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Jails And Health Information Technology: A Framework For Creating Connectivity

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Introduction

Across the United States, increasing numbers of local and county jails are exploring health information technology (HIT) solutions that can help them achieve more efficient and better coordinated care, significant health care cost savings, and improvements in both public health and public safety. In particular, they are implementing electronic health record (EHR) systems to replace their old paper-based record systems and are studying ways to create connectivity with community providers through options such as health information exchanges (HIEs).

Jails are finding this brave new technological world bewildering. Even figuring out where to start can be a challenge. Yet it is important that these endeavors succeed – and not just for jails, but also for their communities and for the health care system at large.

Historically, jails have not been recognized as health care providers. As a result, they tend to be left out of major health policy discussions, even though they serve as critical safety net providers for high-need, high-cost populations.

Every year, an estimated ten million unique individuals cycle in and out of the nation's 3,300 jails, which are required by law to provide health care "at the community standard" to the people in their custody. Compared to the general population, people in jail have high rates of mental illness, substance addiction, and chronic and infectious diseases, including hypertension, diabetes, tuberculosis, HIV/AIDS, and hepatitis B and C. Unlike prison inmates, who are incarcerated for sentences of at least one year, jail detainees are released quite quickly into their home communities: Sixty-four percent are out within a week.

Currently, 90 percent of the jail-involved population is uninsured. After release, jail-involved individuals generally go without treatment for their underlying health problems, which may worsen and become part of the community health burden. When jail-involved individuals do receive health care post-release, they typically do so at the local hospital emergency department. Untreated health problems – including mental illness and substance use disorders – may also contribute to repeat offenses and recidivism.

Under the Patient Protection and Affordable Care Act (ACA), a significant proportion of the jail-involved population will become newly eligible for health care coverage in 2014. Many will be eligible

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for subsidized health insurance or included in Medicaid expansion. Outside of jail, when newly eligible individuals receive care in an emergency room or with another community health care provider, their medical histories will be captured by EHRs and integrated into HIEs. Yet the health care that individuals receive in jail will remain a black box if it is not connected with the health care they receive in the community.

In addition, the ACA creates new models for population-focused care delivery such as accountable care organizations (ACOs) and financing mechanisms such as pay-for-performance that require HIT to collect the data needed to assess quality and value. Incorporating jails into the HIT movement will also bring jail-involved populations into these new models.

Finally, more jurisdictions are working to improve their re-entry processes, and they recognize the link between successful re-entry and better jail health care that is coordinated with health care in the community. They understand that the jail-involved population is part of the broader community population, and that the health and health care of jail-involved individuals have substantial impacts on public health and public safety. If data related to the health care of jail-involved individuals remain siloed – if the jail cannot share its data with the community or access data from the community – a critical part of the health care continuum remains broken and efforts to improve public health and reduce costs will fall short. Sharing of health data is necessary to make that continuum whole and maximize its effectiveness.

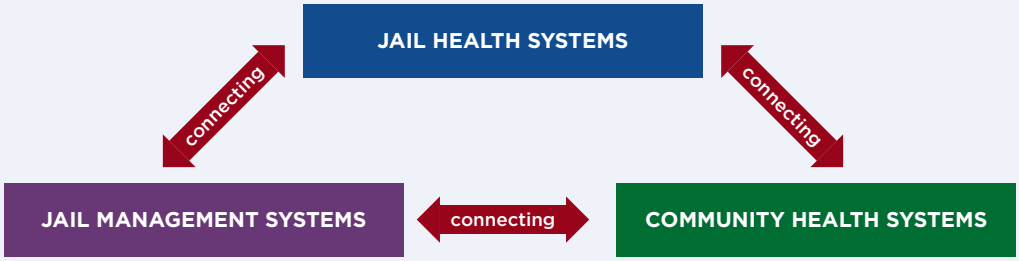
Bridging the Islands

In the health care community at large, HIT creates important bridges between patients and their doctors, between different types of service providers, and between providers and payers. Although jails are also a part of the health care community, they traditionally function as islands outside of this network of health care delivery. HIT can help integrate jails into community health care systems by creating a bridge between jails and their communities. By sharing data between jails and communities, HIT ensures that the substantial investment made in the health care of individuals impacted by the criminal justice system is not lost simply due to the inaccessibility of data.

Community Oriented Correctional Health Services (COCHS) is a non-profit organization that helps jurisdictions establish connectivity between jails and their communities. We are frequently consulted on how to adopt various forms of HIT to support this type of connectivity. Because each situation is unique, there is no turnkey solution for how to do this. We like to say that when you've seen one jail … you've seen one. They vary in so many ways – size, resources, methods of health care delivery, experience and sophistication with regard to HIT, and physical infrastructure – that each situation must be assessed independently.

Instead of attempting to come up with a one-size-fits-all method, which would not be useful, COCHS has developed a systematic framework for approaching HIT connectivity within the jail environment. Generally speaking, there are three macro systems that collect and communicate health care data about detainees: jail management systems, jail health systems, and community health systems. Ideally, all three systems would communicate seamlessly.

Ideal: All Systems Impacting the Health of Detainees Are Connected



However, this ideal is difficult to achieve, in part because these are complex systems with multiple sub-systems that sometimes operate independently of each other and don't always communicate. Here is how these "macro" systems and their "sub-systems" commonly break down:

- Jail Management Systems

  - The acronyms IIS, IMS, JMS, and OMS stand, respectively, for inmate information systems and inmate, jail, and offender management systems. These systems track housing and location of inmates; inmate calendars, which may include court dates and medical appointments; dietary restrictions; bunking assignments due to physical disabilities; and other crucial information necessary for operating a correctional institution. Although a host of vendors offer electronic jail management systems, many correctional institutions still use paper systems.

  - Case management is another component of a jail management system. Case management systems allow case managers to view and enter case notes, create alerts, track the results of assessment tools, and generate reports. Information captured in these systems may include physical and mental health data.

- Jail Health Systems

  - **Health Records:** Jails, like all health providers, maintain medical records on their detainees/patients. These data may be maintained in one of three formats: paper, EHRs developed specifically for correctional settings, or EHRs developed for and used more generally in traditional medical settings.

  - **Pharmacy Systems:** Some larger jails operate their pharmacies themselves, using either paper-based or electronic systems. Other jails employ outside vendors such as Diamond, a pharmacy provider that specializes in correctional environments.

  - **Medication Administration Records (MAR):** MAR systems manage the distribution of medications ordered by providers and may be paper-based or electronic (eMAR).

- **Sick Call:** All jails have sick call systems that allow inmates to report health concerns and request services. These systems can range from a simple pad-and-paper solution to phone tree systems in multiple languages.

- **Labs:** Some jails have on-site labs for testing; other jails use outside sources.

■ Community Health Systems

- **Health Records:** Like jail providers, community health providers are increasingly adopting EHRs, although some still use paper records. Patient medical records, whether paper-based or electronic, contain valuable information for jail providers trying to address inmates' health needs.

- **Health Information Exchanges (HIEs):** HIEs allow providers to add data to and access a patient's longitudinal health record. Joining a community HIE can allow jail providers to access inmate data residing in EHRs maintained by community providers.

- **Direct:** The Direct protocol supports secure email messaging among providers. Direct is a potential solution for exchanging health data when HIE technology is not yet an option in the jail's community.

- **Health Insurance Exchanges (HIXs):** The ACA mandates the creation of HIXs, portals from which subsidized health insurance is purchased. HIXs may be helpful to detainees exiting jail, allowing them to enroll in an insurance plan prior to release so that continuity of health care services can be maintained. In some states, Medicaid enrollment will also be conducted through an HIX.

This breakdown shows why seamless, unified connectivity is so difficult to achieve: There are many moving parts, many different "owners" of these sub-systems, and different ways that they may be arrayed, connected, or not connected. But, as the saying goes, the perfect should not be the enemy of the good. Even if the ideal is not attainable – which will be the case for most jurisdictions – chances are that at least one good, strategic option exists for achieving some level of connectivity.

