

Addressing the Opioid Crisis

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ABSTRACT

Efforts to share data to enhance health care planning, treatment, and services are not new, but goals and approaches vary significantly. We summarize trends and lessons learned and provide a case study of a more recent approach to implementing cross-agency data sharing targeting complex clients with opioid use disorder. Key accomplishments included the development of an Enterprise Memorandum of Understanding, stakeholder feedback via opioid case studies, data element-by-element privacy and sharing rules, and a secure software solution.

Although developed specifically to address the opioid crisis, results from this design project could be applied to other health and social services, including housing, HIV, and mental health, for which agencies frequently share clients. We conclude with lessons for future data-sharing efforts.

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Trends in Multiagency Data-Sharing Efforts, Approaches, and Lessons

Efforts to share data to enhance health care planning, treatment, and services are not new, but goals and approaches vary significantly. Previous studies have described efforts to improve service delivery for existing clients. For example, one study identified “high utilizers” of behavioral health services across agencies to target treatment and case management services to specific individuals.¹ Another, payer-led intervention shared information with clinical providers on care to adults with serious mental illness to enhance care coordination, including medication prescriptions, across mental health and primary care services.²

Other efforts have combined data across public and private health care providers to enhance surveillance of chronic conditions.³ Broad county-run delivery systems (eg, San Francisco County, California) have created multisector common data solutions that permit comprehensive, retrospective utilization analysis across medical, behavioral health, and social services, including housing and jail health services.⁴ Other communities have focused on clients served in jail settings by sharing data with community providers around arrest and release notifications to enhance continuity of care.⁵

Another type of initiative has been limited to 1-time linkage of multisystem data, focusing on the delivery system level.^{6,7} Such ad hoc data linkages typically describe cross-system client characteristics, such as mental health or HIV treatment and jail encounters. These studies have identified the substantial role that jails play in selected types of treatment and have highlighted potential points of intervention.

Other studies have highlighted large data gaps and the importance of drawing upon multiple data systems to obtain a complete picture of clients’ care. For example, when compared with patient claims data, electronic health record (EHR) data from a large multispecialty medical group captured less than half of outpatient mental health treatment

and less than a quarter of acute care.⁸ Similarly, data shared across hospitals captured most hospitalizations but only a small fraction of total care reported by patients.⁹

Patient and provider perceptions of data sharing and privacy are another consideration. A small study of providers found that various agencies collected different information and had different information needs; nonetheless, there was a shared interest in information related to risk management, early warning signs, and medication management.¹⁰ Another study highlighted the nuanced privacy needs of patients, who identified mental health information and psychotherapy notes to be among the most sensitive and expressed preferences as to which providers were able to view this information.¹¹ Another study examined the technical challenges of programming such patient preferences into EHRs.¹²

We describe an example of a data-sharing initiative: a county's (Fairfax County, Virginia) multistage approach to implementing cross-agency, electronic data sharing that targeted clients with opioid use disorder. This Opioid Policy & Data Framework (OPDF) was a 3-year county project supported by the federal Bureau of Justice Assistance to design a legal, secure means of sharing electronic data among agencies. The goals of the OPDF project were to engage public providers who serve clients with opioid use disorder and to enhance access to key, cross-agency information at the time of client interaction.

This project sought to improve data usability to better manage clients as they move among systems and to greatly reduce clinicians' and other agencies' burden. Although developed specifically to address the opioid crisis, the mechanism could be applied to other health and social services, such as housing, HIV, and mental illness, for which agencies frequently share clients. Through surveys, interviews, and meeting observation, a design-project evaluation gathered information on perceptions about the project's organization, progress, shared agency goals, feedback on the opioid stories/case studies, and feedback on communication. A total of 34 key informant interviews were conducted with staff from 8 county entities: executive, strategic, legal, sheriff's, information technology (IT), emergency medical services, health department, and police. Interview guides were developed for different project roles and were informed by the literature review, project plan, and project partners. A sample interview guide is provided in the [eAppendix](#) (available at [ajmc.com](#)). Key evaluation highlights of the design evaluation are presented in the following text. As more agency data are captured electronically, new opportunities and approaches arise to combine and make strategic use of this information.

