

Technology and Continuity of Care: Connecting Justice and Health

Nine Case Studies

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Table of Contents

Introduction.....	1
Time For Change Foundation, San Bernardino County, California.....	4
The Rutland County Adult Drug Court, Rutland, Vermont.....	8
Jefferson County, Louisville, Kentucky.....	13
Advocates, Inc., Ayer, Massachusetts.....	17
Wyandot Center for Community Behavioral Healthcare, Kansas.....	22
Centerstone of Indiana, Columbus, Indiana.....	26
Pima County, Arizona.....	31
Hennepin County, Minnesota.....	35
Salt Lake County, Utah.....	39
Methodology.....	44

DRAFT

Introduction

Since the passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009, there has been an unparalleled investment in the widespread adoption of health information technology nationwide. The HITECH Act spurred incentive programs for the adoption of electronic health records (EHRs) and other programs for the development of health information exchanges. An underlying impetus of the HITECH Act was to coordinate health care through data sharing in order to improve outcomes.

Criminal justice and behavioral health care providers, however, have been passed over by this technological wave.¹ For the most part, neither group can participate in the HITECH incentive program, known as meaningful use, to adopt EHRs, even though statistics would seem to suggest that the need for the improvement in health outcomes promised by health information technology is just as great, if not greater, for justice-involved individuals with behavioral health disorders. There are 11.6 million people who cycle through our nation's jails each year². Of that population, 80 percent have chronic medical conditions that have not been treated, 68 percent have substance use disorders³, and close to 15 percent of males and over 30 percent of females are seriously mentally ill (SMI)⁴.

Public safety stakeholders are not unaware of this trend. Sheriffs and wardens throughout the country frequently comment about how their institutions have become "*de facto*" mental asylums and how correctional institutions are poorly equipped to serve in that role. Behavioral health providers are well aware that their mentally ill clients are likely to have encounters with law enforcement that result in incarceration. There is growing interest in the public safety and behavioral health sectors in diverting individuals with mental illness, addictions, and co-occurring health issues out of the criminal justice system into appropriate community-based systems of care. Similarly,

¹ For guidance navigating terminology used across information technology, criminal justice and health care sectors, please see "Speaking the Same Language: Criminal Justice, Health Care, and Information Technology, Second Edition", a glossary prepared by Community Oriented Correctional Health Services in April 2014. Available on the internet at: http://www.cochs.org/files/hieconf/cochs_glossary.pdf

² Minton TD. Jail inmates at midyear 2012—statistical tables [Internet]. Washington (DC): Department of Justice, Bureau of Justice Statistics; 2013 May [cited 2014 Jan 21]. Available from: <http://www.bjs.gov/content/pub/pdf/jim12st.pdf>

³ Substance Abuse and Mental Health Services Administration. (2003). Results from the 2002 National Survey on Drug Use and Health: National Findings (Office of Applied Studies, NHSDA Series H-22, DHHS Publication No. SMA 03-3836). Rockville, MD.

⁴ Substance Abuse and Mental Health Services Administration, Results from the 2012 National Survey on Drug Use and Health: Mental Health Findings, NSDUH Series H-47, HHS Publication No. (SMA) 13-4805. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2013.

there is a growing interest in reentry planning for individuals leaving prison or jail. Connecting individuals to health plans, treatment, housing, and social support services helps them achieve greater success after incarceration, lowering morbidity, rearrests and recidivism.

Diversion and reentry programs require information: information about health, information about treatment providers and social support services, and, most critically, information about when someone is arrested and booked into jail. This data is often located in different systems, and coordinating across the silos to share data in a way that meets the needs of the multiple stakeholders in justice and health is a challenge.

Many jurisdictions are using some form of Sequential Intercept Mapping⁵ to convene community stakeholders to determine where services or other opportunities exist for this vulnerable population. Other jurisdictions are exploring the use of the National Information Exchange Model (NIEM)⁶, which was developed to create inter-governmental data exchange with a focus on the justice sector. This framework has recently expanded into health exchanges.

How can health and justice data sharing work in such diverse environments? What information must be shared to make it possible to divert individuals out of corrections? What information enhances reentry planning and connectivity to community supervision and support services? How can treatment participation and progress be monitored? These are some of the questions the nine case studies will attempt to answer.

Understanding how health and justice stakeholders create data sharing systems requires understanding more than just one jurisdiction, non-profit, or governmental organization's efforts. In order to present a representative picture of innovators, the case study sites were selected from across a sample of drug courts, behavioral health providers, re-entry programs, jurisdictional collaborations, and correctional institutions.