Three Guiding Factors

How does a jurisdiction decide on a course for creating connectivity? Is it more useful to connect sub-systems within a single macro system, or is it better to create some type of connectivity between macro systems? An examination of **three sets of guiding factors** can be useful when making such decisions.

The first factor centers on **policy**. Perhaps a county commission or auditor has directed the jail to upgrade its information systems, an outside organization is looking for partners to pilot new approaches to re-entry, or the health department that oversees health care at the jail has a mission to improve the health of the citizenry regardless of incarceration status.

The second factor has to do with **resources**, including financial resources and infrastructure. Is there adequate funding to embark on a connectivity project? This is dependent on budgets or availability of grants. Does the jail already have an EHR? Is there an HIE in the community?

The third set of factors involves **champions** for the jail's connectivity efforts. Who is leading the initiative? Is it someone from inside the jail or from the outside? Is it someone with a deep understating of jails or technology? How widespread is the support for the initiative? Are all the stakeholders on the same page?

An examination of these sets of guiding factors can help a jurisdiction determine what is the most beneficial and feasible course for it to pursue. It may mean connecting a new EHR system with an existing jail management system; it may mean figuring out how to link the jail with an HIE. Each jurisdiction needs to take stock of its own needs and resources, as well as the opportunities available to it. Instead of trying to do everything at once, jurisdictions can build on small successes that ultimately lead them to a platform for data sharing.

About This Paper

In this paper, COCHS shares insights from the experiences of five jurisdictions working to implement different forms of HIT connectivity. Although there is no turnkey solution, there are lessons to be learned. Our intent here is to share these lessons with those interested in improving health care in jail environments and with jurisdictions that are looking for ways to create connectivity in their communities.

We conducted interviews with representatives of jails, providers, and vendors in five sites:

- Orlando, Orange County, Florida
- Portland, Multnomah County, Oregon
- New York City, New York
- Springfield, Hampden County, Massachusetts
- Lexington, Fayette County, Kentucky

Each jurisdiction has a story to tell about HIT connectivity: the history leading to the decision to explore connectivity; the factors that weighed in determining how to pursue connectivity; the unforeseen challenges; the responses devised to overcome those challenges; and the work that still remains. By sharing these case studies of HIT connectivity, we hope to help other jurisdictions better understand their own strengths and opportunities.

Orange County, Florida (Orlando)

In Florida, the Orange County Corrections Department established connectivity inside the jail, by purchasing and integrating both a new offender management system[1] (OMS) and a new jail health system.

Connecting Offender Management Systems and Jail Health Systems

Three sets of guiding factors influenced the county's decision:

- **Policy.** During the late 1990s, an Orange County oversight commission made more than 260 recommendations for improving both health care and security at the jail. These included recommendations for updating the jail's information technology infrastructure.

- **Resources.** In order to implement these improvements, the county budgeted approximately $9 million in capital improvement money for the project.

- **Champion.** Jane Jenkins, R.N., who started at the jail as a unit supervisor in early 2002 and took over as IT project manager shortly afterward, had a vision: two systems for offender management and medical care that interfaced seamlessly – without duplicate data entry and without paper.

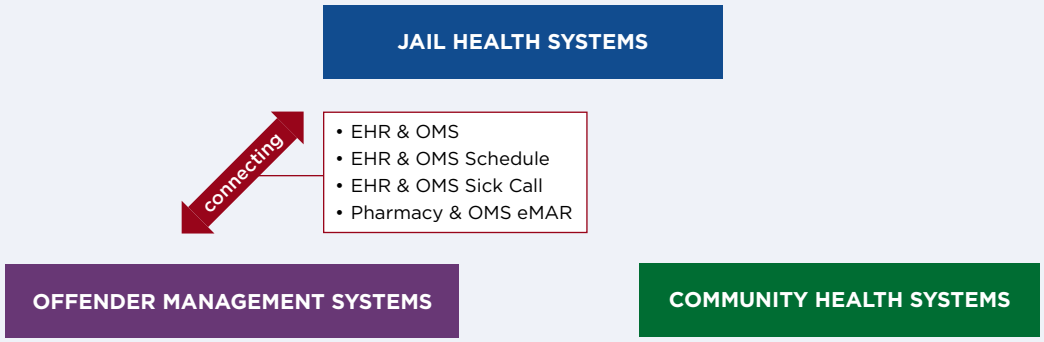
The county chose DSI Management (a company specializing in correctional technology solutions) to convert the existing obsolete OMS; it selected GE to implement its Centricity EHR system, replacing the paper-based medical record system. To connect these two systems, DSI and GE created four interfaces:

- The first interface supports the automatic export of demographic and other medically relevant data from the OMS to Centricity, as well as the transmission from Centricity to the OMS of data essential to corrections, such as dietary restrictions, mental health status, etc.

1 Institutions refer to their jail management systems by different names. Throughout these case studies, we will use the terminology of the jurisdiction. Orange County refers to its jail management system as an offender management system (OMS).

- A second interface permits an authorized clinician to view an inmate's schedule, which is maintained in the OMS, via the EHR.
- The third interface transfers records of medication orders from the Centricity pharmacy system to the OMS-based eMAR after an order has been filled and dispensed to the patient.
- The fourth interface allows the OMS sick call system to transfer data to Centricity when a nurse triages ill inmates.

Multiple Systems Connect Jail Health Systems and Offender Management Systems



Within the jail health system, another interface is being built. Although the Centricity EHR and the Centricity pharmacy system are both GE products, they are separate and do not communicate with each other. After this interface is completed, prescriptions written by physicians will automatically populate the pharmacy system with orders for the pharmacist to fill. This example illustrates how connectivity between system components can support care coordination and eliminate errors.

Connecting EHR with Pharmacy

Making all this happen was not a turnkey operation. The consultants from DSI and GE convened two expert user groups, one of which focused on corrections and the other on medical care. The two user groups worked with their respective consultants to study workflow processes, decide how to improve those processes, and determine what the new system needed to do in order to support those improvements.

For example, the medical user group, which Jenkins helped lead, examined workflow processes for medical screening, testing, work release (for medical clearance), merge workflow (to correct duplicates and errors), and mental health referral. Observations from these types of discussions informed the design of both systems, as well as the interface.

The transition from paper to electronic medical records began with a "preload" that focused on inmates with chronic conditions who were currently in the jail and on specific data points, including medications, dietary restrictions, allergies, physical assessments, and pregnancy. On the inmate management side, DSI migrated data from the old system going back to 1980. Once the interface was in place, relevant data from the new OMS entered automatically into Centricity.

On November 7, 2005, the integrated systems went live.[2]

Integration has brought significant improvements, both on the security side and the medical side. For example, inmates now know that corrections officers can easily determine whether requests for special diets or housing are legitimate. The number of hospitalizations has fallen. According to Jenkins, approximately 65 percent of inmate emergency room admissions are hospitalized, versus the community rate of 35 percent. Pregnancies in the jail, which are closely monitored, have had very good outcomes.

Discharge planning has also improved. Case managers can see at a glance whether an inmate needs a bridge medication or medical attention prior to release. Case managers can also determine whether they need to notify the local public health department regarding the release of an inmate with AIDS or tuberculosis.

Jenkins has had conversations with the Orange County Medical Clinic, which also uses Centricity, to explore potential connectivity with the jail. However, because the jail keys its records to inmate identification numbers and the Orange County Medical Clinic uses a different key based on demographic data, the two systems cannot be integrated as easily as hoped. For now, at least, that level of integration is not moving forward, but there is an implicit understanding that such connectivity is a worthwhile goal.

2 For more information, see "Orange County, Florida's Innovative Jail Management-Electronic Medical Record System Draws Praise and Interest" in *COCHS Connection*, Issue 01, January 2008, at http://cochs.org/files/newsletters/COCHSConnections/newsletter_080101.pdf.

