving the critical decision making in case plans or supervision requirements.

IS can help us understand the bench-to-trench issues that affect utilization of an innovation in practice. The above example regarding RNA illustrates the array of utilization issues that impact reform efforts. Although criminology and criminal justice research tend to answer the "what works" question, little attention is paid to the question of "how it works." To have the greatest effect on reform and change, the effectiveness question needs to be answered, but so do the questions regarding how the innovation is used, what impact it has on the organization or the system, and how improving fidelity affects organizational/service and client-level outcomes. IS recognizes that effectiveness at the individual level is important but also considers organizational issues that can affect the fidelity of the intervention, its potential for sustainability, and how the culture affects the operations. For researchers, it also places a burden on us to shift the lens from effectiveness at the individual level (or crime rates for police) to more fruitful exercises about the impact of change policies on a broader array of individual, program, organizational, and/or system outcomes.

2 | IS OFFERS RIGOROUS SCIENTIFIC METHODS

Part of the quandary about implementation is that it does not necessarily fit within our existing paradigms of formative/process or outcome studies. Implementation is often considered to have too many moving pieces to incorporate into a research design. Although process evaluations are devoted to describing what was implemented and outcome studies are focused on the "what works" question, implementation is often perceived as part of process evaluations with a directive focus on adherence to the innovation. IS is also compatible with action research or practitioner–academic partnerships, which leads to IS being associated with process-related studies. But IS can generally embrace the same rigorous experimental methods that are often associated with experimentally based outcome studies.

Building on the framework of Proctor et al. (2009), Curran et al. (2012) identified that research designs should be explored in terms of implementation preparation and two implementation research designs. The models advance rigorous experimental designs to use in IS. First, the Hybrid

1 design answers the "what works" question regarding whether an intervention impacts specified outcomes, and it also lays the groundwork by considering the factors that affect the fidelity of the intervention, including the facilitators and barriers to implementation. Randomization occurs at the intervention level. Observational data on implementation are collected to identify the factors that need to be accounted for in furthering implementation outcomes. Second, a Hybrid 2 implementation effectiveness design focuses on the implementation strategy or change processes from two dimensions. The goal is to implement different change processes for the same intervention to assess whether the implementation strategy had an impact on the decisions made by actors (staff) or clients, among other desired outcomes. The design is then to randomly assign different implementation strategies to sites. These studies are rare in the criminology/criminal justice field. Finally, an implementation effectiveness Hybrid 3 assesses whether the intervention and its implementation impact client-level outcomes, which requires a two-stage design where you have multiple interventions (or one novel and one standard practice) and multiple implementation strategies. Most studies in criminology/criminal justice tend to employ Hybrid 1 designs that focus on the efficaciousness of an intervention based on client-level outcomes. More attention is needed to Hybrid 2 and 3 designs to further an understanding of implementation strategies or change processes.

The rigor of these designs lies in the point(s) where randomization can occur, followed by varied organizational, system, and client-level measures. The emphasis on implementation strategies is novel and not frequently used in criminology/criminal justice research. Often, IS designs randomize at the site level, instead of the client, which allows for capturing how the local context affects the implementation and/or innovation. IS studies focus on actors within an organization or system to generate information to assess whether a particular intervention is feasible in different environments or cultures. For example, the use of RNA tools in probation settings. It is generally assumed that the RNA tool is applicable to all settings. However, an organizational question is whether the use of the tool works best with offices that have intake units or with offices where all officers do the risk–need tool. An IS study can answer this question about where the RNA is best implemented in terms of analyzing how officers use the RNA in case planning (Hybrid 2) or what is the impact on clients (Hybrid 3). Addressing these questions can give better scientific information about the validity of the RNA than merely if an instrument has an area under the curve greater than 0.7 (see Taxman & Dezember, 2017, for a discussion on unanswered questions about the implementation of RNA).

The added value for criminology/criminal justice is that rigorous designs that include different facets of implementation are flexible to answer questions that pertain to the innovation itself, as well as the implementation strategies used to reform an operation, agency, or system. This information can be useful in advancing our knowledge about whether local environments are receptive to certain innovations and the transportability of innovation to various settings, populations, and/or situations. We are then building our knowledge about "what works in what environment or context." This question has been the elephant in the room for the evidence-based practices literature.