This varied landscape means no monolithic technical solution can be proffered as a means to solve all the data sharing needs between justice and health systems. In some cases, complex technological projects are not necessary to achieve good outcomes, and sufficient data sharing is achieved through simple solutions like secure email. Other cases represent a halfway point where systems were streamlined with technology, but brand new and complex systems were not adopted. Finally, some cases demonstrate the use of advanced technological systems that achieve levels of sophistication that rival health data sharing outside of the justice sphere.

⁵ <http://www.prainc.com/sequential-intercept-mapping/>

⁶ <https://www.niem.gov/Pages/default.aspx>

The order of the case studies is based on the extent to which technology is being employed by a jurisdiction or organization to create data sharing between justice and health. This in no way means anything about the underlying success of a project because they all make effective use technology to meet specific objectives, rather than treating technology as an end in itself.

Each case study contains a wealth of information. For those readers wishing to derive lessons from these very diverse studies for implementation in their home jurisdiction, it would be helpful to first identify what level of health and justice data sharing is envisioned and then use a granular approach to pick and choose what solutions work best for that jurisdiction's own unique landscape. For those readers with a more general interest, it is hoped that these case studies will reveal not only the great amount of time and effort each organization or collaborative exerted to create data sharing solutions, but also the vital function these stakeholders are performing in their communities.

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Time For Change Foundation, San Bernardino County, California

Time for Change Foundation, a reentry organization in San Bernardino County, California, takes seriously its commitment to using gender-responsive strategies and evidence-based practices to help its clients make the transition from prison or jail into stable housing in the community. Substance abuse, mental illness, and criminogenic behavior combined with trauma, homelessness, and poverty, all are addressed by its SAMHSA-funded Positive Futures Program through intensive case management, mentoring, therapeutic counseling, leadership and skills development programs, and housing support. The Positive Futures staff are experts at communicating with the women it serves and its community partners. As a growing agency with a limited budget for staff and program operations related to reentry, Time for Change Foundation (TFCF) relies upon tried and true interpersonal, telephone, and print communications. In this increasingly “connected” world, TFCF has not yet converted to an electronic health record system and data sharing, but keeps its eye out for meaningful opportunities that may support its eventual electronic debut.

Time for Change Foundation was founded and is partially staffed by women with lived experience in correctional institutions who are uniquely qualified to meet the needs of their clients to establish healthy, drug-free, independent lifestyles. It provides a range of housing resources to women: emergency shelter beds, permanent supportive housing units, and its own affordable housing complex giving disenfranchised women—many with past criminal histories—access to their own apartments. In collaboration with partners, TFCF’s Positive Futures Program offers mental health and substance abuse screening, referral, and treatment; mentoring; additional tools such as educational and vocational training, parenting and other life skills; and strengths-based case management to its program participants.

In a county with high rates of poverty¹, unemployment², homelessness³, and crime⁴, Positive Futures reaches out to women newly released from or serving time in California Department of Corrections and Rehabilitation institutions and in the San Bernardino County Jail to assist reentry planning prior to release and provide services to them upon release. As is true for individuals across the country reentering communities after

¹ United States Census Bureau, “Persons Below Poverty Level, 2008-2012” in San Bernardino County: <http://quickfacts.census.gov/qfd/states/06/06071.html>

² San Bernardino County: Our Community Vital Signs Data Report. Applied Survey Research, 2013. http://communityvitalsigns.org/Portals/41/Meetings/2013Stakeholder/CVS_data_report.pdf

³ According to the 2013 San Bernardino County Homeless Count and Subpopulation Survey, “Nearly one out of four adults counted were released from prison or jail during the past 12 months after serving a court-mandated sentence.”

⁴ In 2010, 31 crimes per 1,000 residents. *ibid*, page 128.

incarceration, women returning to San Bernardino County are threatened with homelessness and separation from their children and families.

The Positive Futures Program was designed to support female offenders reentering their communities from prison or jail by addressing substance use and mental health issues as they reunite with their children and families, relocate into stable housing, find employment, and avoid re-arrest and recidivism. It has consistently met and exceeded its goals to help women offenders claim a trusted place in their families and community. Staff attribute program success to its evidenced-based wrap-around and housing services that support reentry and its intensive, responsive communication with clients.

The use of health information technology in San Bernardino County is growing, but is not universal among providers. The San Bernardino Department of Behavioral Health is in the process of implementing an electronic health record with an anticipated implementation date of July 2015.⁵ The Community Clinic Association of San Bernardino County (CCASBC) is developing the Integrated Safety Net Partnership to integrate and expand information exchange among safety net providers.⁶ The partnership plans to connect providers with the Inland Empire Health Information Exchange (IEHIE), a collaborative of hospitals, medical centers, health plans, and public and private health care providers. The partnership is currently running a pilot program with CCASBC member health centers.

