

February 2017

Issue Brief # 2017 - 01

Federal Support and Guidance in the Establishment of
Information Sharing Environments:

Mid-Atlantic Regional Information Sharing (MARIS) Case Study

Dr. Joseph R. Clark

Associate Senior Research Analyst,
GW Center for Cyber & Homeland Security

Center for Cyber
& Homeland Security

THE GEORGE WASHINGTON UNIVERSITY

Federal Support and Guidance in the Establishment of Information Sharing Environments: Mid-Atlantic Regional Information Sharing (MARIS) Case Study

Dr. JOSEPH R. CLARK

Associate Senior Research Analyst, Center for Cyber & Homeland Security

Summary

Based on a study of the Mid-Atlantic Regional Information Sharing (MARIS) program, the four fundamental information sharing principles established by the Global Justice Information Sharing Initiative (Global) Advisory Committee (GAC) encapsulate policy orientations and technical abilities critical to the establishment of inter-jurisdictional information sharing environments (ISEs). Adherence to these principles represents a precursor condition. Without such, jurisdictions cannot — and thus, will not — decide to participate in ISEs.

The actual establishment of ISEs, however, requires more. The establishment of inter-jurisdictional ISEs requires the establishment of three more conditions. It requires the development of a common focal point in regard to the nature and purpose of the ISE. It requires the establishment of trusted personal and organizational relationships among the prospective participants. It requires the proponents of any ISE successfully engage in multi-faceted negotiations within and among the prospective jurisdictions to develop the governing architecture and operational nature of the ISE.

The federal government, including the US Program Manager for the Information Sharing Environment, should do more to facilitate the establishment of these last three conditions. Specifically, federal entities should undertake three broad initiatives. First, more should be done to collect and disseminate evidence of the operational benefits of inter-jurisdictional ISEs. The legitimacy of an ISE ultimately rests on its perceived utility in regard to routine criminal justice activities (arrests, monitoring of parolees, etc.). Beliefs about the utility become the foundation for the common focal point that unites efforts to create and sustain any ISE. Second, more should be done to foster trusted relationships among the criminal justice practitioners who are often the owners and consumers of the data to be shared, yet may not have established relationships. What is needed is the development of trusted networks among practitioners whose collected data is the essence of the ISE. To that end, police chiefs, sheriffs, parole officers, and other practitioners should be brought together and into the dialogue about ISEs. Third, model governance frameworks and agreements for the establishment of, and participation in, ISEs ought to be collected — and if necessary crafted — by federal entities. Such frameworks could act as a guide to facilitate the development of ISEs by reassuring state and local authorities that inter-jurisdictional ISEs can be crafted in such a way as to balance sovereignty, liability, and utility.

Issue and Purpose of Research

After more than a dozen years of effort and monetary expenditure, an open question remains: how can federal entities more effectively facilitate inter-jurisdictional information sharing within the United States? The goal of increased information sharing was a critical objective of post-9/11 intelligence reform. Its continued importance is highlighted by the 2015 attacks in Paris and San Bernardino and by the 2016 attack at the Pulse nightclub in Orlando. The importance of increased inter-jurisdictional information sharing is further underlined by the growing challenge of cybercrime. This report, the product of research undertaken by the Center for Cyber and Homeland Security (CCHS) at The George Washington University, with the support of the US Program Manager for Information Sharing Environment (PM-ISE), provides guidance regarding the role and activities the United States government ought to engage in to foster further development of inter-jurisdictional information sharing environments.

The importance of inter-jurisdictional criminal justice information sharing is not new. Its recognized importance among entities at the state and local level of governance — and between the federal level and the state and local levels — predates the terror attacks of September 11, 2001. In 1967, the President's Commission on Law Enforcement and the Administration of Justice presented an outline for a national information system for criminal justice. The commission argued for increased cooperation and coordination among local law enforcement entities.ⁱ In the 1990s, intelligence-led policing reforms sought to more effectively combat crime by using data analytics to map out trends and provide predictive information about emerging patterns. This required an expansion of the nature and sources of data considered relevant to the criminal justice enterprise.ⁱⁱ

After 9/11, the importance of inter-jurisdictional information sharing became widely appreciated. This resulted from the work of the Markle Foundation's Task Force on National Security in the Information Age and the report of the National Commission on Terrorist Attacks Upon the United States (the 9/11 Commission). The Markle Foundation Task Force and the 9/11 Commission noted the role inter-jurisdictional information sharing could have played in preventing or reducing the scope of the 2001 attacks. Each group highlighted the fact that the alleged ringleader of the 9/11 attacks, Mohammed Atta, had been stopped in Delray Beach, Florida for speeding. Unaware that Broward County, Florida had issued a warrant for Atta's arrest, the Delray Beach police officer released Atta after the traffic stop. Although a counter-factual, it is worth considering that had information from nearby counties been available to the officer who made the traffic stop, Atta might have been sitting in a jail cell on September 11.ⁱⁱⁱ