The OPDF Project

The OPDF venture was a multistage design project rather than an implementation project. From the outset, the project advisory group prioritized data sharing to enhance treatment and service referral, facilitated by the data matrix, in real time at the point of client contact, with a focus on opioid use disorder. With access to additional, timely client information, case managers and treatment providers would have a fuller understanding of services received by their clients across county entities and, therefore, a greater understanding of potential needs. As a result, the data integration model was not designed to aggregate data, either for purposes of creating lists, such as of high utilizers, or for surveillance or resource planning across systems. The initial effort also did not include private, noncounty providers. Another point of distinction from several previous efforts is that it did not involve pooling data into a single warehouse but rather sought to keep all data in their existing systems. New software would provide a gateway for county users in one agency to view selected data elements from another agency, with appropriate controls. The design development had several key components.

Memorandum of Understanding. The first component was an Enterprise Memorandum of Understanding (E-MOU), a document that permitted the exchange of information.¹³ The E-MOU was vetted by legal experts, allowing 2 or more county agencies to share data. The document describes what kinds of data specifically may be shared and under what circumstances, as well as provisions to ensure the security of shared information, in keeping with federal, state, and local laws and regulations. Once an agency signs on, it agrees to make available all its agency data—rather than selectively, program by program—subject to prevailing legal protections. The E-MOU was designed to be flexible to keep current with changes in relevant laws and regulations. This document significantly reduces agencies' burden in client management as it permits planning at a global level. Having legal representation in the OPDF project was a significant factor, helping to reassure providers that it is possible to share sensitive information across agencies, with protections as needed.

Opioid client case studies. Another important feature of the OPDF design process was the development of hypothetical opioid use–relevant case studies formulated to structure meetings and guide discussions among multiple agencies. By focusing attention on 8 specific case studies, staff from mental health, jail, social services, police, and fire and rescue departments could discuss their specific client-related roles and their data needs. Exploring multiple case studies also

helped to ensure that individuals of different backgrounds and demographics would receive equitable services. Input from the county's public health department was also sought, but its participation was hampered by ongoing COVID-19 pandemic priorities. Participants were asked to suspend any subjective beliefs about whether data sharing was legal under prevailing privacy laws and to focus on what information would be most helpful to their client-based work. Notably, some agency staff had little need for information from other agencies (eg, emergency medical staff) relative to other agency staff (eg, treatment intake staff).

Data matrix. A third component was an initial matrix of data elements and sharing rules. This detailed, transaction-level spreadsheet mapped the “opioid story” discussion to specific data elements contained in each county data system. It contained each client-level data element, the information system that housed each data element, and the responsible agency. Importantly, legal staff provided indicators for each data element as to whether the data element could be shared and, if so, with clinicians or others and with or without prior client consent. Having levels of access outlined clearly would then open up the process to share data when possible and thus could enhance appropriate service delivery. Examples of data elements that frequently do not require consent are police data. In contrast, data elements related to substance use treatment typically require greater restrictions and prior client consent.

Consent form. A fourth key component was the client consent form, permitting exchange of information among agencies where needed. The form was designed to be presented in conjunction with other Health Insurance Portability and Accountability Act and agency-specific forms.

Software. Finally, the project design included a preliminary software solution, or secure data environment. This software was designed to function as a gatekeeper, controlling access according to staff member and data element consistent with the data matrix, recording staff log-ins to shared data, and permitting the sharing of client-specific electronic data stored in multiple, existing case management/EHR systems, each in a secure data environment.

Summary, Lessons Learned, and Next Steps

Although the outcomes have yet to be evaluated, the OPDF project provides an exchange of information that participants believed would substantially enhance their response to clients with opioid use disorder. The total number of potential clients was not directly estimated, but the county's total population was 1,170,033 as of 2021,¹⁴ with 6304 individuals receiving services in the specialty mental health system

in 2021,¹⁵ and a jail population of 14,791 individuals booked in 2020.¹⁶ Although developed specifically to address the opioid crisis (eg, via discussion of opioid-specific clinical scenarios), the E-MOU and the basic IT framework for secure data sharing could be readily applied to other health and social problems, such as housing instability, HIV, and mental illness.