Positive Futures does not yet make use of an electronic health record (EHR). The SAMHSA grant was originally meant to provide a portion of the investment in the acquisition of an EHR, but after careful research and review of current options, TFCF felt that it would not add a measurable boost to project success, and that it was too ambitious of a goal to acquire one during the grant period. Given that the county is still developing the architecture for its EHR, and that community health centers are only now piloting connectivity to the health information exchange, TFCF judged that it would be a duplicative and perhaps wasteful effort to engage in its own research and selection of an EHR that may or may not have been interoperable with leading health care providers in the county. For a growing agency with limited human and financial resources, it made a clear trade-off to focus on what it does best for its clients while letting other, larger and more-resourced providers lead the charge on developing and problem solving new technology systems. For the present, communication and data sharing with partners are easily and more appropriately accomplished through traditional media: face-to-face, telephone calls, paper, and facsimile machines.

Time for Change Foundation's guiding business principle is to use human and financial resources efficiently and effectively to meet strategic and programmatic goals. The

⁵<http://www.highlandnews.net/search/?d1=1+year+ago&nsa=eedition&q=Electronic+health+record>

⁶ <http://communityclinicassociation.org/integrated-safety-net-partnership/>

grant for Positive Futures did not require TFCF to implement electronic connectivity, and it has not depended upon electronic connectivity for its success. In contrast, under other federal grant programs, TFCF has had experience with electronic data sharing and tracking systems that it feels created more of a burden than benefit because those systems had not yet been fully tested. Foundation staff observed that new data systems 1) take time to develop and test; 2) usually do not function as initially intended until months after implementation and fixes; 3) do not align with project timelines for performance so projects must develop backup and secondary systems to track their work; and, 4) that the low-tech secondary systems have proven to be effective for TFCF.

The executive director of TFCF is not adverse to the use of HIT, but has not yet uncovered an opportunity to adopt it that results in a profitable return on the requisite, substantial investment. The executive director readily admits that there may be benefits to electronic data sharing, especially with correctional partners, but has a concern regarding acquiring and dedicating human and financial resources to the development of a new system before other agencies such as those in the county Integrated Safety Net Partnership have tested and proven those systems of connectivity. She will reexamine an investment in an EHR after the Department of Behavioral Health tests and implements its new system. For the present, Positive Futures will continue to engage with its partners as described below.

Positive Futures staff conduct in-person outreach in corrections facilities and gets to know the women who self-refer to the program. The staff rely upon personal contact and correspondence with potential participants both when they are inside and outside of a correctional or treatment facility or program. The success of the program is the ability of the staff to gain trust of the clients, and to demonstrate the behaviors that evidenced-based practices teach. All outreach to inmates is backed up with correspondence by mail prior to inmate release. There are informal mechanisms in place for corrections staff to refer inmates to the program, and there is no electronic information sharing regarding health or correctional system status of inmates between corrections and Positive Futures.

Positive Futures conducts regular outreach to recent parolees and probationers through required orientation sessions at probation offices and at county day reporting centers. It also participates in the county reentry collaborative and is negotiating a new role in probation's BRIDGES program that aims to connect probationers with behavioral health treatment and other reentry services. Individuals who learn about Positive Futures through these programs self-refer to the program.

Women who qualify for the program go through an intake process during which they complete HIPAA-compliant consent to share information forms. Women also are assessed with the Global

Appraisal of Individual Needs (GAIN) screening tool to determine and prioritize their baseline needs for treatment and support. The staff give high praises to the GAIN tool that was acquired with SAMHSA grant funds and will continue to use it across the agency into the future as it streamlines and guides treatment planning and helps staff to focus on the highest needs and priorities for their clients. GAIN data is computerized to track progress over time at intake, at program intervals, and upon closeout of clients from the program.

Women whose assessment indicates a need for mental health counseling are referred to Catholic Charities San Bernardino & Riverside Counties (CCSBRIV) for outpatient services. Positive Futures participants generally complete the referral

Client progress reports typically are shared via fax from CCSBRIV to Positive Futures case managers as a means of tracking program participation and treatment compliance and progress.

For women with an assessed need for residential substance abuse treatment, case managers make a referral to Inland Valley Recovery Services (IVRS). Case managers rely heavily on personal communication with IVRS: they participate in weekly case review meetings with IVRS therapists, and regular visits with Positive Futures participants. There is no electronic data sharing with IVRS.

All program participants receive intensive case management services that, again, rely most heavily upon face-to-face communication, telephone calls, and paper. Program leadership believes that these low-level media are effective and culturally appropriate for program participants, especially at initial stages of reentry.