The intelligence reform efforts that followed 9/11 sought to increase information sharing. Particular attention was given to expanding the information sharing environment within the United States. Specifically, the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA), established the PM-ISE to manage, oversee, and assist in the development of an information sharing environment. The PM-ISE was to help provide and facilitate "means for sharing terrorism information among federal, state, local, and tribal entities, through the use of policy guidelines and technology."^{iv} In 2007, the first "National Strategy for Information Sharing" was issued by the George W. Bush Administration. This five-year strategic plan sought to prioritize and unify national efforts to advance terrorism-related information sharing by integrating various ISE-related initiatives at the federal level. It also sought to provide a framework for enhanced information sharing at the state and local levels to ensure that those responsible for combating terrorism and protecting our local communities could access timely and accurate information.^v

In 2012, the Global Justice Information Sharing Initiative (Global) Advisory Committee (GAC), a Federal Advisory Committee to the U.S. Attorney General, provided recommendations to enhance the information sharing policies, practices, and technologies in use across the nation’s justice and public safety communities. These recommendations sought to leverage the foundational attributes of Section 1016 of the Intelligence Reform and Terrorism Prevention Act of 2004 and the 2007 National Information Sharing Strategy. GAC’s recommendations were intended to serve as a framework to “transform the nation’s justice and public safety information sharing business model through more effective, efficient, and coordinated technical, policy, and funding solutions and practices.”^{vi}

The GAC’s recommendations were expressed via four fundamental principles:

- Principle 1: National approaches — including the building of organizational capacity through engagement, coordination, training, management support, and a focus on all-crimes/all-hazards.
- Principle 2: Interoperability — through the adoption and use of open standards, the use of existing infrastructure and solutions, and the National Information Exchange Model (NIEM).
- Principle 3: Informed justice and public safety decision-making — to innovate and standardize information sharing capabilities nationwide to support effective, efficient decision-making, including real-time crime analysis.
- Principle 4: Responsible information sharing policies, practices, and values — to maximize resources and increase efficiencies, emphasize data quality, and encourage shifts in organizational culture away from information ownership toward information stewardship.^{vii}

In recent years, the Bureau of Justice Assistance (BJA) and its state, local, and tribal partners have acted on Global’s recommendations. BJA funded seven pilot programs for sharing implementation, including: one undertaken by the Kentucky State Police to facilitate the serving of warrants, one undertaken by the New Jersey State Police focusing on crime in the Corr-Stat region, the Mid-Atlantic Regional Information Sharing project led by the Pennsylvania Commission on Crime and Delinquency, the Multijurisdictional Juvenile Justice Data Sharing Program undertaken by Michigan’s 20th Circuit Court Juvenile Services, a project to reduce gun crimes by the Milwaukee Police Department, New York’s Advanced Solution Center for Public Safety, and a program targeting recidivism by Alabama’s Department of Mental Health. With the support of BJA, each of these seven programs progressed. Yet, today, they exhibit various levels of maturity.^{viii} Their varied state of development is, in part, a function of their specific goals, as well as the technical, legal, and policy challenges to their development. Nonetheless, these seven pilot programs present opportunities to study the ISE development process. They present opportunities for observing how proponents of the proposed ISE overcome technical, legal, and bureaucratic challenges to their development.

To understand how best to accelerate the movement toward effective and efficient ISEs — ISEs capable of delivering enhanced operational capability and mission effectiveness in the face of drastic budget cuts and constraints — CCHS and PM-ISE undertook an initial evaluation of how the GAC’s four fundamental principles influence the creation of ISEs. Given the variance in maturity and objectives of the BJA-funded ISEs, comparisons among the programs proved difficult. Thus CCHS and PM-ISE decided to focus on a single pilot program. Given the PM-ISE’s mission “to advance responsible information sharing to further counterterrorism, homeland security, and cybersecurity missions” and its critical partnership with frontline law enforcement entities working at the state and local levels, CCHS and PM-ISE decided that the best focus for such research would be an evaluation of the role the GAC’s recommendations play in the establishment of inter-

jurisdictional ISEs.^{ix} As a result, the Mid-Atlantic Regional Information Sharing (MARIS) program was selected as the case study. MARIS was deemed to provide the best opportunity to examine the degree to which the GAC principles facilitate the design and implementation of information sharing environments capable of supporting a national ISE consistent with the President's National Strategy for Information Sharing and Safeguarding. Furthermore, focusing on MARIS allowed for the construction of a narrative about the creation of a specific ISE. This narrative became a mechanism for examining and evaluating the GAC principles, their importance, and their role in the development of inter-jurisdictional ISEs.

CCHS' study of the MARIS program was carried out via the examination of source documents provided by PM-ISE and MARIS' participating jurisdictions and via examinations of additional government and academic sources. The record provided by these documents was augmented by on-the-record and off-the-record interviews with individuals associated with the MARIS project and individuals associated with the criminal justice systems of the participating jurisdictions. These interviews were carried out from February through August of 2015. They were designed to elicit first-hand accounts of the events surrounding the creation of MARIS, its technical design, and decisions. Together, the interviews and document record provide data for evaluating the effects of the GAC principles on the decisions and negotiations that established MARIS.

History of MARIS

The MARIS ISE represents a revolutionary achievement driven by evolutionary developments.

Mid-Atlantic criminal justice inter-state information sharing began organically, not in response to terrorism or direct encouragement on the part of federal entities. Mid-Atlantic information sharing developed as the result of

personal contacts between individuals serving in adjacent jurisdictions. The geography of the mid-Atlantic region and the mobility of the region's population — facilitated in large part by the Interstate-95 corridor — necessitated the development of personal networks of criminal justice professionals sharing information across state lines. As police and parole officers became aware that suspects or parolees were engaged in activities outside their jurisdictions, or were effectively slipping away from observation by relocating to an adjacent state, the importance of information sharing became increasingly apparent.^x Personal contacts became an ad hoc means for sharing important information.