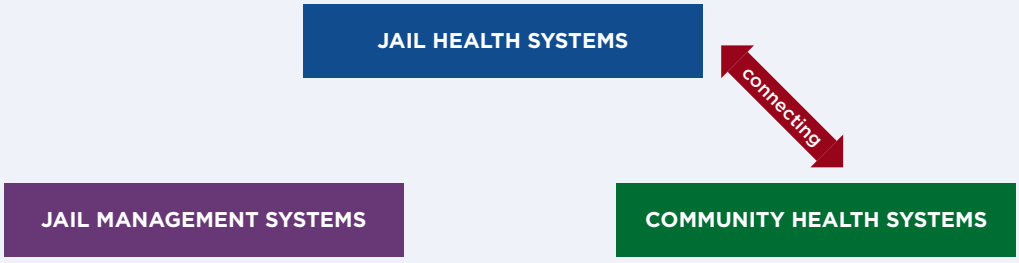
Attempted Connectivity between Jail EHR and Community EHR

The Orange County jail had the IT components necessary to achieve internal connectivity between the OMS and the jail health system and between the EHR and pharmacy components of the jail health system. Circumstances supported the jail's effort to create this level of connectivity: sufficient financial resources from the county, a positive policy environment as reflected in the recommendations of the oversight committee supporting connectivity, and an energetic champion for the initiative in Jenkins and her staff. The take-away here is that, even without establishing external connectivity with community health systems, local jurisdictions can improve security, as well as the quality and efficiency of inmate care, by integrating their HIT systems and their offender management systems.

Multnomah County, Oregon (Portland)

Multnomah County in Oregon (Portland) chose a different connectivity strategy from Florida's Orange County. Instead of connecting a jail management system with a jail health system, Multnomah County sought to link its jail health system with community health systems.

Connecting Jail Health Systems and Community Health Systems



The impetus came from the Multnomah County Health Department, which provides health care at the jail. In the Health Department's view, detainees are members of the community and their health care is provided within a continuum that includes but is not limited to the jail. An easily accessible longitudinal health record between the community and the jail is essential to supporting the Health Department's mission around continuity of care.

Interestingly, the Health Department chose the Epic EHR product to achieve connectivity, even though Epic is not designed for jails and generally is not considered an optimal choice for jail settings. In Contra Costa County, California, for example, the implementation of Epic at the jail met with strong resistance from nursing staff, who claimed that the system did not mesh well with detention and caused medical errors.[3]

A confluence of circumstances and the three guiding factors influenced the Health Department's decision-making process:

- **Policy.** In 2006, the Multnomah County auditor recommended installing an EHR system at the jail. At that time, health records were physically being moved from jail site to jail site, following the movement of the detainee.

- **Resources.** In Multnomah County, roughly 80 percent of health care providers (hospitals, and private and public clinics, including those run by the Health Department) use Epic. The Health Department uses the OCHIN Epic EHR, a product modified for safety-net clinics and providers. Originally funded by a Bureau of Primary Care grant to support federally qualified health centers with health information technology, OCHIN is one is the nation's largest health information networks. Its members work collaboratively to use EHRs and supportive products and services to share data for the improvement of patient and population health and to reduce health care costs.

  In addition, the County allocated $2 million to install an EHR at the jail.

- **Champions.** Within the Health Department, Vanetta Abdellatif, director of integrated clinical services, which oversees corrections health, strongly supported using health information technology to integrate public health care services. Jennifer McClure, R.N., program manager of clinical information systems, provided the insight into the challenges of an Epic installation within a jail environment. She worked for seven years as a nurse at the jails before becoming a nursing supervisor for the Health Department's primary care unit. During her tenure at primary care, she became a super-user of Epic.

Background

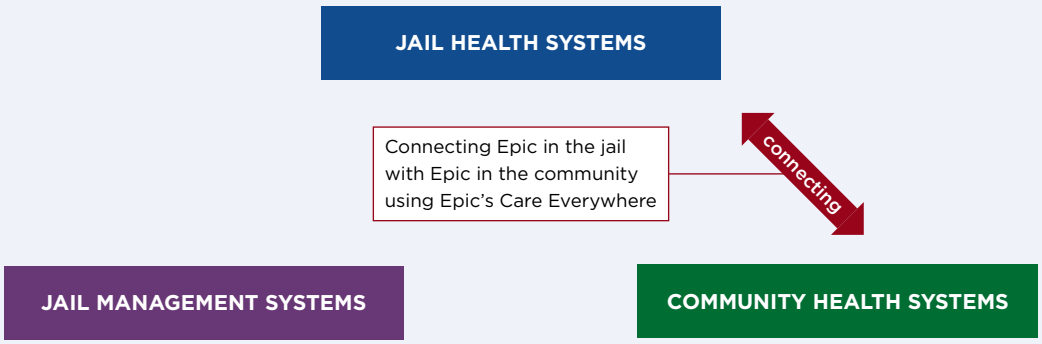
The strong presence of Epic in Multnomah County notwithstanding, the Health Department did not choose Epic initially for the jail. Before 2009, Epic did not have an active interest in the criminal justice market. In addition, it did not have a usable concept of location, a data element of great importance in correctional settings, not only for security but also for health care. Moreover, Epic's

3 See http://www.mercurynews.com/breaking-news/ci_21313174/contra-costas-45-million-computer-health-care-system.

reporting capability was dependent on the ability to use the database query language SQL, but managers running reports would most likely not possess such technical knowledge. After taking all these factors into consideration, Multnomah County opted to purchase an off-the-shelf product for the jail. This product appeared to be less costly; however, the savings were offset by the product's inability to meet the Health Department's desire to create connectivity between the jail and the community.

Later, an Epic implementation at the jail made a lot more sense. After 2009, Epic was no longer reluctant to get involved with criminal justice. Epic's penetration rate in the Portland area had reached 80 percent and the Health Department was using Epic at its non-jail sites. In addition, OCHIN offered its members HIE-like connectivity through Epic's Care Everywhere. Using Epic, therefore, would help the Health Department achieve one of its main goals: easily accessible longitudinal health records.

HIE-like Connectivity through Epic's Care Everywhere



Planning and Implementation

Planning and implementation for the Epic installation at the jail were complicated. Not only was the Health Department installing a new EHR, but it also was installing a new pharmaceutical system. To manage both installations, Jeannie Chesney, interim director for corrections health, oversaw a complex process that included implementation planning, user group coordination, and purchasing of new equipment.

Because the Health Department's priority was to connect the jail health system with the community health system, it decided not to invest in an interface between Epic and the jail management system, eSWISS. It did, however, recognize the utility of transferring demographic data from eSWISS to Epic and did an initial, one-time upload from eSWISS into Epic. This upload included demographic data on "frequent fliers" who cycled in and out of jail with some degree of regularity. However, because there is no interface between the two systems, data since that one-time upload must now be entered twice, once in eSWISS and once in Epic.

Prior to implementing Epic, McClure's implementation team set up a user group that included five correctional nurses and a physician. The user group mapped out workflows for existing health care processes at the jail and reviewed them in light of how the Epic implementation would affect them. They then worked with an OCHIN project manager to figure out how to adjust their workflows to conform to Epic. These new workflows in turn meant new protocols, which needed the approval of the team physician.

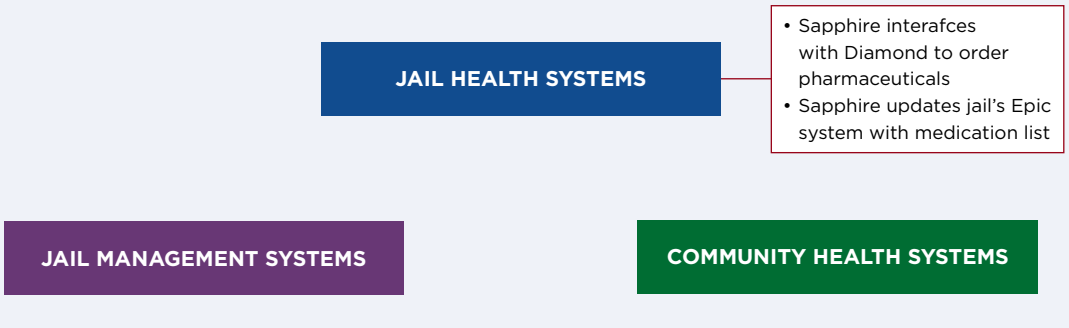
To accommodate the new system, the jail needed to purchase and install cabling, laptops, larger monitors, and docking stations. Because OCHIN's servers host Epic, the jail did not have to buy new servers.