The staff at Time for Change Foundation strongly believe that its consistent success is based on its ability to accurately assess clients' needs with proven tools and human empathy; to use (and collaborate with partners who use) evidenced-based practices to counsel, support, and educate their clients; to demonstrate accountability, respect, and trust; and to provide housing resources. None of these program elements rely upon EHRs or other electronic data and information sharing at this point in time. TFCF will not turn a blind eye on future opportunities to embrace health information technology or other forms of data sharing with its partners, but must be certain that its investment of human resources and money will not detract from the program elements that already confirm successful outcomes for its clients.

The Rutland County Adult Drug Court, Rutland, Vermont

The Rutland County Adult Drug Court (RCADC) was created to reduce drug-related crimes including possession, retail theft, burglaries, and grand larceny. The program aims to promote the health of the community and connect participants of the treatment court to treatment and recovery services. Achievement of these goals is an ongoing effort, but some assessments have indicated that the program is fulfilling its mission. What is most remarkable is that the program is managing this complicated population with very rudimentary technology.

Since 2004, the rate of opiate-related overdoses in Vermont has nearly doubled,¹ and the number of individuals treated for heroin addiction has increased from around 600 to over 900.² The problem has been particularly highlighted in Rutland, VT. According to the Vermont Health Department, “the number of people in Rutland County who sought help for addiction to heroin and pain pills has gone up seven fold since 2000 to 383,”³ a significant increase in a city with a population of about 17,000. The rising rates of opiate use and distribution have been attributed to Rutland’s close proximity via automobile or train to three major metropolitan areas: Boston, New York City, and Montreal.

Despite these challenges, in its brief history, the RCADC has produced measurable outcomes in terms of reductions in recidivism and cost savings to taxpayers. In 2009, NPC Research conducted a study on the effectiveness of the RCADC. The findings indicated that the program demonstrated high fidelity to the framework of an effective treatment court that is promulgated by the National Association of Drug Court Professionals. The study also concluded that the RCADC resulted in “significant cost savings and a return on the cost invested in the program.”⁴

In 2014, a report conducted by the Vermont Center for Justice Research indicated that individuals who graduated from the RCADC program had significantly lower rates of recidivism (35.5 percent) when compared to individuals who were terminated from the program (54 percent) and the control group (58.8 percent). An assessment of the reconviction rate showed that successful graduates of the program were reconvicted at

¹ Vermont Department of Health (June 2014). *The Challenge of Opioid Addiction*. Retrieved from http://www.healthvermont.gov/adap/treatment/opioids/documents/OpioidChallengeBrief_June2014.pdf

² Bromage, A. (2013, May 15). Powder Trail: Tracing Vermont’s Heroin Epidemic to Its Sources. Seven Days. Retrieved from <http://www.sevendaysvt.com/vermont/powder-trail-tracing-vermonts-heroin-epidemic-to-its-sources/Content?oid=2243560>

³ Keck, N. (2012, October 15). Surge in Heroin and Prescription Drug Abuse in Vt. Towns. *Vermont Public Radio*. Retrieved from http://www.vpr.net/news_detail/96237/surge-in-heroin-prescription-drug-abuse-vt-towns/

⁴ NPC Research (January 2009). *Vermont Drug Courts: Rutland County Adult Drug Court Cost Evaluation*.

nearly half the rate when compared to participants who terminated or withdrew from the program (115 vs. 226 reconvictions per 100 subjects). Compared to the control group, program graduates were 2.5 times less likely to be reconvicted (115 vs. 296 reconvictions per 100 subjects).⁵ The coordinator for the RCADC program believes that the goal of implementing and sustaining an effective, evidence-based program has been achieved, and efforts to monitor the effectiveness of the program are ongoing.

Vermont's treatment courts started as a grassroots pilot project without the assistance of state or federal funding. In 2002, as part of Act 128, the Vermont Legislature established the pilot project to create drug court initiatives and began implementing drug courts in three Vermont counties, including Rutland. A judge in Rutland took note of the number of repeat offenders who were cycling through the court system for drug-related offenses. In response, the judge applied for and was awarded a grant through the Bureau of Justice Assistance to fund the RCADC.

In 2003, the Rutland community responded to the increasing drug-related problems by hosting public meetings for citizens to voice their concerns. The public defender became highly involved in the development of the RCADC as an alternative to traditional sentencing options, and the program was also supported by other judges, the state's attorney, the defender general, the Agency for Human Services, the Department of Corrections, Rutland Mental Health Services, Evergreen Substance Abuse Services, Rutland Regional Medical Center, and other provider organizations. More recently, law enforcement has partnered with RCADC through "Project Vision,"⁶ an initiative involving hundreds of stakeholders and community members with the goals of eliminating open-air drug markets, restoring neighborhoods, reducing crime, and improving public safety.⁷

As the RCADC developed, securing stable and affordable housing for program participants became a major issue. For a time, the RCADC managed an apartment complex for individuals involved in the program, but this became financially unsustainable. Since then, as needs of the program participants are identified, the RCADC partners with other provider agencies through memoranda of understanding to connect individuals to housing resources, vocational rehabilitation services, primary health care services, Suboxone clinics, Methadone clinics, HIV education, and other services. These activities are accomplished through the limited use of technology.