At the same time these informal inter-state exchanges were beginning to emerge, formal intra-state information sharing programs were also developing. Over the last thirty years, most mid-Atlantic states developed criminal justice information systems based on the electronic sharing of data. In most states, this process began as a linking together of existing databases. By the end of the first decade of the 21st century, most of the states in the region had criminal justice information sharing systems capable of providing practitioners with various levels of digital access to standing databases. The data in these various justice information systems varied; a function of differences in state constitutions, statutory law, and policy. In general, however, each system's data included warrants, police records, address and background information, and photos.^{xi} Over time, these intra-state information sharing systems linked law enforcement and other criminal justice practitioners as owners and consumers of data. The technical aspects of the systems, unique to each state, developed primarily as custom builds — some via contracts with vendors, others the product of internal development.^{xii}

As each justice information system advanced, the professionals responsible for the justice information systems themselves became trusted nodes and conduits networking together the various elements of each state's criminal justice system. Often overseen by boards of criminal justice professionals and elected officials, the justice information systems and their review boards became a corporate manifestation of

the bureaucratic and personal relationships within each state's criminal justice enterprise. As such, they often served as a venue for identifying and solving problems related to the access and use of criminal justice information. Within these intra-state relationships a dynamic developed, a focus on criminal justice outcomes trumped policy procedures or technical issues.^{xiii}

The organic development of inter-state exchange networks and the maturing of intra-state justice information systems altered expectations about the speed and availability of law enforcement data. For individuals working within the respective justice information systems and those serving as law enforcement practitioners, technical advances and increased need suggested a logical next step — the electronic sharing of criminal justice information.

In 2007, Maryland and the District of Columbia took this next step by entering into an agreement to share automated arrest information. Relative to the FBI's National Crime Information Center (NCIC) system, the automated arrest feed represented a value-added development. The feed alleviated the time-consuming need to conduct one-by-one searches of the NCIC to check if an individual in question had been arrested. The ability to more efficiently determine if a suspect or offender had in fact been arrested in the neighboring jurisdiction provided a resource savings and supported better public safety decision-making.^{xiv}

Through professional exchanges and conferences word of the automated sharing between Maryland and the District of Columbia quickly spread among justice information sharing professionals in the mid-Atlantic. This sparked curiosity in the potential for such among other criminal justice professionals. Eventually, individuals in surrounding jurisdictions began reaching out to, and at times travelling to, DC and Maryland to learn more about the automated sharing process and its operational benefits. Since 2007, similar bilateral sharing agreements have established an arrest feed network between

Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia.^{xv} The establishment of these automated arrest feeds deepened existing relationships between the justice information system professionals of the mid-Atlantic region. The need to overcome technical challenges associated with the automatic data feeds enhanced their working relationships. Increased contact and experience forged a trusted network of relationships among justice information professionals and expanded the value of the services they provided to their respective jurisdictions through an expansion of the types of information being shared.^{xvi}

This process of bilateral information sharing advanced to the point that in June 2012, a Mid-Atlantic Regional Justice Information Sharing Summit was held in Baltimore to “develop a framework to increase multi-jurisdictional information sharing” in support of public safety. The summit was sponsored by the Maryland Governor's Office of Crime Control and Prevention, the National Criminal Justice Association, and the National Governors Association. The summit sponsors were anxious to explore how to move beyond the individual memorandums of understanding established between each state and establish a consortium based on a blanket memorandum of understanding that would allow for expanded inter-state criminal justice information sharing. Prior to the meeting, the three sponsoring entities drafted a survey asking potential attendees to prioritize information sharing opportunities. Based on survey responses, the summit focused on two general topics — how to leverage each state's existing justice information system and how fusion centers ought to evolve to better meet the needs of practitioners at the state and local levels of governance.^{xvii}

More than sixty leaders from the criminal justice policy, practitioner, and information sharing communities of Delaware, the District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia attended the meeting. Over the course of the summit, attendees agreed that it would be best to focus on the sharing of offender data, with the goal of establishing a system for real time information sharing centered on their existing justice information

systems — and, ideally, to expand the size of the consortium. The summit concluded with “a strong consensus among forum participants that sharing significant amounts of justice information across state lines offered great benefits to the justice community and the broader interests of public safety.”^{xviii}

Attendees were confident about the technical issues and expressed a belief that Global’s standards and guidance would be helpful in overcoming any technical challenges. More daunting, they felt, would be the legal and policy obstacles. Attendees also expressed concern over the governance, privacy, and information security challenges that would be inherent in the initiative. To manage the policy, operational, and technical challenges, the attendees agreed to begin work on the creation of a formal and structured governance process.^{xix}

Given that Delaware, the District of Columbia, Maryland, and Pennsylvania all had justice information systems that served as intra-state data consolidation tools, it was decided the linking of these systems represented the best, foundational step in the creation of a regional ISE. West Virginia lacked the technical infrastructure to participate. Within Virginia’s state government, there was insufficient support for participation.^{xx}