The jail went live with Epic in October 2012, essentially becoming part of a bidirectional HIE via Epic's Care Everywhere.

Connecting Internal Jail Systems: Pharmacy Ordering

For computerized provider order entry system (CPOE) at the jail, the Health Department uses Sapphire, an order and inventory management system that interfaces with Diamond, a pharmaceutical supplier for correctional facilities.[4] The Sapphire/Diamond system was installed shortly before the Epic implementation. To order medications, providers enter prescriptions into Sapphire, which updates the medication list in Epic via an interface. Upon receipt of the orders, Diamond ships medications in unit doses to the jail. When the medications arrive, they are scanned into Sapphire. Once scanned, Sapphire creates a medication distribution list, known as a Med Pass, that is downloaded onto a nurse's laptop. After nurses dispense the medications within the jail, the Med Pass records are uploaded back into Sapphire. In effect, the Sapphire/Diamond system serves as the eMAR for the jail.

Sapphire and Diamond Pharmaceutical Interface



4 Although the Epic product has a CPOE, the jail decided not to deploy it. Epic's pharmacy interface is through Surescripts, which does not have all the data necessary to populate the fields used by Diamond.

A major benefit of the Sapphire/Diamond system is that Diamond has excellent reporting capabilities that compensate for Epic, which requires knowledge of SQL.[5] The data from Diamond can be pulled into an Excel spreadsheet, where they can be easily sorted and formatted. The Health Department recognizes that medication data often provide useful information about a patient's health.

Post-Implementation Benefits

After a few bumps, staff's reactions to the new system have been favorable. They see the benefits of having complete systems that are always accessible. Before the Epic implementation, it took up to 24 hours to assemble a new medical chart; now it happens immediately at booking. Epic has been very effective at conducting intake of people with serious mental illness and it has strengthened communication between the jail and hospitals in the community.

Interestingly, after the jail system rolled out Epic, the Health Department discovered a 40 percent overlap between the jail-involved population and the community public health system population. This number was much higher than anticipated by primary care providers in the community but not a surprise for providers in the jail. Having a common EHR has made community providers more aware that correctional health care is part of the health care continuum.

As a result, the Health Department is exploring ways to better streamline and coordinate certain processes. For example, officials are considering transition planning for mentally ill people who are in jail.

Conclusion

Multnomah County took a focused and pragmatic approach to connectivity, based largely on three guiding factors:

- The Health Department's strong desire to establish connectivity between the jail health systems and the community
- The wide use of the Epic system in the community
- The active involvement of champions: Vanetta Abdellatif, who wanted to connect jail health care with community health care, and Jennifer McClure, whose deep understanding of Epic and of primary and correctional care enabled her to lead an experienced Epic team to successfully modify Epic for use in a correctional setting

In retrospect, McClure says that agreement on which tradeoffs to make was instrumental to the implementation's success. The Health Department didn't try to do too much at once; department officials wanted a way to ensure continuity of care for their patients. And because implementation leaders involved user groups, they were able to problem-solve before they went live. This pragmatic analysis of goals helped achieve the connectivity that the Health Department thought was essential for the well-being of the community.

5 The Health Department emphasizes that Epic's reporting capabilities are improving.

New York City

The New York City jail system is quite active in integrating its health information systems with both its inmate information systems (IISs) and community systems. There are certain similarities between New York and Orange County, Fla., and Multnomah County, Ore. Like Orange County, New York has implemented connectivity between the jail's EHR and its IIS. Currently, the jail is working on another interface between the EHR and a new IIS. Like Multnomah County, New York understands the importance of sharing data with the wider health care community. Several initiatives are underway to connect the jail's health information systems with community health systems, including HIEs within New York City and statewide.

Connecting Inmate Information Systems and Jail Health Systems;
Connecting Jail Health Systems and Community Health Systems Underway

It is tempting to see New York as an anomaly because of its size, with the assumption that such a large city would naturally have extensive connectivity. However, most cities, no matter their size, do not approach the level of data integration that New York City's jail system has achieved. Again, a look at the three guiding factors helps explain this trajectory and the results that it has achieved so far.

- **Policy.** In New York City, by virtue of the city charter, the Department of Health and Mental Hygiene (DOHMH) manages all aspects of health care within the jail system, while the Department of Correction (DOC) supervises the rest of the jail system. This means that the same government agency that oversees health and health care for the community also oversees health and health care for the jail-involved population. DOHMH considers the jail population to be part of – not separate from – the general population, and the health of both is seen as linked.

  Partly as a result of this, the jail system has been factored into two key initiatives aimed at improving public health. The first is the Primary Care Information Project (PCIP), administered by DOHMH's Division of Health Care Access and Improvement (HCAI). The PCIP supports the adoption and use of an EHR called eClincialWorks (eCW) among primary care providers in New York City's underserved communities. Upward of 1,000 community practices in New York City have undergone EHR implementation through the PCIP, and the goal is to link them all through the various HIEs in New York.

The second initiative, the Health Home program operated by New York State, targets high-cost Medicaid patients with complex health care needs for additional resources and care in a specially designated care management network.[6] Within the same division as PCIP, the bureaus of Correctional Health Services (CHS) and HCAI Information Technology Initiatives (ITI) are responsible for the implementation and use of eCW for the jail system. One relatively new endeavor involves integration of information from the Health Homes initiative into eCW.

Another piece of the policy picture is the fact that DOHMH has a mandate to provide discharge planning for inmates with a serious mental health diagnosis. This includes ensuring that they have care in the community upon release, which is easier to do if some level of HIT connectivity is in place.

Finally, implementations of local and statewide HIEs are in various stages of establishing connectivity with the New York City jail EHR system.

- **Resources.** The New York City area boasts multiple regional health information organizations that have implemented HIEs. New York State operates the Statewide Health Information Network of New York, the SHIN-NY. Eventually, these various exchanges will be invaluable sources of inmate health data to the jail.

- **Champions.** The DOHMH is a strong proponent of connectivity for the jail health care system. For example, in planning the implementation of a new EHR for the New York City jail system, DOHMH staffed a six-person development team to work with the EHR vendor. In addition, key staff, including Homer Venters, M.D., assistant commissioner of correctional health services at DOHMH, and Richard Stazesky, assistant commissioner of the Bureau of HCAI Information Technology Initiatives at DOHMH, have worked to create and strengthen connectivity.

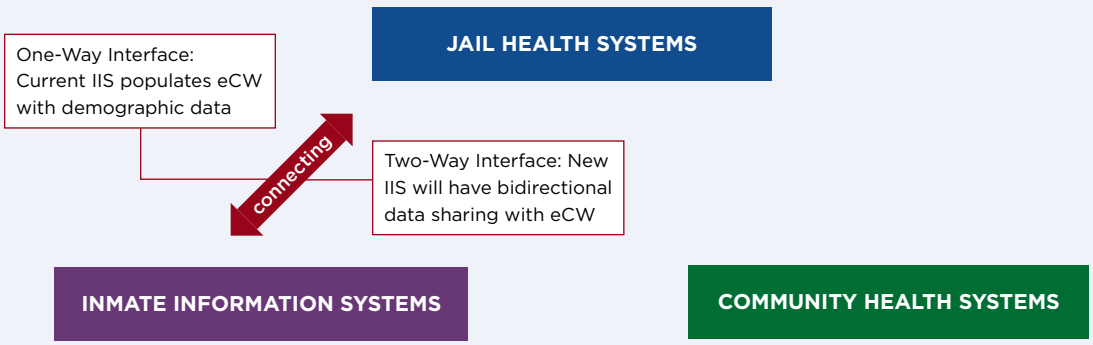
Connectivity Between the Inmate Information System and Jail Health Systems

In 2008, adoption of eCW by New York City jails began with a pilot at the single woman's facility. Major enhancements had to be made to eCW in order for it to be functional in a jail environment.[7] One modification included a one-way interface with the DOC's IIS that automates population of eCW with inmate demographic data, including identification information, from IIS at intake. These data are the lifeblood of the jail system's EHR. New York City is replacing the existing IIS with a new internally developed IIS, and this implementation will include a two-way interface to support bidirectional data sharing so that both DOHMH and DOC have better information on inmate housing location, movement, and scheduling.