From its inception, the RCADC perceived data sharing as a critical element for achieving its overarching goals. Data sharing commences once participants have

⁵ Vermont Center for Justice Research (April 2014). *Rutland County Treatment Court: Control Group Evaluation*.

⁶ Project Vision (2014). *Our Mission*. Retrieved from <http://projectvisionrutland.com/our-mission/>

⁷ Michigan State University School of Criminal Justice (2014). Drug Market Intervention. Retrieved from <http://www.dmimsu.com/>

indicated which information they consent to share and they have signed authorizations for the RCADC to exchange information with members of the treatment team (i.e., community provider agencies, Probation and Parole Department, Public Defender). Participants also receive a copy of the HIPAA guidelines as well as an explanation of how communication flows between the RCADC and other members of the treatment team. Information is shared on a strictly need-to-know basis; the RCADC and other stakeholders share the minimum amount of information required to coordinate services (assuming signed releases are in place). 42 CFR Part 2 has restricted some of the information that RCADC and its providers may otherwise share with the treatment team.

Data sharing generally occurs through written or verbal, rather than electronic, processes. Weekly case management reports and face-to-face meetings are the most common forms of communication. The case management reports contain demographic information for program participants. Case management reports are printed and then manually dispersed to the individuals specified on the signed HIPAA authorization forms. At the conclusion of meetings, the RCADC Coordinator collects and destroys all remaining reports. Permanent paper records are securely locked in a filing cabinet.

Certain demographic information may also be shared throughout the week (i.e., probation may be notified if there is an address change). Protected health information is shared as permitted by HIPAA and 42 CFR Part 2, but in general, clinicians from stakeholder organizations share the minimum amount of information that is pertinent to the case. Clinicians at stakeholder organizations perform clinical assessments, and the results are rarely shared with RCADC. When the team has a question regarding the results of an assessment or a participant's response to a particular item on an assessment, the information is shared only with stakeholders who have a signed HIPAA authorization on file.

At times, RCADC uses a password-protected email system to coordinate the collection of patient information; all information contained in email is de-identified, and email is not used to send protected health information. Barracuda software provides an additional layer of security to email exchanges that may contain de-identified protected health information. This system monitors inbound and outbound email traffic for threats and data leaks.

With the exception of email, electronic connectivity does not exist at the RCADC; provider organizations utilize electronic health records (EHRs), but RCADC does not. Likewise, some provider organizations, like the hospital, connect to the Vermont Health Information Exchange, but RCADC does not. These limitations create difficulties in providing comprehensive continuity of care, but RCADC is able to piggyback off of some other providers' electronic capabilities.

For example, Rutland's designated mental health agency and Rutland Regional Medical Center operate EHRs, which allow for the tracking of medications, reporting of urinalysis results, and the entry of case management notes. RCADC case managers and clinicians employed by Rutland Mental Health Services have access to the EHR (Lavender & Wyatt), but other stakeholders do not. This means that even with the connectivity between RCADC and the hospital, information shared with other providers as a part of a recovery plan must still be done on paper. The RCADC Coordinator recognizes that it is time-consuming to manually share the information that is necessary to coordinate services for program participants. An electronic portal could provide the information in a timelier manner and eliminate the manual, paper-based information sharing processes that currently exist.

The RCADC has attempted to create some of its own electronic systems. In 2003, the first RCADC Coordinator collaborated with a research team from the University of Vermont to customize the data fields contained within the Court Management System for Adult Drug Courts, which is now called the Management Information System (MIS). The MIS is a Microsoft Access program supported through the state judiciary server and is managed by staff for Vermont Treatment Court. Initially, individual case management notes were entered into the MIS, but this practice was discontinued since the notes did not supply data for evaluative purposes. Instead, compliance data and court responses to participants' behaviors are entered into the MIS and are used for the purposes of program evaluation. There are no interfaces between the MIS and other systems, and in general, the current utility of the MIS is limited. Case management reports are maintained manually, printed by the clinical staff, filed securely in a locked cabinet, and accessed as needed.

The minimal electronic data sharing may have an impact on the services that participants receive. For example, it is difficult to manually collect, track, and report data regarding "no-shows," and this data element may be particularly important to probation and parole if the participant is required to attend treatment sessions with a provider. Participants may know that communication occurs through manual rather than electronic means, and they may take advantage of the temporal lag in information sharing. In this case, a portal may be useful to improve the timeliness of information sharing between RCADC and other stakeholders.