In September, 2012, representatives from Delaware, the District of Columbia, Maryland, and Pennsylvania met in Philadelphia to discuss next steps. At that meeting, representatives from each jurisdiction’s justice information system agreed to pursue inter-state sharing. It was decided that they would pursue the linking together of their respective justice information systems via a federated person search facilitated by a common service-based transaction hub connected to each of the MARIS jurisdictions’ existing justice information systems. The technical architecture of MARIS would resemble the spokes on a wheel. A common hub would connect each jurisdiction’s justice information system. Using common standards, a search initiated from one system’s

interface would search a daily cache of data feeds from the other systems relayed through the common hub.^{xxi}

To support this endeavor, attendees decided to seek federal funds from the National Criminal Justice Association. These funds would be administered by BJA. In 2012, Robert Merwine from the Pennsylvania Commission on Crime and Delinquency put forward a project abstract seeking such funding. The proposal, submitted for an FY 2013 competitive grant for ISE solutions, envisioned an eighteen month project carried out via three six-month phases. The first phase would initiate the project, finalize the design, complete all memorandum of understanding documentation, and distribute resources. The first phase would also finalize the federated Service Specification Package in accordance with Global specifications and be based on the NIEM 2.1 data mapping format. The second phase would construct the worker interface and complete system to system connections via the hub server to generate front end requests and generate individual back end MARIS federated person search requests between two of the participating jurisdictions. The third phase would complete all MARIS user interfaces. Merwine’s grant proposal was approved.^{xxii}

The technical aspects of phase one proceeded quickly. During interviews, individuals representing the criminal justice information systems of Delaware, the District of Columbia, Maryland, and Pennsylvania reported that negotiations among this group went smoothly. Their professional backgrounds within each of their justice information systems and their familiarity with one another allowed them to quickly develop a common understanding of how MARIS ought to function. By November 2012 the group had decided upon the technological requirements of MARIS. By February 2013, the group had decided upon an identity-based federated search strategy for conducting inquiries. By June, 2013, a strategy for technology acquisition and deployment had been agreed upon — along with a draft agreement for participation and by-laws.^{xxiii}

By October 2013, it was clear that the governance and legal issues would indeed pose the greatest challenge.

When asked about this process, Robert Merwine reported that MARIS' governing document went through dozens of iterations. The difficulty, Merwine noted, lies not in the technical negotiations among those responsible for each jurisdiction's justice information system — rather it lay in reassuring local data owners and governing bodies. Data owners needed to be confident that their data would not be compromised or misused by individuals outside their jurisdiction (and if so, that prosecution would occur or that access could be cut off). The process of developing governance language and the necessary memorandums of understanding became stalled over negotiations (within jurisdictions and among them) concerning the mechanisms that would be in place to cut off access to information and punish individuals responsible for any potential misuse.^{xxiv}

Similarly, the governance process slowed significantly as the approving authorities in each state reviewed, and then proposed modifications, to the legal wording of MARIS' legal architecture. These negotiations were less about the substance of MARIS, than accurately capturing the intent of the project, resolving issues of sovereign immunity, establishing compliance and harmonizing MARIS and its associated activities with each jurisdiction's constitution and statutory law. The language for the governance document would not be completed until July 2014. It would not be approved until October 2014.^{xxv}

The long timeline associated with the development of the legal agreements and governance structure has extended MARIS' time horizon. After three years, MARIS is currently testing the phase two connection of two jurisdictions. Although the delays and repeated iterations at times weakened support for the endeavor, none of the four participating jurisdictions abandoned the project (despite changes in the political parties of the governors of Maryland and Pennsylvania). Each jurisdiction plans to continue with the project.^{xxvi}

Findings

The four Global Justice Information Sharing Initiative (Global) Advisory Committee (GAC) principles contribute to effective and efficient inter-state information sharing via the establishment of baseline precursor conditions that must be in place. Without such, information sharing is difficult if not impossible.

GAC's first principle stresses the importance of engagement, coordination, training, management support, and a focus on all-crimes/all-hazards to the building of the organizational capacity necessary for the establishment of ISEs. The MARIS case study highlights the importance of such. Years of engagement between those working in each jurisdiction's information sharing system and the owners and consumers of criminal justice information in their respective states facilitated increased intra-state information sharing capacity. This intra-state capacity was critical in demonstrating the overall value of information sharing. In each of the jurisdictions, interviewees expressed the belief that the success of intra-state sharing was in large part the product of a dedicated focus on problem solving. Individuals associated with each of the participating jurisdictions' justice information systems regularly defined their organizational measures of success in regard to the effects of information sharing on public safety. Many spoke of personal efforts to assure police chiefs and parole officers that information sharing would be more than "one more email" in their inbox.^{xxvii} Delaware's Peggy Bell stated emphatically that decisions regarding what to share and how to share were driven by a desire to deliver "bang for the buck" for her state's criminal justice enterprise.^{xxviii} Engagement played an additional critical role, acting as a conduit regarding proof of concept notions. Conferences and professional connections provided shared experiences and sounding boards for future ISE development. Many individuals associated with MARIS referenced knowledge of the Automated Regional Justice Information System (ARJIS) that was created to share information among justice agencies throughout San Diego and Imperial Counties, California. Several interviewees commented on the role national conferences played, including those convened by NCJA, in providing a forum for talking

about information sharing with counterparts in other states. Furthermore, as noted earlier, the personal connections and exchanges among those in the mid-Atlantic played a significant role in establishing the technical processes and infrastructure necessary for such inter-state exchanges of information.^{xxxix}