6 See http://www.health.ny.gov/health_care/medicaid/program/medicaid_health_homes/

7 See Stazesky R, Hughes J and Venters H, "Implementation of an Electronic Health Record in the New York City Jail System," 2012, at http://www.cochs.org/files/hieconf/implementation-ecw-new-york.pdf.

Connectivity between Inmate Information Systems and Jail Health Systems



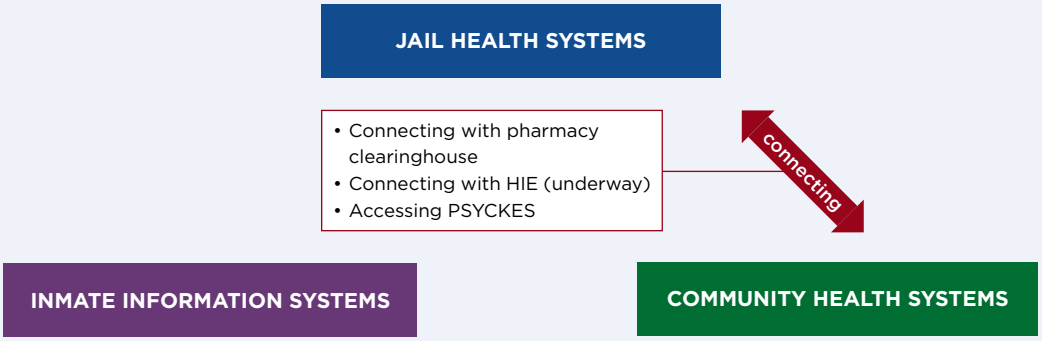
In addition, the jail health system is implementing a new pharmacy system, utilizing the Ascend software from Mediware, which will include a bidirectional interface with eCW. When a prescription is entered in eCW, it will automatically populate Ascend. When the pharmacist fills a prescription, that information will flow into eCW's eMAR; compliance information will be stored in both eCW and Ascend.

Mediware and eCW Pharmaceutical Interface

Connectivity Between Jail Health Systems and Community Health Systems

Connectivity with community health systems is happening at several levels:

Connectivity Between Jail Health Systems and Community Health Systems



- **Community Medication Fill History Clearance.** DOHMH wanted to be able to access information on inmates' previous medications at intake. eCW does not currently have this capacity, so the DOHMH contracted with a pharmacy data clearinghouse for this information. DOHMH sends demographic data on inmates to the clearinghouse, which conducts a search against its database, with a current match rate of about 22 percent. In this way, DOHMH can access prescription medication data going back 12 months. Ultimately, the hope is that this information will be available from the SHIN-NY.

- **Connecting with HIEs.** EHR implementation has positioned DOHMH to participate in the emerging SHIN-NY, which will link all of the state's HIEs. That connection will permit providers to view clinical information on inmates who have received services from community organizations that are part of an HIE. Upon discharge, data entered into the jail EHR would be available to participating community providers. This linkage would also allow DOHMH discharge planners to more effectively link inmates back to community providers.

  The connection to the SHIN-NY will be made as DOHMH establishes connectivity with the Brooklyn Health Information Exchange[8] (BHIX), which has transferred its infrastructure to the SHIN-NY.

  Related to these activities is the evolution of the Health Homes program, which ultimately may be linked into the SHIN-NY as well. Currently, the SHIN-NY is set up as a subscription-notification model around emergency room admission and discharge. Once the jail system is linked

8 BHIX and Healthix recently announced plans to merge. Healthix receives data from hospitals in Manhattan, Queens, and Long Island and, like BHIX, has had its infrastructure transferred to the SHIN-NY. The merger of BHIX and Healthix, if approved by New York State, will be known solely by the name Healthix.

in, incarceration and release will become trigger events as well. With these triggers in place, discharge planning and coordination between jail and the community would be simplified.

- **Behavioral Health Connectivity.** DOHMH recently gained access to the Psychiatric Clinical Knowledge Enhancement System (PSYCKES), a database of Medicaid data for behavioral health patients maintained by the state Office of Mental Health. Authorized users can look up a detainee in the PSYCKES database to get a consolidated view of the data. PSYCKES is not part of the SHIN-NY and requires a separate consent from the inmate.

Issues Surrounding Connectivity

The jail system is currently determining how best to address three overarching challenges:

- **Consent.** In New York State, EHR data from providers connected to the HIEs are loaded without consent. However, for a provider to access those data, consent must be given, except in emergencies, when the data are made accessible. DOHMH considers arrest an emergency situation; the eCW interface is being modified in order to implement this policy. In the non-jail environment, the default is to obtain consent to access data, but in the jail version of eCW, the default will be set to emergency access. Once a person is no longer incarcerated, the jail does not have the right to see the data without first obtaining consent. Emergency access to data does not violate the privacy provisions of federal Health Insurance Portability and Accountability Act (HIPAA), as there is an explicit carve-out for accessing medical information from a correctional institution that the SHIN-NY recognizes.

- **Data Overload.** Some detainees enter the jail with medical histories so long and complex that having too much information is almost as problematic as not having any.

- **Data Contamination.** eCW has the ability to "absorb" information from continuity of care documents[9] (CCDs) into its underlying tables, so that such information becomes part of the patient's medical record. However, this ability comes with significant challenges, one of which concerns the trustworthiness of the data that are being absorbed. Obviously, it is not desirable for incorrect data to become part of a person's medical record, especially in the context of a second challenge, that of automated processes. When certain data values are entered into tables, they may trigger automated processes. If bad data are absorbed into an EHR, they may trigger a process that will be based on erroneous information.

Conclusion

The New York City DOHMH is involved in a complex web of activities to create and improve health information connectivity both inside the jail system and between the jail system and community systems. DOHMH sees connectivity as a logical next step for the investment already made in upgrading the jail's information systems and for continuing to provide informed care within the jail.

9 A continuity of care document is a structured electronic document exchange used for sharing patient information.

This drive for connectivity is bolstered by several factors, including: DOHMH's leadership and engagement; several state activities, such as the SHIN-NY and the Health Home program; and, just as important, the installation of the basic building block of connectivity, an EHR within the jail. Overall, this environment is very supportive of connectivity, although, on its face, the size and complexity of this endeavor may appear overwhelming.

For jurisdictions contemplating connectivity, New York may be viewed as one approach to putting the pieces of the connectivity puzzle together within the larger mosaic of a public health mission. Equally valid, however, is the strategy of a jurisdiction like Orange County, which emphasized offender management system and jail health system connectivity while exploring community data sharing. Multnomah County, on the other hand, understood the importance of connecting with its jail management system but weighed its options and implemented community connectivity as the best solution for its health department role. When it comes to creating or improving connectivity, there is not a set order of operations – just that greater goal of connectivity.

Hampden County, Massachusetts (Springfield)

Previous examples in this paper highlighted efforts to connect jail health systems with jail management systems and/or community systems. The jail in Springfield, Hampden County, Mass., offers a new variation: that of a jail management system exchanging data with community systems.

Connecting Jail Management Systems and Community Systems

Many jail management systems collect case management information that is potentially useful to community service providers. TRAX, the JMS developed in-house by the Hampden County's Sheriff's Department, maintains information about substance abuse history, behavioral reports, education level, family history and support, as well as results from assessments for criminogenic behavior. All of this information is helpful to community organizations involved with re-entry services for former detainees as they assist with employment, housing, psychological counseling, and substance use disorder treatment.