3 | IMPLEMENTATION CAN TELL US ABOUT EFFECTIVE CHANGE PRACTICES

Putting aside testing theories, criminology and criminal justice studies frequently address the question of whether an innovation or technique impacts policy, practice, treatments, or individuals. The emphasis is on efficacy—is this innovation better than the way we are currently

doing business, or does the altered practice have integrity? These are essentially *black-box* questions regarding the impact of an innovation (Hybrid 1). But unanswered questions typically are how the innovation is implemented and what impact the change strategy has on the fidelity of the innovation and derived outcomes.

Powell et al. (2015) identified 73 different change strategies ranging from leadership to training to new analytical techniques. These strategies are used in a variety of domains. Implementation strategies or change processes include "discrete" implementation strategies with a single action (e.g., educational workshops or reminders), "multifaceted" strategies (e.g., training plus audit and feedback), or "bundled" implementation strategies that incorporate multiple techniques packaged as a protocol or branded implementation intervention. We tend to know more about the impact of the passive single-event approaches—providing training and informational material— and that these single-event strategies tend to have some short-term impacts but lose potency over time (Taxman et al., 2014). We are beginning to see more attention to multifaceted strategies that combine various approaches, such as manuals, multi-day training, expert consultation, audio- or videotaping sessions, and providing feedback to the actor, supervisor training, booster sessions, and case studies (Herschell et al., 2010; Taxman et al., 2014). For example, in their experiment on training juvenile justice workers to use a risk–need tool to inform case plans, Taxman et al. (2014) found that booster sessions (post-training events) focused on social supports for staff were more valuable than providing knowledge refreshers or management directives on key outcomes of case planning strategies, office functionality, and use of the risk-need tool. This randomized trial also found that social support booster sessions resulted in more youth receiving services and reductions in rearrest. An emerging consensus in the field is that effective trainings should be dynamic, active, and address a wide range of learning styles (Davis & Davis, 2009; Taxman et al., 2014); utilize behavioral rehearsal strategies (Beidas et al., 2014); and include ongoing supervision, consultation, and feedback (Herschell et al., 2010; Rakovshik & McManus, 2010). It is a tall order, but it suggests that effective change/implementation strategies are designed to address the culture of an agency, the knowledge of key actors, and the way "work" is performed.

One example of a multistage bundled training approach is from a study on police training on procedural justice (Weisburd et al., 2022). Researchers used a 5-day in-person training followed by a 1-hour booster session (3 months after the initial training). The 40-hour training consisted of (1) an overview of hot spots, police legitimacy, and procedural justice; (2) characteristics of procedural justice (the innovation) and historical pathways of community trust in the police; (3) scenario-based training with role-playing in various settings and with various subpopulations; and (4) the role of officer supervision and data collection forms. This experimental study reaffirmed that training police in new processes, such as procedural justice, can improve knowledge and have a small-to-modest impact on police behavior as it relates to arrest and crime. The study found that the training led to improvements in police behavior regarding voice, neutrality, and respect; it did not have an impact on trustworthiness or on police legitimacy in hot spot areas or the city overall. This study illustrates a change process that demonstrates some tools to achieve changes in attitude and behavior, but the study also resulted in many unanswered questions about the overall effectiveness of training. Although it does suggest that more hours spent in training, rather than the more typical 1- or 2-day training, can lead to positive outcomes, the bundled training process does not allow us to isolate which aspect of the intervention is most important and contributes to positive outcomes.