GAC's second principle stresses the importance of interoperability in the establishment of ISEs. Those working in each of the participating jurisdictions' justice information systems offered substantial support for the important role NIEM standards played. Their comments also underscored the importance of being able to leverage existing infrastructure. The majority noted that MARIS participation would be more difficult, a harder sell, if it required substantial out of pocket costs for the participating states.^{xxx} The hub and spokes design, federated search, and grant support, created a situation in which the states were required to provide little additional support to the project.^{xxxi} In short, it was critical that MARIS work with their existing systems — something made possible via the NIEM standards. However, two additional findings, relevant to this principle, deserve mention. First, several individuals both within the justice information systems and associated with other state criminal justice entities referenced the difficulties faced in getting the adoption of NIEM standards at the data owner level — where initial input occurs. Second, a range of opinions about open hardware and software systems were expressed, with many noting a desire to balance concerns regarding security, proprietary control and customization, and vendor lock.^{xxxii}

GAC's third principle, regarding the importance of innovation to information sharing to support practical effects, is also supported by information from the MARIS case. Interviewees from the justice information systems and among the larger criminal justice enterprise in each of the jurisdictions spoke of the importance of a bottom-up approach that uses information sharing to solve real-world problems. The expressed desire to increase efficiencies was critical to the

successful development of intra-state and inter-state sharing among Delaware, the District of Columbia, Maryland, and Pennsylvania.^{xxxiii} For example, the sharing of arrest records among the partner jurisdictions, the initial primary focus of MARIS, was seen as a value-added benefit — even though such data resides in the NCIC. Compared to NCIC, MARIS was seen as more efficient. The automated alert process tied into the existing interface of each justice information system, saves time by eliminating the need for individual searches. As Delaware's Chris Kervick noted, "MARIS tells a parole officer which of the forty or sixty people they are checking on that day they need to prioritize."^{xxxiv}

GAC's fourth principle highlights responsible information sharing policies, practices, and values to maximize resources and increase efficiencies. Like the third principle, it seeks to address the "business" challenges of the criminal justice enterprise. The desire of increased efficiency was at the core of each jurisdiction's justice information system. Among the MARIS case, there was near universal appreciation for this principle. However, in regard to the second part of this principle, that regarding a cultural shift from information ownership toward information stewardship, the record of MARIS is a bit more complicated. In the District of Columbia, Maryland, and Pennsylvania, "data owners" — those who initially create the digital information — continue to exercise control over what is shared, when, and with whom.^{xxxv} In Delaware "ownership" represented a contested idea.^{xxxvi} MARIS suggests that although there is a desire to use ISEs to conduct the kind of sharing that has grown organically within the region, there was still reluctance to surrender control over access to the data within the system. Many data owners expressed a desire maintain a veto right. In the development of MARIS, the solution was to acknowledge the right of owners to determine sharing parameters — and a promise to treat (punish/prosecute) unauthorized uses or leaks of information from another jurisdiction as if it were information from the jurisdiction in which the event occurred (meaning that if an individual in Maryland leaked data from Delaware, the government of Maryland would react to it as if it were Maryland data that had been exposed).^{xxxvii}

The GAC's core principles inform organizational and individual behavior by setting expectations and a common technical focal point. They provide a language upon which to base the technical elements of information sharing. They are critically important in fulfilling the objectives of the US' National Strategy for Information Sharing. The GAC's four core principles are critically important to the establishment of the baseline capabilities and standards necessary for inter-state information sharing. This point is highlighted by West Virginia — lacking the technical capacity to engage in inter-state information sharing, any decision to participate in MARIS was foreclosed from the start.

Yet, MARIS makes clear that although necessary, the Global principles are insufficient to bring about effective and efficient information sharing across the nation's justice and public safety communities. The establishment of inter-jurisdictional ISEs requires the establishment of three more conditions. It requires the development of a common criminal justice focal point in regard to the nature and purpose of the ISE. It requires the establishment of trusted personal and organizational relationships within and among the justice information systems of the prospective participating jurisdictions. It requires the proponents of any ISE successfully engage in multi-faceted negotiations within and among the prospective jurisdictions to develop the governing architecture and operational nature of the ISE.

The importance of the common focal point to the development of MARIS can be expressed via reference to the I-95 corridor. Individuals in each of the jurisdictions spoke of the important requirement that information sharing have practical effects. But it was the routine reference to the effects of the I-95 corridor on crime and population mobility that underscore the need for a common focal point. The sense that social, economic, and infrastructure factors were making borders porous created a belief that regional information sharing was now a critical need.^{xxxviii} Based on the MARIS interviews, it was the common focal point that kept the process moving

forward in the face of legal and policy hurdles. The importance of a specific common focal point is also highlighted by comments from a few interviewees that expressed the idea that although support from NCJA was pivotal, NCJA often pushed sharing for sharing's sake (something the interviewees found counterproductive).^{xxxix}