The genesis of the jail management system and community system connectivity, known as the Hampden Inmate Re-entry Exchange (HIRE), was an initiative launched in 2008 by the Association of State Correctional Administrators (ASCA) under the sponsorship of the Bureau of Justice Assistance (BJA). ASCA had a justice information-sharing grant and it was seeking jurisdictions to participate in a pilot project for developing information exchanges using national standards to support re-entry. These systems would capture information on offenders and the treatment they received inside the jail. The information would then be shared with service providers in the community assisting in the transition of former inmates from the jail to the community. Interestingly, the set of three guiding factors had already helped create an environment supportive of connectivity that made it viable for Hampden County to take on a project like the one ASCA was proposing.

- **Policy.** Hampden County has a longstanding history of working to achieve connectivity between health care provided in jail and care provided in the community. During the height of the HIV epidemic in the 1980s, the Sheriff's Department invited local community health centers into the jail to provide health care services to inmates and to create connections and continuity of care between health care in the jail and in the community.

- **Resources.** Hampden County not only had technical experience in developing its own JMS and an EHR (HealthTRAX) for the jail, but it also played a crucial role in the creation of the successful Western Massachusetts Sheriffs Information Network (WMSIN), which connects the four Western Massachusetts sheriff's departments and allows criminal justice agencies to query their databases.

  The Hampden County Sheriff's Department also developed an After Incarceration Support System (AISS), a community-based drop-in center where former inmates can go voluntarily. Here, re-entry specialists guide ex-offenders to appropriate support services in the community. The specialists have access to the jail's TRAX system and can enter data into TRAX to record any recommendations and appointments made during interactions with ex-offenders.

- **Champions.** Hampden County Sheriff Mike Ashe is well known for his strong belief in the use and sharing of information as a powerful tool to support populations impacted by the criminal justice system. Less well known is John Kenney, assistant superintendent of special operations for the Hampden County's Sheriff Department. Kenney was the architect of the WMSIN and is just as strong a proponent of connectivity as Sheriff Ashe.

Selection of Hampden County for ASCA Project

In response to informal outreach by ASCA, Hampden County applied to be a pilot site for ASCA's re-entry project. For the first part of the application process, ASCA sent a survey to 26 correctional institutions, including jails and prisons, to ascertain respondents' interest in participating in a data-sharing re-entry pilot and their commitment to staffing such a project. As mentioned, Hampden County already had built a strong record of using data sharing to support re-entry. During the second round of the application process, ASCA surveyed respondents on their technological capabilities, their systems for information sharing or plans for such systems, and how these systems or plans relate to re-entry. As the sponsor of the ASCA re-entry initiative, BJA selected the Hampden Coun-

ty's Sheriff Department as one of the pilot sites.[10] This was due in large part to Hampden County's role in developing the WMSIN system, which demonstrated both technological capability and the desire to share data.

Funding for HIRE

Selection into the ASCA project did not come with the resources needed for participation. Hampden County applied for and received a $100,000 grant from SEARCH, a nonprofit organization that supports information-sharing solutions for state, local, and tribal justice and public safety agencies. In addition, the jurisdiction received a $30,000 grant from the Department of Homeland Security to build an interface between HIRE and the health data residing in the jail's EHR, HealthTRAX.[11] With those grants in place, planning for HIRE was ready to proceed. ASCA selected Tetrus Corp., of East Brunswick, N.J., which had implemented the WMSIN, to guide the implementation process.[12]

Design and Implementation

To formulate system requirements, Kenney invited community providers – the target user audience for HIRE – to participate in a series of meetings where they identified those data elements and system features that would be most useful to them. In addition, technical staff from those provider agencies weighed in on IT issues related to connecting with HIRE. With this information in hand, Tetrus began to design HIRE.

ASCA required all the pilot sites in the initiative to design their systems based on the standards of the Global Justice Information Sharing Initiative (Global).[13] Tetrus used two Global standards, the National Information Exchange Model (NIEM) and Global Reference Architecture (GRA). NIEM is an XML-based exchange framework that supports information sharing throughout the justice, public safety, emergency and disaster management, intelligence, and homeland security domains. GRA is a service-oriented architecture for the transportation and the sharing of data.

HIRE was built on data supplied by the jail's TRAX system. The TRAX database provides the following information to HIRE, which then shares that information with authorized external agencies:

10 The other pilot sites were Rhode Island, Maryland, and Allegheny County, Pennsylvania. Rhode Island's pilot stalled because of privacy issues. The state has received additional resources that have helped it address the privacy issues. As a result, the project's implementation has recommenced. The Maryland project ended when the state decided to install a new offender management system and the re-entry pilot could not proceed as planned. Allegheny County's project was abandoned.

11 Homeland Security was not only interested in preventing terrorism but also in tracking public health, especially infectious diseases.

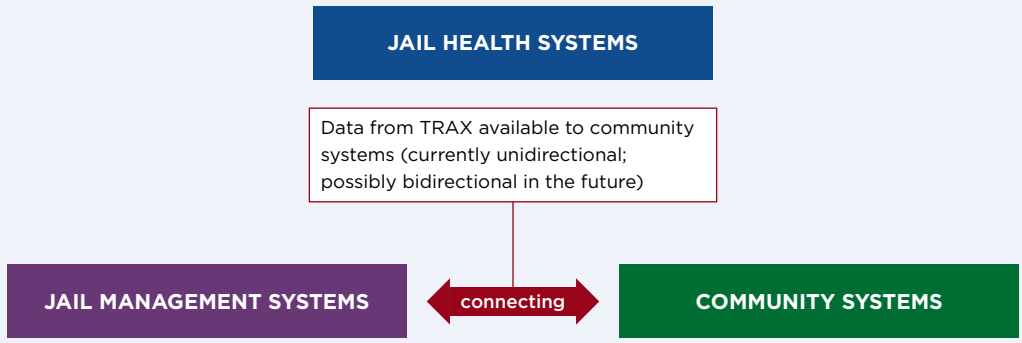
12 ASCA selected URL, an integration company, to create connectivity between the different system components.

13 The Global Justice Information Sharing Initiative (Global) serves as a Federal Advisory Committee to the U.S. Attorney General on justice information sharing and integration initiatives. Global was created to support the broad-scale exchange of pertinent justice and public safety information. See https://it.ojp.gov/default.aspx?area=globalJustice.

- An Offender Assessment Summary, which includes a risk assessment, based on scale of 1 to 10, of the inmate's likelihood to reoffend
- Level of Service Inventory, which identifies criminogenic factors that led to the offender's arrest
- Substance use disorder history
- Family support background
- Clinical and treatment notes for both medical and behavioral health care

Currently, the information exchange is unidirectional, from the jail to HIRE and from HIRE to authorized providers who sign a memo of understanding. Additional funding would be needed to make the exchange bidirectional.

TRAX Data Available to Community Systems

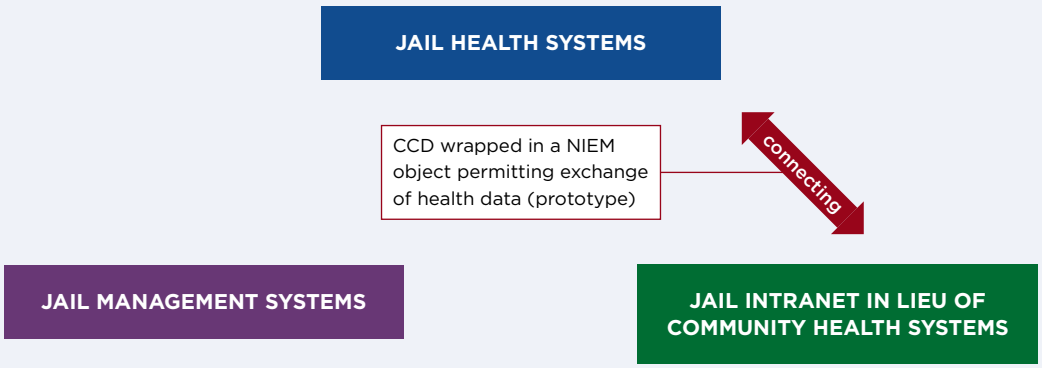


Inmates must sign a one-time consent form in order for their data to be shared with outside providers. Hampden County has partnerships with more than 300 community service agencies, including those involved with substance use treatment, housing, mental health, employment, community health care services, spiritual assistance, and education. Information is accessed through a secure web portal.