The lack of a sustained funding source has prevented RCADC from improving its electronic data sharing capabilities. Nevertheless, the RCADC Coordinator is optimistic that a grassroots initiative can be developed to improve how data is shared between stakeholder organizations. In fact, Rutland Regional Medical Center is part of a subcommittee that is exploring the feasibility of developing a universal authorization to cover all of the provider organizations involved with RCADC. This is a first step toward

sharing that would allow all of the partners to RCADC to coordinate plans for individuals leaving RCADC.

This first step, however, is being taken on a foundation of proven results for the individuals coming through the RCADC system and the collaborative nature of the stakeholders in Rutland County. Great challenges lie ahead to more comprehensive data-sharing among the disparate systems and many providers charged with caring for individuals within the RCADC system. Some of the challenges are known, however, while others still are not. For example, one of the greatest known challenges revolves around HIPAA and 42 CFR Part 2 consent requirements. As RCADC is not a healthcare provider, it is more complicated for health partners to share their data with it. Despite this, and other potential roadblocks in its path, the RCADC has demonstrated that it can achieve many of the goals of a drug court program: the most important being a reduction of recidivism.

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Jefferson County, Louisville, Kentucky

Tackling the challenges of the high number of individuals entering the criminal justice system with mental illness or substance use disorder requires collaboration and connectivity across many stakeholders. This means no single actor can make all the difference in changing the status quo. In Louisville, Kentucky, a coalition of providers and public officials called the Dual Diagnosis Cross-Functional Team (DDCFT) is tasked with tackling this problem. They hope to create a single data repository and case management system across public entities and community providers by repurposing an existing program called ServicePoint. Repurposing ServicePoint will create a single crosscutting system architecture that will allow community providers to access, input, and share information from a variety of community providers and public services to better coordinate care for the most vulnerable populations.

Like much of the United States, in the last few years Louisville, Kentucky, has found itself in the midst of an opioid-abuse epidemic. Due to the increase in individuals in custody requiring detoxification, the jail is on the frontline of this epidemic. The natural consequence of the shift in jail population has been several withdrawal-related deaths.

Jail officials recognize that, despite how things currently work, the jail is not an appropriate environment for detoxification. The jail collaborates with a community provider of residential treatment services and participates in the Assertive Community Treatment program to reach mentally ill individuals in the jail and place them in a more appropriate rehabilitative environment. The jail has also been enrolling incarcerated individuals before release in Medicaid so they will be insured soon after they are released. However, there are still major limitations regarding how far such *ad-hoc* interventions could go, and every party involved would rather not have to arrest an individual before he received care.

Even when an individual is no longer incarcerated it is still difficult to provide effective assistance. For example, one individual leaving prison was scheduled for one hundred sixty-two uncoordinated appointments arranged by multiple community service providers that did not communicate about care. Although it was clear that these providers had the best intentions in mind, they were creating unachievable goals for his reentry. There was an obvious need for different agencies to come together and communicate about client needs and expectations.

In order to tackle problems of opioid abuse, mental health, and create collaborative support services, the Director of the Louisville Metro Department of Corrections reached out to the Louisville mayor's Criminal Justice Commission. This commission convened

stakeholders in the community to focus on the so-called “dual-diagnosed” population, i.e., those with substance use disorder and mental health issues. These conversations began the DDCFT. The original goals involved finding solutions outside of criminal justice for individuals with mental health and substance use disorders. Eventually, the DDCFT expanded its focus to create a community-wide and cross-agency network to provide coordinated case management services to the highest utilizers of the system’s services. With this expanded goal, the team began to think of technological solutions to the problem.

DDCFT realized that Louisville’s Homeless Management Information System (HMIS) ServicePoint could be repurposed to achieve the DDCFT’s goals. In fact, many providers in Louisville who receive funding from the U.S. Department of Housing and Urban Development already use ServicePoint. By expanding the function of ServicePoint to include a city-wide shared repository of information, ServicePoint could provide the necessary IT infrastructure to track, treat, and case manage high system utilizers.

Repurposing an established product can be technologically difficult. The stakeholders in Louisville, however, are very positive about overcoming any technological barriers to utilizing ServicePoint as the backbone for their system. In their communications with Bowman Systems, the creator of ServicePoint, and other jurisdictions that use ServicePoint, the stakeholders in Louisville learned that ServicePoint has the capacity to be used for much more than merely an HMIS. ServicePoint’s cloud-based data input can allow for providers to determine which providers in the community an individual is accessing and how a plan for recovery can be coordinated across providers. Further, ServicePoint can become a single repository for information regarding who the guardian of an individual is, whom should be contacted, what types of medications an individual may be using, and who is in charge of providing case management and support to a particular individual.