The historical record and interviews suggest MARIS' development was the product of intra-state and inter-state relationships that fostered trust. In each of the jurisdictions that decided to participate in MARIS, those in the justice information systems had developed relationships of trust with the "owners" of criminal justice information. The regional patterns of bilateral agreements also demonstrate the role of trust. Imran Chaudhry, the Chief Information Officer for DC's Criminal Justice Coordinating Office, stated that DC's decision to participate was facilitated by the fact that they had pre-existing relationships with Maryland and Pennsylvania — each of which had a trusted relationship with Delaware. Therefore, DC was willing to trust Delaware with their information based on Delaware's reputation with Maryland and Pennsylvania. Several interviewees noted such patterns of trust were absent in regard to New Jersey, New York, and Virginia — and with varying levels of diplomacy suggested lack of trust explained their absence from MARIS. At the same time, the vast majority of those interviewed expressed the belief that MARIS participation would expand as other jurisdictions observed not only the practical efficacy produced by inter-state information sharing, but also observed fidelity in regard to the use of shared information.^{xl}

The MARIS case study draws attention to the fact that any inter-state ISE requires the successful completion of intra- and inter-state negotiations. Ultimately, such negotiations are heavily influenced by the presence of a common focal point and trusted relationships — but MARIS' history suggests there is also a functional element. Interviewees, especially those within the justice information systems of the participating jurisdictions, routinely commented on the slow and difficult nature of this process. More than one expressed the belief that "it would be the legal side, not the technology" that would kill the

program.^{xii} The functional sticking points dealt with governance, the policies and decision-making processes for cutting off access to information, and issues regarding sovereign immunity. In short, it was the difficult process of harmonizing the various legal and policy frameworks of the participating jurisdictions that proved the most difficult to resolve. They are responsible for the extended timeline, and may ultimately have the largest effect on MARIS' future success.

Recommendations

As noted at the outset of this report, GAC's four fundamental principles encapsulate policy orientations and technical abilities critical to the establishment of ISEs. Adherence to these principles is necessary — yet insufficient — for the establishment of ISEs. The actual establishment of an ISE requires the development of a common focal point in regard to the nature and purpose of the ISE. It requires the establishment of trusted relationships among the prospective participants. It requires successful multi-faceted negotiations within and among the prospective jurisdictions to develop the governing architecture and operational nature of the ISE.

The federal government, including the Program Manager for Information Sharing Environment, should do more to facilitate the establishment of these last three conditions. Federal entities should: (1) collect and disseminate evidence of the operational benefits of inter-jurisdictional ISEs, (2) foster trusted relationships among the owners and consumers of the data to be shared by bringing them together and into the dialogue about ISEs, (3) collect, and if necessary craft, model governance frameworks and agreements.

The collection and dissemination of evidence about the benefits of an ISE is critically important, because the operational or field legitimacy of any proposed ISE ultimately rests on its perceived utility in regard to routine criminal justice activities (arrests, monitoring of parolees, etc.). Shared beliefs about the ISE's field legitimacy

forge a common focal point that drives and unites efforts to create and sustain the ISE.^{xiii} Because three different audiences — criminal justice practitioners, justice information professionals, and political leaders and policymakers — must view the ISE as having field legitimacy, evidence of the benefits of ISEs ought to be disseminated to each of them.

Even with a common focal point about the benefits of the ISE, concerns about the risks of information sharing must be overcome. The establishment of trusted relationships is critical to alleviating such concerns. Federal entities should bring together the regional criminal justice practitioners who are often the owners and consumers of the data to be shared, yet may not have established relationships, and criminal justice information professionals. The goals of such conferences would be to foster interpersonal relationships among criminal justice practitioners that may not be familiar with one another and to detail and discuss the technical and policy safeguards that may be crafted into any ISE — including auditing capabilities and baseline standards for vetting those individuals who will access the ISE.

Even with agreement about the merits and legitimacy of a proposed ISE and trust among potential participants, political leaders and policymakers will be faced with concerns and questions about how best to define and demarcate the legal intent of the ISE, how best to resolve issues of sovereign immunity, and how best to ensure the ISE operates within the bounds of each jurisdiction's constitution and statutory law. These questions and the process for resolving them proved to be a significant hurdle in the MARIS case. To reduce such hurdles and facilitate the crafting of the necessary governance frameworks and agreements, federal entities ought to collect examples of such agreements and share those with prospective ISE participants. Furthermore, federal entities ought to facilitate the crafting of such frameworks and agreements by cataloging the most difficult policy challenges and development model language for resolving them. In so doing, federal authorities could act as a guide to facilitate the development of ISEs by reassuring state and local authorities that inter-jurisdictional ISEs can be crafted in such a way as to balance sovereignty, liability, and utility.

Conclusion

The MARIS case study demonstrates the critical importance of GAC's four fundamental principles. It highlights the critical role federal entities play in catalyzing the harmonization of the technical policies necessary for the establishment of information sharing environments. It also highlights the

importance of harmonizing the substantive policies of the information to be shared. In this regard, federal entities can and should play a greater role. Federal entities can catalyze the development of inter-jurisdictional ISEs by promoting their benefits, building regional networks of trust, and facilitating agreement among potential participants about the ISEs' framework and governance.