Training, and its associated processes, is just one type of change process. Various strategies are used in different settings, including change teams (workgroups), data-driven decision making, goal setting, and leadership training. Each strategy has a small body of literature, but crim-

inologists have not embraced the need to know what type of change strategies improve the implementation of innovations or the impact staff knowledge, belief in, or skills regarding a particular innovation. For example, a favored approach in criminal justice reform policies is interagency policy teams or workgroups that often consist of individuals representing different agencies or organizations. Such teams are useful because they bring together multiple components of the justice and service systems. Mackey et al. (2024) examined interagency teams that focus on efforts to provide treatment to individuals with behavioral health disorders in and out of jail. The teams usually represent a variety of agencies ranging from police, prosecutors, treatment providers, community members, and other justice agencies. Effective teams focus on sharing knowledge about their organizations and learning about operational issues in each agency. Theoretically, these can lead to integrated practices such as a common assessment tool, eligibility criteria, and staffing. The study found that teams do not need to have a consensus on goals or vision before the teamwork begins; rather, consensus or support can emerge from teamwork. It did show that the clarity of the innovation is important to the policy teams making progress. Clear facilitation processes along with an external facilitator are known to be an asset for teamwork given that agency personnel tend to be overcommitted (Stetler et al., 2006; Magnuson et al., 2019; Girard et al., 2024). Data-driven decision making can also enhance policy team activities, but it requires the group to have data available, define metrics, and redesign processes to impact these metrics (Hailemariam et al., under review).

The demand for more information about the effectiveness of implementation or change strategies should be at the top of our list, especially given the difficulties inherent to reforming justice organizations or operations. How implementation is pursued is within our bailiwick of critical research questions. It is clearly linked to the ability to answer the "how to do it" or describe innovations that *can be* implemented in justice organizations. Poorly implemented innovations (which are replete in our literature) do not provide the research or evidence to reform the system or to put in place innovations that are feasible. IS focuses the attention on change strategies by providing meaningful research questions, measurement of key variables, tools, and research designs to increase our knowledge about implementation.

Change processes have typically been of little interest to researchers because reforms tend to rely upon top-down approaches based on the willingness of administrators/leaders to try something new. IS raises the bar to consider reform efforts that are more of the bottom-up, instead of top-down approaches. The challenge is to find what techniques deliver different levers and processes that are important in the quest for better outcomes.

4 | OUTCOMES RELATED TO CHANGE AT THE ORGANIZATIONAL LEVEL

IS can answer questions about change resulting from innovations, but one of the biggest contributions is that IS recognizes that there are organizational measures that are needed to effectively answer the questions about innovations. Typically, there are two measures of the change: *proximal*, designed to capture staff perspectives/knowledge and features of the programs/practices, and *distal* outcomes geared to the larger goals or purposes of an organization. Although traditional individual-level recidivism and crime rates are typical in "what work" studies, they do not reflect the change in practices or delivery of services that drive these individual-level outcomes. IS is built on the foundation that if staff, work processes, and organizations do not alter their practices, then the change is likely to be spurious and unlikely to achieve reform-related goals. As

noted by Proctor et al. (2009) (see Figure 1 above), implementation and service outcomes are at the organizational level, which inform questions about the degree to which the actors or organizations have sufficiently modified their approaches to bring about individual-level change.

A focus on implementation outcomes can help address the contextual factors that get in the way of using evidence from research studies to refine daily practice. Some of the implementation outcomes reflect the staff, administrators, and/or stakeholders opinions or perspectives on issues that affect receptivity to the innovation, such as (1) *acceptability*, or the belief that the innovation is consistent with what the beholder believes is suitable given the situation; (2) *appropriateness*, or the belief that the innovation is aligned with the organizational mission and goals; and (3) *feasibility*, or the perception that the innovation is realistic and can be implemented within the current environment. These are atypical measures in criminology and criminal justice research and literature, with a few exceptions. For example, in a study of probation offices implementing an incentive structure for individuals with substance use disorders, Rudes et al. (2011) assessed the features of the innovation to understand how much of the incentive structure was operationalized and how much could be documented. Officers viewed social incentives (e.g., affirmations by officers, letters to support systems of officers, and use of computers in the probation office) as acceptable and feasible, but monetary incentives (e.g., money and gift cards) were not considered acceptable and deemed to be difficult to implement (Murphy et al., 2012). These measures are typically captured using surveys of the leaders and staff, although there are ethnographic strategies to capture these constructs. Weiner et al. (2017) have provided scales that can be used to identify whether users felt the innovations were appropriate, acceptable, and feasible. This allows the leadership or administrators to assess where the organization is at, which can be used to brainstorm how to address the opinions and perspectives that make the innovation challenging to implement.