Health Data

Developing a data exchange between HIRE and HealthTRAX using NIEM standards presented a challenge to Tetrus because NIEM was not primarily designed for health care interoperability but for intergovernmental data exchange; HL/7 is the interoperability standard for health care. Under HIRE, the health data in HealthTRAX are compiled into HL/7's CCD format so that they may be shared with health systems in the community. This CCD is then wrapped within a NIEM object, meeting BJA's requirements for using Global standards. In this way, data can be shared with systems that understand either NIEM or HL/7. At the moment, HIRE's health data interface has not been put into production because it needs more development in order to include medications. However, a prototype of this medical interface is running on the jail's intranet.

Health Data Sharing in HIRE



Use

To date, response from community-based organizations to HIRE has been weak. As of July 2013, the system had logged only 102 queries since going live in the second quarter of 2012. Several reasons have been put forth to explain this lack of interest: It took considerable time to develop HIRE and interest waned (the surveys were submitted in 2008 and the design and development began in early 2010); the Sheriff's Department may need to market more aggressively to the target audiences; HIRE access is through a web portal and not integrated into existing software; and, most interestingly, the Sheriff's Department may be a victim of its own previous successes. Community providers may feel that they do not need an electronic interface to obtain data from the Sheriff's Department because the Department has always been so supportive of data sharing.

Conclusion

Integrating a jail information system with a community system is one of the more difficult types of connectivity to achieve – not necessarily because of technical issues, but because of the challenges involved in bringing together two very different worlds. John Kenney, who saw a much stronger response to the WMSIN, is somewhat disappointed in HIRE's initial reception. It may, however, be necessary to take a longer view.

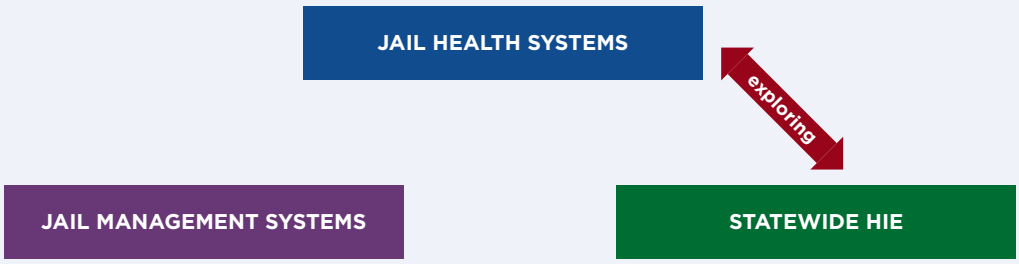
In addition, HIRE's solution for integrating CCDs into an NIEM interface represents an important advance on an issue that has been widely discussed in the criminal justice and health policy domains. This successful integration raises additional questions around data sharing between these two domains that are certain to attract more attention.

Finally, it is important to recognize that HIRE is only the most recent in a series of innovative initiatives that Hampden County has undertaken to use IT as a way to support re-entry. Hampden County was among the first jurisdictions to see the relationship between health care and re-entry and the need to connect jail health care with community health care. Its work has had considerable impact within the correctional health care sector and will likely continue to do so.

Fayette County, Kentucky (Lexington)

Fayette County, Ky., offers a perspective on how one jurisdiction is exploring the initial phase of establishing connectivity between its EHR and the state's HIE. As such, it offers important insights into what issues need to be addressed before even the first health record can be shared.

Exploring Initial Phase of Connectivity



On May 17, 2013, a group of stakeholders met at a state office building in Frankfort to discuss whether the Fayette County jail should become a member of the Kentucky Health Information Exchange (KHIE).[14] Participants included:

- Rodney Ballard, director of the Fayette County jail
- Dan Jarrett, CEO of CorrecTek, the vendor for the jail's EHR system
- CorrecTek's chief technology officer, Matt Wurth
- Polly Mullins-Bentley, state HIT coordinator at the Governor's Office of Electronic Health Information in the Cabinet for Health and Family Services, which oversees the KHIE

Even at this early planning stage, three sets of guiding factors were evident:

- **Policy.** One reason Ballard wants to connect the jail to the KHIE is because the Centers for Medicare & Medicaid Services (CMS) in 2012 decided to make jails eligible to be Medicaid meaningful use participants in its EHR Incentive Program.[15] To do that, the jail's EHR eventually will need to be interoperable and exchange data with other providers. The KHIE would be a natural partner for achieving interoperability. In addition, providers that are pursuing meaningful use must submit public health reporting measures to the KHIE.

14 A representative from COCHS attended this meeting as an observer.

15 The Medicare and Medicaid EHR Incentive Program provides financial incentives for "meaningful use" of certified EHR technology to improve patient care. This program has three stages. Each stage has certain requirements for capturing data and meeting interoperability functionality. The incentive payments are based on providers attesting to the requirements of each stage. For Medicaid meaningful use providers, the total incentive payment is $63,750.

- **Resources.** Kentucky received seed funding through the federal government's State Health Information Exchange Cooperative Agreement Program and from a Medicaid Transformation Grant to implement the KHIE. Numerous states that have received such funding are struggling to get their HIEs up and running, let alone exchange health information with local correctional institutions. In Kentucky, the KHIE is functioning statewide and taking the first steps to incorporate jails. The KHIE falls under the aegis of the state's Cabinet for Health and Family Services and is aligned with two sister agencies, the Department for Medicaid Services and the Department for Public Health. All public health recording measures must be submitted through the KHIE, and the KHIE is the vehicle that populates public health and immunization registries, including reportable lab results and Medicaid clinical quality measures.

  Another important resource is CorrecTek, the EHR in use at the jail that is specifically designed for correctional environments. It is certified to meet Stage 1 meaningful use requirements for eligible providers under the Health Information Technology for Economic and Clinical Health Act (HITECH), and, as of May 2013, was on track to get Stage 2 certification by October 2013. Ulrich Medical Concepts, the parent company of CorrecTek, previously developed an electronic interface for the Kentucky Cancer Registry, a component of the KHIE. Given this existing connectivity, the CorrecTek team is confident that it can successfully connect its EHR with the KHIE.

- **Champions.** All of the participants at the May meeting could be considered champions of connectivity. In particular, Ballard recognizes the benefits of connecting the jail with the community. Several times during the meeting, he made the point that he wants the jail to be a model site and that connectivity with the KHIE will support that goal. He noted that the jail, the University of Kentucky Hospital, and the community health clinics all see the same patients and therefore they should be able to share data in order to provide continuity of care.

  In addition, Jarrett, as a supplier of a correctional EHR, understands that, with meaningful use incentives and HIEs, correctional health care is entering a new paradigm that requires interoperability. It also creates a great opportunity for CorrecTek, which offers jails a way to leverage meaningful use incentives and has a proven record of connecting with HIEs.

  Finally, Polly Mullins-Bentley and her team were enthusiastic about breaking down silos around health information and were especially welcoming to the idea of including jails in the KHIE.

The Discovery Meeting

The May 17 meeting was technically a discovery meeting to answer the basic question of whether Ballard, Jarrett, and Mullins-Bentley could achieve their goal of bringing the jail on as a member of the KHIE.

The KHIE team explained the steps that all providers must take in order join the KHIE. First, each provider must sign a participation agreement, which indicates the provider's agreement to a defined set of responsibilities, including:

- Intent to be a meaningful user of EHR technology as defined in the HITECH section of the American Recovery and Reinvestment Act of 2009
- Confirmation of Covered Entity status as defined by HIPAA or the Kentucky Department for Medicaid Services
- Confirmation of interest in improving patient care, reducing medical errors, and reducing duplicative services

Next, the KHIE team gave a brief overview of the two options for exchanging and presenting data:

- Option 1 is a web services model that uses CCD format to exchange data. The provider receives a consolidated CCD that the KHIE compiles from other providers' data.