About the Center for Cyber & Homeland Security

The Center for Cyber & Homeland Security (CCHS) at the George Washington University is a nonpartisan “think and do” tank whose mission is to carry out policy-relevant research and analysis on homeland security, counterterrorism, and cybersecurity issues. By convening domestic and international policymakers and practitioners at all levels of government, the private and non-profit sectors, and academia, CCHS develops innovative strategies to address and confront current and future threats.

-
- ⁱ The President’s Commission on Law Enforcement and Administration of Justice, *The Challenge of Crime in a Free Society*, US Government Printing Office (Washington, DC, 1967).
- ⁱⁱ Herman Goldstein, *Problem-Oriented Policing* (New York: McGraw Hill, 1990); Bruce Taylor, Apollo Kowalyk, and Rachel Boba, "The Integration of Crime Analysis into Law Enforcement Agencies: An Exemplary Study into the Perceptions of Crime Analysis," *Police Quarterly* vol. 10, no. 2 (2007): 154-169.
- ⁱⁱⁱ Michael K. Reynolds, Pamala L. Griset, and Ernest Scott, Jr., "Law Enforcement Information Sharing: A Florida Case Study," *American Journal of Criminal Justice* vol. 31, no. 1 (2006): 1-17.
- ^{iv} Intelligence Reform and Terrorism Prevention Act of 2004, Pub. L. No. 108—458, 118 Stat. 3638, Sec. 1016, Information Sharing.
- ^v The White House, *National Strategy for Information Sharing: Successes and Challenges in Improving Terrorism-Related Information Sharing*, US Government Printing Office (Washington, DC, 2007).
- ^{vi} Global Justice Information Sharing Initiative, *Strategic Solutions to Transform Our Nation’s Justice and Public Safety Information Sharing: A Call to Action*, Bureau of Justice Assistance, US Department of Justice (Washington, DC, 2012).
- ^{vii} Ibid.
- ^{viii} Global Justice Information Sharing Initiative, *Advisory Committee Biannual Meeting: Summer 2015 (Pilot Site Briefing)*, Bureau of Justice Assistance, US Department of Justice (Washington, DC, 2012).
- ^{ix} "ISE Mission Statement," US Program Manager — Information Sharing Environments, ISE.gov website accessed 06 January 2016, <https://www.ise.gov/mission-stories>; "ISE Partnerships," US Program Manager — Information Sharing Environments, ISE.gov website accessed 06 January 2016, <https://www.ise.gov/about-ise/what-ise>.
- ^x Robert Merwine and Dustin Richards In-Person Interview with Joseph Clark and Paul Kissel, regarding MARIS decisions by Pennsylvania Office of Criminal Justice Systems Improvements, Harrisburg, PA, 15 January 2015; Robert Merwine In-Person Interview with Joseph Clark, regarding MARIS decisions by Pennsylvania Office of Criminal Justice Systems Improvements, Harrisburg, PA, 27 May 2015; Christian Kervick Telephone Interview with Joseph Clark, regarding MARIS decisions by Delaware Criminal Justice Council, 17 June 2015; Peggy Bell Telephone Interview with Joseph Clark, regarding MARIS decisions by Delaware Criminal Justice Information System, 09 July 2015; Mannone Butler Telephone Interview with Joseph Clark, regarding MARIS decisions by District of Columbia Criminal Justice Coordinating Council, 21 July 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services with Joseph Clark, interview occurred at Towson University, 24 July 2015; *Report Mid-Atlantic Regional Justice Information Sharing Summit*, (National Criminal Justice Association, Maryland Governor’s Office of Crime Control and Prevention, National Governors Association, Baltimore, MD, 2012).
- ^{xi} Merwine In-Person Interview, 2015; Bell Telephone Interview, 2015; Imran Chaudhry Telephone Interview with Joseph Clark, regarding MARIS decisions by District of Columbia’s Integrated Justice Information System, 07 July 2015; *Delaware Criminal Justice Information System*, National Task Force on Court Automation and Integration, (Sacramento, CA, 1999/2000).
- ^{xii} Merwine In-Person Interview, 2015; Bell Telephone Interview, 2015; Chaudhry Telephone Interview, 2015; Off the Record Interview with Representative from Maryland Department of Public Safety and Correctional Services 2015
- ^{xiii} Merwine and Richards In-Person Interview, 2015; Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Bell Telephone, 2015; Butler Telephone Interview, 2015; Off the Record Telephone Interviews with Five Individuals Representing Police Entities in Delaware, the District of Columbia, Maryland, and Pennsylvania conducted by Joseph Clark from June through August 2015; *2014 Annual Report*, Criminal Justice Coordinating Council for the District of Columbia, (Washington, DC, 2014); *Delaware Criminal Justice Information System*, 1999/2000; Taryn Hunter, Overview of State Justice Information Sharing Governance Structures, National Governors Association, (Washington, DC, 2009)
- ^{xiv} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; *Report Mid-Atlantic Regional Justice Information Sharing Summit*, 2012.
- ^{xv} Bell Telephone Interview, 2015; *Report Mid-Atlantic Regional Justice Information Sharing Summit*, 2012; Robert Merwine, *MARIS Project Abstract for FY 2013 Competitive Grant Announcement Justice Information Sharing Solutions*, Pennsylvania Commission on Crime and Delinquency (Harrisburg, PA, 2013).
- ^{xvi} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015.
- ^{xvii} It is worth noting that representatives from New Jersey, New York, and Ohio were surveyed and invited to attend; *Report Mid-Atlantic Regional Justice Information Sharing Summit*, 2012.