Other implementation outcomes are directed at measuring the innovation and the organization. Implementation outcomes allow researchers to use an action-oriented research/evaluation process that focuses on engaging the organization in a change process that affects how many individuals are impacted by the change (penetration), whether the organization uses the innovation as standard practice (uptake), the cost associated with the innovation, and the adherence to the evidence-based practices (fidelity). These are important measures that can help assess whether the innovation is being treated as a novel. These outcomes focus attention on how the actors in an agency embrace the innovation and its suitability for the environment. For example, problem-solving courts have been in existence for about 30 years, and there are over 4000 courts. The average court handles a small number of clients (under 40 a year) (Farago et al., 2023), which illustrates that the innovation has not yet penetrated the judicial system and that there is little uptake of specialized courts in our judicial system. Similarly, crisis intervention teams are recommended to augment law-enforcement efforts with people with mental illness. Here, around 2700 police departments are participating in CIT programming, which is about 15% of the police organizations in the United States; CIT has been in existence for nearly 30 years (Watson et al., 2021), also illustrating low uptake in police organizations. These are just two examples of how implementation outcomes can be useful in identifying whether a reform has impacted the routine operations of justice organizations (in this case, the courts or corrections and the police).

Another set of organizational measures is captured in the model of Proctor et al. (2009) related to service outcomes (e.g., procedural justice, goal alignments, equity, and safety) that can address whether the innovation has crafted change in the culture and processes of an organization. The study of procedural justice of Weisburd et al. (2022) found that the multistage training initiative impacted several features of procedural justice but did not address the issues of trustworthiness among the police and community. Schoenfeld and Everly (2023) reviewed the culture of prisons

and assessed that the security mindset makes it difficult to implement rehabilitation programs, therefore assessing the service outcomes that come from innovations; in this case, innovations that focus on addressing peer relationships and/or correctional officer relationships interfere with the rehabilitation goals. The sparse literature on service-related outcomes in criminology/criminal justice basically demonstrates that innovations' impact on the culture of legal/justice organizations is nominal, and more attention needs to be placed on how implementation strategies can affect service outcomes, particularly those that affect the culture and traditions of organizations providing a variety of services.

Implementation and service outcomes can add tremendous value to our knowledge about criminology and criminal justice policies and practices. They might reveal how much justice actors understand and believe in different innovations, justice and fairness goals, and the improvements that are being recommended. Essentially, this can unmask some of the resistance that is frequently commented on and infrequently measured.

5 | IS' ADDED VALUE

Is implementation worthy of investigation? Given the complexity of operations—in terms of organizational factors and resources and the temperature gauge of criminal justice system issues—IS offers a fresh, new look at what is often perceived as unapproachable or entrenched issues. That is, IS provides the research tools to investigate innovations, justice organizations, and change processes on a range of measures that offer insight into the sustainability of reforms, including the degree to which the innovation is used (uptake and penetration) and the degree to which the innovation resembles that which was researched. My most recent research has employed various aspects of IS to better understand reforms. In each instance, the research has provided new revelations about the facets of operations that affect those working in the justice system and those impacted by the processes of the justice system. A few nuggets have been:

1. Although problem-solving courts are open to the use of medication-assisted treatments, approximately 14% of the clients in these courts are on the medication (Farago et al., 2023). This low penetration is due to issues related to access to medication providers, where the court generally does not have direct access but rather the treatment provider makes these connections. In addition, the number of providers in a community served by the drug court impacts the degree to which clients are on medications (Farago et al., 2023). It is less about the belief in medications and more about the accessibility to the innovations (medications).

2. Jurisdictions that are embarking on efforts to reduce the number of people incarcerated in jails, often using interagency policy teams to address operational issues regarding screening and assessing clients at jail intake, providing treatment services, and releasing individuals from jail to community treatment. Yet interagency teams are not prevalent in the field, with less than 56% of the counties having such teams (Zhorayev et al., under review). Furthermore, the teams that are most successful in building interagency relationships and developing common definitions about key terms (i.e., recidivism, mental illness, and substance use disorder) are likely to occur in jurisdictions that have the capacity to implement new programs or implement performance measures (see Mackey et al., 2024, press; Johnson et al., 2024). That is, change strategies are generally underutilized because they lack specificity or sufficient personnel resources to put in place.