- Option 2 is a more traditional message model employing HL/7 transactions via edge servers[16] and VPN tunneling. Provider data are not consolidated with other provider data. In this model, there is no co-mingling of data. For those providers that wish to receive a summary of data, information can be accessed by the Community/Virtual Health Record, a web portal.

Wurth, the chief technology officer for CorrecTek, said that he would lean toward choosing Option 2, the VPN/edge server approach, with a preference to start sending laboratory and radiology results by HL/7 ADT feeds. Asked whether CorrecTek can send and receive CCDs, Wurth referenced the success of CorrecTek's sister product, Ulrich, with sending CCD-formatted information to the KHIE cancer registry. Given that outcome, he did not perceive an impediment.

A conversation about protected diagnoses ensued. Each state maintains its own rules and regulations concerning diagnoses that should have additional protection. In Kentucky, diagnoses of HIV must be excluded from the KHIE. In CorrecTek, such diagnoses are easy to identify and remove before transmission.

By the time the meeting ended, next steps had been defined. Although Ballard had signed the participation agreement, it still needed to be submitted to the county attorney for approval.[17] Following that approval, the agreement would be sent to the KHIE and the jail would be accepted as a participant (confirming the jail's legal status as a covered entity under HIPAA so that it can become a business associate of the KHIE).

The next step will be an intake meeting, where the KHIE will bring in one of its outreach coordinators to help the jail connect to the KHIE. This process includes setting up a test environment to establish connectivity and on-boarding health data from the jail to the KHIE. Meanwhile, Ballard and the medical staff at the jail will focus on workflow analysis and re-organization in light of KHIE participation and on training for staff to use the KHIE.

16 An edge server is any server that resides on the "edge" between two networks, typically a private network and the Internet. Edge servers can serve different purposes depending on the context of the functionality in question. Usually an edge server has some kind of gateway responsibility for the internal/private network.

17 Six weeks passed before county legal counsel signed off on the participation agreement – a typical time lag and to be expected in endeavors such as these involving multiple county and state agencies.

Conclusion

The Fayette County initiative is an example of a concerted effort among multiple stakeholders to connect a jail with an existing statewide HIE. The partners understand the value of connectivity and recognize it as an opportunity to improve the care coordination and management of a very high-risk, high-cost population. This initiative is bringing new players together in a new kind of dynamic:

- A vendor of a correctional EHR system is the driving force.
- An enthusiastic director of corrections is pursuing the effort to establish a continuum of care with community providers when usually it is the other way around.
- Leaders at the KHIE are eager to bring the jail's data into their system. They recognize that isolated health care data such as the data held within corrections will negatively impact public health if it is not included within the HIE.

As more jurisdictions begin to understand the opportunities created by the meaningful use program and health reform, they will also better understand the value of HIT connectivity. Business entrepreneurs such as Jarrett who understand this changing landscape will serve both as an educational and a motivating force for new connectivity initiatives. At the same time, leaders of HIEs will gain new awareness of the roles that jails play in community health and of the need to break down the silos in which most of them currently operate.

Summing Up

As the five case studies in this paper demonstrate, there are many ways to approach IT connectivity in a jail environment – and none of them is "the right way." Or, put differently, each one is "the right way" if it works for the jurisdiction in question, taking into consideration the unique circumstances and environment in which that jurisdiction operates.

Specifically, we looked at different approaches to connecting three types of "macro" information systems (and sometimes sub-systems of these systems): jail management systems, jail health systems, and community health systems. In the five cases presented here, each jurisdiction decided for itself which type of connectivity made the most sense and how best to achieve that connectivity.

In **Florida's Orlando County**, linking jail management systems with jail health systems improved communication between security and health care personnel within the jail, as well as health care services provided to detainees. It also streamlined processes and increased efficiency.

In **Oregon's Multnomah County**, creating a bidirectional information exchange via an HIE has helped to achieve the Health Department's goal of continuity of care for vulnerable populations. The Health Department took a pragmatic and targeted approach, opting to make external connectivity its priority.

New York City, meanwhile, is working on a multi-faceted IT strategy that will connect the jail system not only with community providers but also with two city and state policy initiatives aimed at improving public health. This is probably the most complex undertaking that we assessed for

this paper, reflecting not only the large size of the jail system and the amount of resources available to it (especially via the robust HIE environment), but also a highly active and supportive health policy environment.

Building on its work in support of re-entry, the Sheriff's Department in **Hampden County, Mass.**, has developed a network that allows a range of external service providers to access key information from the jail management system so that they can help ex-offenders transition more successfully into society. This is the most recent in a series of efforts by a jurisdiction that has a long history of using IT to improve correctional health care while reducing recidivism.

And in **Fayette County, Ky**., a group of stakeholders is in the early stages of a plan for bringing the jail into a statewide HIE. From the jail's point of view, this new connectivity will improve health care provided inside the jail; from the state's point of view, the data from the jail will be invaluable to improving health in the community.

Factors for Connectivity

Three guiding factors – policy, resources, and champions – are key to understanding the goals and objectives that these jurisdictions and their partners decided to pursue, as well as the strategies they developed for achieving those goals and objectives. These factors, over which jurisdictions may have little or no control, shape the decision-making landscape, including the options that are available to jurisdictions.

Even though jurisdictions may not be able to control or affect those factors, they would be well served to assess them, as well as the opportunities and the barriers they present.

External **policy** often frames the objective for what the connectivity initiative will accomplish – whether it is the community health mission of a public health department that oversees correctional health, a county initiative to improve re-entry, or an external movement to the strengthen the community continuum of care. Regardless, it is important to understand the overall policy frame in which the jurisdiction operates and its implications for corrections, criminal justice, and public health.

Adequate **resources** are obviously necessary to support and implement new policy strategies. However, they should be viewed with a wide lens that includes not only funding in the form of budget allocations or grant or incentive programs but also whether the jail already has an EHR, whether it has in-house technical expertise, or whether it has an opportunity to join a community HIE. At the same time, however, jurisdictions should be aware of significant new potential funding sources, such as federal meaningful use incentive programs, which are now open to correctional facilities, and the federal government's State Health Information Exchange Cooperative Agreement Program, which supports the development of HIEs in states.

And, of course, **champions** are instrumental to making change happen – without them, few good ideas ever see completion. Champions are a diverse group. In the world of correctional connectivity, they may be nurses, they may be sheriffs, they may be county commissioners, they may be service providers, or they may even be vendors.

These champions not only bring vision and energy to the initiative, but they also bring together the stakeholders needed to make the whole thing work. Sometimes, these stakeholders may not even realize that they have a stake in correctional health care because of how jails generally function as islands separate from their communities. A committed champion can help these external entities realize that jails are part of the community, as are the people who get their health care in jail.

The Bigger Picture

Since its inception in 2006, COCHS has understood that adoption of new health information technologies would be critical to establishing connectivity between jails and their communities. Seven years ago, there were few examples we could point to of that actually happening. But now, with the implementation of HITECH and ACA, that is changing, as the five case studies presented here show.

Critical to each initiative is an understanding by the jail and its partners of the relationship between re-entry and inmate health and health care. The jail-involved population has a high illness burden and cycles back rapidly between the jail and the community. Creating connectivity between jail health care and community health care can enhance re-entry. In turn, successful re-entry can lead to improvements in both public safety and public health.

The mainstream health care system cannot achieve its goals of better value and lower costs without taking jails into account. Jail is where a large portion of society's sickest members are seen for health care; their health and health care are both a public health and a public safety issue. Health information technology – particularly in the form of EHRs and HIEs – creates the bridge for connecting the health care of this population with the health care of the community at large.

The conventional health data silos no longer work. If we want to improve health and health care for everyone, we need to improve health and health care for people in jail, too. Their health records need to be part of the emerging connectivity paradigm. When people are released from jail and seek health care in the community, their health information should not remain inside the jail walls; it should go with them.