The benefits of ServicePoint extend beyond simply existing as a repository for client information. It will help manage complicated appointment schedules by identifying duplicative services and make it possible to reduce redundancies. This simple solution helps clients reentering the community to meet the manageable goals established in their treatment plans.

ServicePoint also will provide empirical data on treatment plans that are most helpful for an individual in a difficult stage in life. For professionals engaged in recovery and mental health, it is common knowledge that the path to sobriety may involve relapse or other obstacles. The DDCFT hopes to create template recovery plans that integrate community-wide care and coordination. These plans are based upon specific triggering events or presented conditions and will allow an individual’s interaction with the police,

or a psychotic break, to be another step on the path to recovery with discrete steps towards sobriety or mental health, rather than a failure that requires more heavy-handed intervention.

ServicePoint also offers analytics to track and compare the efficacy of various interventions. If an individual is responsive to twelve step programs, then this information will remain a part of his medical history on ServicePoint. On the other hand, if the individual has been assigned to the same program three times without success, then case managers can use ServicePoint to provide the evidence necessary to seek out new treatment options.

Although there is a lot of cooperation, there still has not been complete provider buy-in on ServicePoint. The hope is that KentuckyOne Health, a hospital system with fourteen hospitals across the state, will adopt ServicePoint to manage the multiple services of dual-diagnosed individuals. Adoption by such a large provider would be a positive signal to other providers in the community of ServicePoint's value.

The DDCFT is exploring how ServicePoint could be used in combination with provider electronic health records (EHR) and Kentucky's Health Information Exchange (KHIE). Many hospitals and providers are connecting their EHRs to KHIE. The jail's health provider in Louisville, Correct Care Solutions (CCS), is installing its own EHR with hopes of connecting it to KHIE. While it is still unknown how these systems will work together, the wealth of clinical data that could be available from this connectivity would be invaluable for case management and planning purposes.

Throughout the discussion of using ServicePoint, patient privacy is being carefully considered. In order to make sure that they abide by HIPAA and 42 CFR Part 2, each of the providers is working to maintain the relationships that already allow them to share information. However, for all of the hard work at assuring that the regulations are followed to assure that an individual's privacy is respected, HIPAA remains an easy refuge for providers to seek shelter when they do not want to participate or share information irrespective of the actual legal constraints. Encouraging providers to recognize that they can share information once they have completed the requisite releases remains an important hurdle to overcome.

There are other major hurdles Louisville faces, which cannot be tackled by a technological solution. Kentucky has expanded Medicaid and has been aggressively enrolling individuals throughout the state. However, an individual is at the greatest risk of relapse, injury, or death shortly after leaving the jail, and there is a lag time until his Medicaid status becomes active and services can commence. This problem is compounded by the fact that Kentucky terminates rather than suspends Medicaid upon

entry to the jail—meaning that an individual with coverage will lose his coverage if he enters the jail and must re-apply when subsequently released.

Another problem beyond a technological solution comes from the ubiquity of the heroin epidemic in Louisville. The Healing Place, a community provider of residential treatment services that partners with the jail, no longer maintains a waiting list for its services. The Healing Place offers 250 beds for men in one facility and 250 beds for females in another facility. Although the judiciary and corrections officials are amenable to releasing individuals to the Healing Place, the Healing Place does not have sufficient capacity to help everyone with opioid addiction.

Louisville has high hopes for what the Dual-Diagnostic Cross Functional Team can accomplish using ServicePoint. But besides the technological component, Louisville stakeholders are hoping that they can create an effective crisis intervention model that will divert people away from the jail and into mental health and drug court or treatments that will stop the cycle of jail involvement. By recognizing the mental health and substance use needs of an individual sooner, Louisville hopes to connect people with services that will empower them while simultaneously keeping the community safe. While the road to that future is long, the relationships and singular vision of many of the stakeholders in Louisville bodes well that they can handle any yet unforeseen hurdles.

Advocates, Inc., Ayer, Massachusetts

Advocates, Inc., partners with the Ayer Concord Drug Court Program (ACDCP) to achieve positive outcomes for its participants, particularly in terms of reduced involvement in the criminal justice system. Advocates, Inc., (Advocates) piloted and implemented a unique smartphone application technology that assists its clients in managing their personal recovery process and is beginning to develop electronic systems to better share health and program data between key program partners and community stakeholders.