The following are lessons that may be helpful to other jurisdictions aiming to create and benefit from a similar data-sharing process.

- The data-sharing software described here was designed to foster client-level information sharing across county agencies. Future iterations would benefit from the capability to generate case management listings across sectors to aggregate reporting of cross-sector clients or services volumes and to add certain historical treatment information. In addition, it would be beneficial to add private community agencies, including hospital emergency departments.
- There is a pervasive belief among providers and responders that many, if not most, forms of data cannot be legally shared. This was demonstrated repeatedly in discussions around the opioid client case studies. It will be important to develop a structure to educate involved parties at all levels—from frontline providers and responders to executive decision-makers—that given appropriate consent and/or circumstances, sensitive data can be legally shared.
- Data sharing ultimately hinges on trust.¹ In the case of the OPDF project, the central participation of county attorneys and the IT department formed the basis for developing trust in the data-sharing process.
- Client trust is another key component.^{1,2} Although consent is ideally a process facilitated by providers or responders with the aid of a document,¹⁷ in reality not all staff have the time or knowledge to provide a context and clear purpose for data sharing. Effective consent documents should be written in plain terms to facilitate client comprehension.
- The utility of data sharing ultimately hinges on the quality of the existing data. Within a data-sharing framework, resources that enhance data in one agency will benefit agency partners as well.
- Once data sharing is implemented, a governing body or bodies should regularly monitor the volume of inquiries by agency and by client type. Low uptake of data sharing could indicate areas for process improvement (eg, consent process, data elements, staff workflows).

- Data sharing requires resources for implementation and sustainability. This includes updates to governance, documents, processes, training materials, data matrices, and the software itself.

A primary interest was in sharing data to enhance the well-being of individual clients, but participants also expressed an interest in having aggregate, cross-sector data—for example, total number of shared clients served or total services delivered—to measure trends in services and outcomes. Others expressed interest in client location data to develop new intervention programs. Still others hoped that data would be available to assess treatment retention and outcome, especially after cross-agency handoffs. Although outcomes data have not been evaluated, a comprehensive assessment plan would entail measuring such effects as criminal justice outcomes (ie, recidivism rates), health outcomes (ie, treatment service utilization and engagement), and economic outcomes (ie, service costs). Additionally, risk factors such as health factors outside the influence of the OPDF project would need to be controlled for.

Overall, much progress has been made to enhance the response to the opioid epidemic by developing a framework for timely data sharing among providers and responders. The county's data efforts continue to expand.¹⁸ We hope the approach taken here and these experiences will be helpful to others addressing a range of health and social problems involving multiple agencies and providers.

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eAppendix. Interview Prompts: EXECUTIVE POLICY BOARD, Follow-Up

1. To what extent do you understand the purpose of the *Opioid Policy and Data Framework Project* and your role in it?
2. Are all key players included in the current EPB? If not, who might be missing?
3. Do you see any significant differences between this initiative and how it is being approached and previous initiatives, such as Opioid Task Force, Diversion First, or the HHS Data Warehouse?
4. What are initial thoughts or reactions to the approach laid out for this initiative?
5. In your experience what is most needed for this initiative to succeed (resources, trust, cooperation, common vision, or other)?
6. What do you or your agency hope to gain from this initiative?
7. What problem do you think this initiative is most likely to solve for your agency?
8. What kind of shared data from your agency partners would be most helpful to you coming out of this initiative? Why or why not? Are there some shared performance measures and reporting you would find helpful?
9. In your experience is this initiative likely to have the skills and resources needed to assemble and coordinate the work, including agency staff time? Why or why not? *{Address both the planning phase and any future implementation phase}*
10. From your agency's perspective have any concerns about the investment that the initiative may require, including the time your agency must dedicate to the work, the shared measurement systems, or the logistical support for the initiative's ongoing work? *{Address both the planning phase and any future implementation phase}*
11. Based on your experience how successful do you believe the plan for this initiative will be? *{Address both the planning phase and any future implementation phase}* What suggestions do you have for making this a stronger plan? What suggestions would you have for the approach at this stage?
12. If this project is completed how big of a change would this be for your agency and how it exchanges vital information with other agencies? *{Address both the planning phase and any future implementation phase}*