3. A series of studies on the use of RNA tools in the criminal legal system found that officers distrust or do not believe that the instruments are accurate (Viglione et al., 2015), that the judiciary often assigns conditions that are counter to the needs of the client and therefore officers manage compliance (Thurman et al., 2019), and that the RNA tool does not drive case plans because the contact standards of an agency override the needs of clients (Blasko et al., 2022). Collectively, these studies reveal that compliance-focused culture is a driver of how and when RNA tools are used in case plans, and this culture is seldom addressed (see Taxman, 2024). The failure to use RNA to drive decision making is often because probation officers often do not have the authority to determine conditions.

4. Uptake of diversion or deflection programs is often affected by the police officers questioning the value in treatment or the police officers feeling that treatment programs cannot effectively address the addiction and/or mental health needs of clients (Barberi & Taxman, 2019). Leaders of police organizations also show only passive support for these programs, which contributes to apathy regarding them and poor utilization among line staff. The lack of support for deflection among the police suggests that barriers are the culture of policing, which does not foster relationships with behavioral health agencies or understanding of the treatment processes.

In each of these examples, IS has identified new or unresolved issues that are critical to address if we are serious about engaged research that is valuable to policy makers, practitioners, and other researchers to advance the use of efficacious innovations. IS focuses on addressing key leadership, staff, or stakeholder issues regarding the support for the innovation. These beliefs get in the way of the innovation having the impact that is desired, particularly in real-world settings where there are competing interests and struggles to obtain sufficient resources. Knowing the barriers is the first step to addressing the "how to," and IS provides the tools to isolate the barriers and identify the facilitators to replicate in other settings. IS is a worthy addition to the researcher's toolkit, and I hope to see more applications of IS in criminology and criminal justice research studies.

CONFLICT OF INTEREST STATEMENT

The author declares no conflicts of interest.

FUNDING INFORMATION

REFERENCES

Barberi, D., & Taxman, F. S. (2019). Diversion and alternatives to arrest: A qualitative understanding of police and substance users' perspective. *Journal of Drug Issues*, *49*(4), 703–717.

Beidas, R. S., Cross, W., & Dorsey, S. (2014). Show me, don't tell me: Behavioral rehearsal as a training and analogue fidelity tool. *Cognitive and Behavioral Practice*, *21*(1), 1–11. 10.1016/j.cbpra.2013.04.002

Blasko, B. L., Viglione, J., Taylor, L. R., & Taxman, F. S. (2022). Sorting through the evidence: A step toward prioritization of evidence-based community supervision practices. *Criminal Justice and Behavior*, *49*(6), 817–837. https://doi-org.mutex.gmu.edu/10.1177%2F00938548211036474

Curran, G. M., Bauer, M., Mittman, B., Pyne, J. M., & Stetler, C. (2012). Effectiveness-implementation hybrid designs: Combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical Care*, *50*, 217–226. 10.1097/MLR.0b013e3182408812

Davis, D. A., & Davis, N. (2009). Educational interventions. In S. Straus, J. Tetroe, & I. D. Graham (Eds.), *Knowledge translation in health care: Moving from evidence to practice* (pp. 113–123). Wiley-Blackwell.

Debena, H. M., Rosen, R. K., Sneed, R., Taxman, F. S., & Johnson, J. E., (2025; under review, BMC Health Services). *Use of data-driven decision-making among agencies serving individuals with criminal-legal system involvement: A qualitative study*.

Farago, F., Blue, T. R., Smith, L. R., Witte, J. C., Gordon, M., & Taxman, F. S. (2023). Medication-assisted treatment in problem-solving courts: A national survey of state and local court coordinators. *Journal of Drug Issues*, *53*(2), 296–320. https://doi-org.mutex.gmu.edu/10.1177/00220426221109948

Girard, A., Doucet, A., Lambert, M., Ouadfel, S., Caron, G., & Hudon, C. (2024). What is known about the role of external facilitators during the implementation of complex interventions in healthcare settings? A scoping review. *BMJ Open 2024*, *14*, e084883. 10.1136/bmjopen-2024-084883

Herschell, A. D., Kolko, D. J., Baumann, B. L., & Davis, A. C. (2010). The role of therapist training in the implementation of psychosocial treatments: A review and critique with recommendations. *Clinical Psychology Review*, *30*, 448–466.

