Prescription Drug Monitoring Programs:
Critical Information Sharing Enabled by National Standards

Prescription Drug Monitoring Programs (PDMPs) have been authorized or established in nearly every state in the country. As state-based initiatives, they have been developed first and foremost to support the reporting, collection, and utilization of controlled substance prescription data within the state. Sharing this information across state borders has become a top national priority, with BJA leading the effort to support development of policy and technology solutions to make interstate sharing a reality.

As state-based initiatives, many PDMP systems were developed using different tools and software to manage its data. Some states contract with private sector service providers to host or maintain their systems, while others are uniquely developed in-house. This means that states are currently implementing a variety of technologies, indicating that in order to effectively exchange PDMP data on a national basis, a common, standards-based approach is essential to enable interoperability across these systems. States are also recognizing the value of adopting interstate data sharing 'hub' solutions that assist with the routing of data requests and responses between state PDMP systems. In an environment where there may be multiple hubs, multiple unique PDMP systems, and the potential of additional information sharing partners outside the PDMP community, it is clear that a unifying architecture is required to enable seamless communication with minimum cost and effort.

To this end BJA has facilitated the creation of a national Prescription Drug Monitoring Information Exchange (PMIX) Architecture. The architecture balances the need for states and their exchange partners to remain agile, flexible, and adaptable to changes in law and policy when implementing PDMPs, while rigorously enforcing technology standards that ensure the secure access and protection of privacy for exchanged information. Most importantly, the PMIX Architecture enables nationwide information sharing while preserving states' abilities to meet their own technology needs, without requiring states to adopt a particular system or hub solution.

The PMIX Architecture supports and adheres to the following four tenets:

- **Use of Free, Open, and Consensus-Based Standards**
  The PMIX Architecture is comprised of open standards built directly by the user community and national subject matter experts, and made available to anyone at no cost. Nationally recognized and institutionalized standards like the National Information Exchange Model (NIEM) and Global Reference Architecture (GRA) are examples of the foundational tools that have been leveraged to create the PMIX Architecture. Conversely proprietary standards are those built for a single purpose, at risk of not being freely available due to proprietary intellectual property rights, not developed transparently, and are not readily adaptable to other sharing activities. Such standards encourage vendor lock-in and reduce flexibility, complicate end-to-end security schemes, and generally

increase dependence on a particular software solution, thereby lowering business agility. An open architecture with a foundation based on proven, open standards, with support and input from the user community, will preserve states' choices to build, buy, or reuse software according to a commonly understood and accepted framework that will ensure PDMP system interoperability.

- **Common Formatting of Shared Data**
  Agencies that need to share information often collect different sets of data, use different terminology, or present data in different formats. The PMIX Architecture, using the NIEM data model, establishes a common data vocabulary and format for interstate information sharing. In this way, state PDMP's are free to continue managing information as they do currently, while the information that crosses state boundaries is mapped and shared consistently to link patients and controlled substance prescription data in a common manner understood by all partners to enable informed decision making.

- **Security and Privacy Protocols to Protect Sensitive Information**
  The PMIX Architecture enables the sharing of sensitive Personally Identifiable Information (PII) and Protected Health Information (PHI) with authorized parties while preserving the privacy rights of the individuals involved. It does so by requiring end-to-end security and encryption of data, so that information is never exposed before it reaches its destination. The PMIX Architecture adopts open, industry standards for security through incorporation of the GRA, which means that full security and privacy protections can be implemented by diverse information sharing partners adopting the architecture, even those that are not PDMP organizations. For example, the GRA provides a service-oriented architecture consistent with Health Insurance Portability and Accountability Act (HIPAA) standards, enabling HIPAA-compliant data exchange when required.

- **Preserving State Choice of Interstate Sharing Solutions**
  PDMP data sharing hubs are quickly becoming the preferred method to route requests and responses for controlled substance prescription data. There are numerous ways in which a state can leverage hub technology to share information beyond its borders. This degree of choice would normally be a barrier for creating a common national sharing capability. However, the PMIX Architecture is designed to accommodate any number of exchange partners or hubs seamlessly. In addition, the architecture allows for ad-hoc sharing with additional partners beyond the PDMP community, including healthcare providers, regulatory authorities, law enforcement, the Indian Health Service, and others as determined by individual state needs.

BJA, working in partnership with the Alliance of States with Prescription Monitoring Programs (ASPMP), developed the PMIX Architecture with stakeholder involvement from federal and state government, practitioner organizations including the National Association of Boards of Pharmacy (NABP), and private industry, using an open, consensus-based process. BJA pledges to continue its support of this standards-based approach to PDMP information sharing, and looks forward to continued partnership with states to implement this long-awaited and much-needed solution to better protect the patients and communities they serve.