- ^{xviii} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; *Report Mid-Atlantic Regional Justice Information Sharing Summit*, 2012.
- ^{xix} Kervick Telephone Interview, 2015; *Report Mid-Atlantic Regional Justice Information Sharing Summit*, 2012.
- ^{xx} Bell Telephone Interview, 2015; Chaudhry Telephone, 2015; *MARIS Technology Roadmap*, Undated summary of decisions made during two day meeting of MARIS Leadership and Technology groups in Baltimore, Maryland on 3-4 June 2013.
- ^{xxi} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Chaudhry Telephone Interview, 2015; *MARIS Technology Roadmap*, 2013; *MARIS Implementation Workshop Presentation Documents*, presented to the National Criminal Justice Association during two day meeting in Washington, DC on 14-15 November 2013.
- ^{xxii} Merwine, 2013.
- ^{xxiii} Kervick Telephone Interview, 2015; *MARIS Technology Roadmap*, 2013; *MARIS Implementation Workshop Presentation Documents*, 2013; *Mid-Atlantic Regional Information Sharing (MARIS)*, overview presentation and documents presented during Regional/Interstate Information Sharing workshop hosted by the Bureau of Justice Assistance and the National Criminal Justice Association in October 2013.
- ^{xxiv} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Bell Telephone, 2015; Butler Telephone Interview, 2015; Chaudhry Telephone Interview, 2015; *Mid Atlantic States Basic Data Sharing Agreement*, drafted and entered into by the Maryland Department of Public Safety and Correctional Services, the District of Columbia Criminal Justice Coordinating Council, the Delaware Criminal Justice Information Systems, and the Pennsylvania Commission on Crime and Delinquency, (signed in various locations, 2014).
- ^{xxv} *Mid Atlantic States Basic Data Sharing Agreement*, 2014.
- ^{xxvi} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Butler Telephone Interview, 2015.
- ^{xxvii} Merwine In-Person Interview, 2015.
- ^{xxviii} Bell Telephone Interview, 2015.
- ^{xxix} Kervick Telephone Interview, 2015; Bell Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015; Off the Record Telephone Interviews with Five Individuals Representing Police Entities, 2015.
- ^{xxx} Merwine and Richards In-Person Interview, 2015; Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Butler Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015; Off the Record Telephone Interviews with Five Individuals Representing Police Entities, 2015; Off the Record Telephone Interviews with Three Individuals Representing Parole/Probation Entities in Delaware, the District of Columbia, and Maryland conducted by Joseph Clark from July through August 2015.
- ^{xxxi} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Bell Telephone Interview, 2015; Butler Telephone Interview, 2015.
- ^{xxxii} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Butler Telephone Interview, 2015; Chaudhry Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015; Off the Record Telephone Interviews with Five Individuals Representing Police Entities, 2015; Off the Record Telephone Interviews with Three Individuals Representing Parole/Probation Entities, 2015; Off the Record Telephone Interviews with Two Individuals with Delaware's Justice Information System conducted by Joseph Clark on 09 July 2015.
- ^{xxxiii} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Butler Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015; Off the Record Telephone Interviews with Five Individuals Representing Police Entities, 2015; Off the Record Telephone Interviews with Three Individuals Representing Parole/Probation Entities, 2015
- ^{xxxiv} Kervick Telephone Interview, 2015.
- ^{xxxv} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Butler Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015.
- ^{xxxvi} Bell Telephone Interview, 2015.
- ^{xxxvii} Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015.
- ^{xxxviii} Merwine and Richards In-Person Interview, 2015; Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Bell Telephone Interview, 2015; Butler Telephone Interview, 2015; Chaudhry Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015; Off the Record Telephone Interviews with Five Individuals Representing Police Entities, 2015; Off the Record Telephone Interviews with Three Individuals Representing Parole/Probation

Entities, 2015; Off the Record Telephone Interviews with Two Individuals with Delaware’s Justice Information System, 2015.

^{xxxix} Kervick Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015; Off the Record Telephone Interviews with Two Individuals with Delaware’s Justice Information System, 2015.

^{xi} Merwine and Richards In-Person Interview, 2015; Merwine In-Person Interview, 2015; Kervick Telephone Interview, 2015; Bell Telephone Interview, 2015; Butler Telephone Interview, 2015; Chaudhry Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015; Off the Record Telephone Interviews with Five Individuals Representing Police Entities, 2015; Off the Record Telephone Interviews with Three Individuals Representing Parole/Probation Entities, 2015; Off the Record Telephone Interviews with Two Individuals with Delaware’s Justice Information System, 2015.

^{xli} Kervick Telephone Interview, 2015 (direct quote); Merwine and Richards In-Person Interview, 2015; Merwine In-Person Interview, 2015; Chaudhry Telephone Interview, 2015; Off the Record Interview with Technical Representative from Maryland Department of Public Safety and Correctional Services, 2015.

^{xlii} Jeremy G. Carter, Scott W. Phillips, S. Marlon Gayadeen, “Implementing Intelligence-Led Policing: An Application of Loose-Coupling Theory,” *Journal of Criminal Justice* vol. 42, no. 6 (2014): 433-442;