Johnson, J. E., Ramezani, N., Viglione, J., Hailemariam, M., & Taxman, F. S. (2024). Recommended mental health practices for individuals interacting with U.S. police, court, jail, probation, and parole systems. *Psychiatric Services*, *75*(3), 246–257. https://doi-org.mutex.gmu.edu/10.1176/appi.ps.20230029

Latessa, E., Cullen, F., & Gendreau, P. (2002). Beyond correctional quackery: Professionalism and the possibility of effective treatment. *Federal Probation*, *66*(2), 43–49. https://www.ojp.gov/ncjrs/virtual-library/abstracts/beyond-correctional-quackery-professionalism-and-possibility

LaVigne, N. (2024). *The titanium law of evaluation*. Vital City. https://www.vitalcitynyc.org/articles/the-titanium-law-of-evaluation

Mackey, B. J., Johnson, J. E., Ramezani, N., Hailemariam, M., Rosen, R. K., Thurman, T., Viglione, J., & Taxman, F. S. (2024). The who, what, and how of interagency criminal justice-behavioral health teams: Developing and sustaining collaborations. *Criminal Justice & Behavior*, *52*(1), 61–78. https://doi.org/10.1177/0093854824128039

Mackey, B. J., Phillips, L., Pyykkonen, L., Appleton, C., Lee, J. S., & Taxman, F. S., (2025, under review Criminology). *Reinhabiting probation's process-based punishments: Using inhabited institutionalism to understand condition-setting and violation practices*.

Mackey, B. J., Ramezani, N., Viglione, J., Thurman, T., Johnson, J. E., & Taxman, F. S. (2024). Implementing reform: Approaches to alter the use of local jail for people with behavioral health conditions. *International Journal of Offender Therapy and Comparative Criminology*, 16:306624X241294136. https://doi.org/10.1177/0306624X241294136

Magnuson, S., Kras, K. R., Aleandro, H., Rudes, D. S., & Taxman, F. S. (2019). Using plan-do-study-act and participatory action research to improve use of risk needs assessments. *Corrections*, *5*(1), 44–63. https://doi.org/10.1080/23774657.2018.1555442

Martinson, R. (1974). What works? Questions and answers about prison reform. *The Public Interest*, *35*(2), 22–54.

Morris, Z. S., Wooding, S., & Grant, J. (2011). The answer is 17 years, what is the question: Understanding time lags in translational research. *Journal of the Royal Society of Medicine*, *104*(12), 510–520. 10.1258/jrsm.2011.110180 PMID: 22179294; PMCID: PMC3241518

Murphy, A., Rhodes, A., & Taxman, F. S. (2012). Adaptability of contingency management in justice settings: Survey findings on attitudes toward using rewards. *Journal of Substance Abuse Treatment*, *43*(2), 168–177..

Powell, B. J., Waltz, T. J., Chinman, M. J., Damschroder, L. J., Smith, J. L., Matthieu, M. M., Proctor, E. K., & Kirchner, J. E. (2015). A refined compilation of implementation strategies: Results from the Expert Recommendations for Implementing Change (ERIC) project. *Implementation Science*, *10*, 21. https://doi.org/10.1186/s13012-015-0209-1

Proctor, E. K., Landsverk, J., Aarons, G., Chambers, D., Glisson, C., & Mittman, B. (2009). Implementation research in mental health services: An emerging science with conceptual, methodological, and training challenges. *Administration and Policy in Mental Health and Mental Health Services Research*, *36*(1), 24–34. https://doi.org/10.1007/s10488-008-0197-4

Rakovshik, S. G., & McManus, F. (2010). Establishing evidence-based training in cognitive behavioral therapy: A review of current empirical findings and theoretical guidance. *Clinical Psychology Review*, *30*(5), 496–516. 10.1016/j.cpr.2010.03.004 Epub 2010 Mar 27. PMID: 20488599..

Rudes, D. S., Taxman, F. S., Portillo, S., Murphy, A., Rhodes, A., Stitzer, M., Luongo, P. F., & Friedmann, P. D. (2011). Adding positive reinforcements in a criminal justice setting: Acceptability and feasibility. *The Journal of Substance Abuse Treatment*, *42*(3), 260–270.

Schoenfeld, H., & Everly, G. (2023). The security mindset: Corrections officer workplace culture in late mass incarceration. *Theoretical Criminology*, *27*(2), 224–244. https://doi-org.mutex.gmu.edu/10.1177/13624806221095617

Stetler, C. B., Legro, M. W., Rycroft-Malone, J., Bowman, C., Curran, G., Guihan, M., Hagedorn, H., Pineros, S., & Wallace, C. M. (2006). Role of "external facilitation" in implementation of research findings: A qualitative evaluation of facilitation experiences in the Veterans Health Administration. *Implementation Science*, *18*(1), 23. 10.1186/1748-5908-1-23 PMID: 17049080; PMCID: PMC1635058

Taxman, F. S., & Dezember, A. (2017). The value and importance of risk and need assessment in corrections & sentencing: An overview of the handbook. In F. S. Taxman (Ed.), *Handbook of corrections & sentencing: risk and need assessment—Theory and practice*. Routledge Press.

Taxman, F. S. (2024). Health criminology: Addressing the culture of control. In N. Link, M. Novisky, & C. Fahmy (Eds.), *Handbook on contemporary issues in health, crime, and punishment*. Routledge: Division on Corrections and Sentencing Handbook Series. https://doi.org/10.4324/9781003506867

Taxman, F. S., Henderson, C., Young, D. W., & Farrell, J. (2014). The impact of training interventions on organizational readiness to support innovations in juvenile justice offices. *Administration of Mental Health Policy and Mental Health Services Research*, *41*(2), 177–188.

Thurman, T., Chowdhury, S., & Taxman, F. S. (2019). Fidelity measures for risk need assessment (RNA) tools usage in case plans. *Corrections*, *6*(5), 383–399. 10.1080/23774657.2019.1696252

Viglione, J., Rudes, D. S., & Taxman, F. S. (2015). Misalignment in supervision: Implementing risk/needs assessment instruments in probation. *Criminal Justice & Behavior*, *42*(3), 263–285.

Watson, A. C., Owens, L. K., Wood, J., & Compton, M. T. (2021). The impact of crisis intervention team response, dispatch coding, and location on the outcomes of police encounters with individuals with mental illnesses in Chicago. *Policing (Oxf)*, *15*(3), 1948–1962. 10.1093/police/paab010 PMID: 34659453; PMCID: PMC8507917

Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., Boynton, M. H., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. *Implementation Sci*, *12*, 108. https://doi.org/10.1186/s13012-017-0635-3

Weisburd, D., Telep, C. W., Vovak, H., Zastrow, T., Braga, A. A., & Turchan, B. (2022). Reforming the police through procedural justice training: A multicity randomized trial at crime hot spots. *PNAS*, *119*(14), e2118780119. 10.1073/pnas.2118780119 Epub 2022 Mar 28. PMID: 35344441; PMCID: PMC9168920.

Zhorayev, O., Ramezani, N., Johson, J. E., Shukla, N., Mackey, B., & Taxman, F. S., (under review, Criminal Justice and Behavior). *County characteristics that are associated with implementation strategies to reform the use of jail for people with mental health problems.*

How to cite this article: Taxman, F. S. (2025). Implementation science (IS)—A game changer for criminology and criminal justice. *Criminology & Public Policy*, 1–14. https://doi.org/10.1111/1745-9133.12694

AUTHOR BIOGRAPHY

Faye S. Taxman is a Distinguished University Professor at the Schar School of Policy and Government and Director of the Center for Advancing Correctional Excellence at George Mason University. Her research interests include evidence-informed/evidence-based (www.gmuace.org) practices, intervention science, implementation science, and translational toolkits. She is the author of many books and peer reviewed publications and has been recognized by the Division of Sentencing and Corrections and ASC on numerous occassions.