For ten years, the ACDCP has served non-violent offenders under probation supervision to address alcohol, drug, and prescription medication addictions that often underlie criminal behavior. The ACDCP manages its caseload through comprehensive supervision, drug testing, treatment services, and immediate sanctions and incentives. The program is delivered in four phases, with an ideal completion time of twelve months, though most participants take about eighteen months to complete it.¹ Approximately 66-72 percent of participants complete the program, a rate higher than the national completion rate of 52-54 percent for drug court programs.² One of nineteen adult drug courts in Massachusetts, its primary goals focus on crime reduction, individual health outcomes, and recovery from trauma and addiction. The program relies upon Advocates to provide mental health and substance abuse treatment and peer recovery services.³

Ayer, Massachusetts, is geographically located within a triangle created by the suburbs of Boston, Lowell, and Worcester, Massachusetts. It is an area with easy access to illicit drugs, particularly heroin and other opiates, and the rates of alcohol abuse are also high. Between 2000 and 2012, the number of opiate-related overdoses increased by 90 percent, and in 2014, the Governor of Massachusetts declared a public health emergency in response to the growing opiate problem.⁴

¹ *Court sets up drug-treatment program.* Boston Globe, March 23, 2013.

<http://www.bostonglobe.com/metro/regionals/west/2013/03/23/newton-district-court-launches-drug-court-program-newton-court-adds-drug-treatment-session/bS6udu15wPB85gTgrR5bCN/story.html>

² http://www.nashobapublishing.com/community_news/ci_26610554/drug-court-gives-addicts-another-chance

³ http://www.lowellsun.com/lifestyles/ci_20009109#ixzz3lnHBZ4EE

⁴ The Official Website of the Governor of Massachusetts (2014, March 27). Governor Patrick declares public health emergency, announces actions to address opioid addiction epidemic [Press release]. Retrieved from <http://www.mass.gov/governor/pressoffice/pressreleases/2014/0327-governor-declares-public-health-emergency.html>.

Advocates is a multi-division human services agency with locations throughout Massachusetts, and began their collaboration with the Ayer District Court by providing substance abuse assessments. In 2001, the court formally developed the drug court program, although only limited funding was available at the state or federal level.

The Ayer District Court is within walking distance from the Advocates facility, and the close proximity fosters frequent communication. Advocates practices a drop-in center philosophy, meaning that relationships with program participants are not terminated upon program completion. Instead, former participants are welcomed back to the facility at any time, and many do indeed return to access staff for support and to share their stories of success.

One factor that has increased long-term engagement between ACDCP current and former clients and Advocates is an innovative smartphone application called ACHES (Addiction Comprehensive Health Enhancement Support System) that was piloted in collaboration with researchers from the University of Wisconsin-Madison. Individuals who struggle with addiction are often challenged by their lack of impulse control, especially in response to cravings. ACHES provides real-time support from therapists and peers to help participants work through cravings, crises, or moods that could trigger a relapse. Clients at acute risk of relapse may utilize the application's "Panic Button" feature to immediately access coping skills or peer supports. It also includes a GPS feature to notify participants when they are approaching an area where they previously used drugs or alcohol.⁵ ACHES provides reminders for counseling appointments and drug testing. After a successful four month pilot program, the Technology and Relapse Prevention Program was funded by SAMHSA to assess the long-term effects on relapse and recovery through use of ACHES by ACDCP participants.

Case managers and other clinical staff at Advocates regularly access and review information contained in ACHES by logging into an administrative interface. The interface provides data on clients' self-reported risks to sobriety, utilization of the app's features including GPS and Panic Button, the length of time clients spent using the application, and the total number of log-ins. In addition, the application will auto-generate an email to the case manager if a client reports a heightened risk to his sobriety. The email prompts the case manager to provide real-time support. The application does not contain relevant health information, so there are no connections between ACHES and the electronic health record (EHR) operated by Advocates. Information contained within the application cannot be shared with stakeholders (i.e., the court, probation) because of the Institutional Review Board's policies related to research with human subjects.

⁵ <http://www.engr.wisc.edu/news/archive/2011/Feb09.html>

An evaluation of the Technology and Relapse Prevention Program is anticipated for December 2014; initial results appear positive. Clients who utilized the application had fewer positive drug screenings and were more likely to successfully complete the ACDCP. Results also indicate that following an initial orientation and training period, participants enjoyed using the application and found that it connected them to the resources they need to address their substance use. Several alumni from the program have kept their phones with the ACHES application and have reached back to Advocates to provide peer support to new drug court participants.

There was broad collaboration from stakeholders in the development of the ACDCP including the town of Ayer, law enforcement, the Massachusetts Trial Court, district attorneys and public defenders, judges, probation and parole, the Department of Public Health, and the Massachusetts Bureau of Substance Abuse Services. The collaborative structure is informal; there are no Memoranda of Understanding between stakeholders, and Advocates has generally performed the initial outreach to other stakeholder organizations. To garner the resources necessary to address the goals in participants' treatment plans, communication among stakeholders occurs through frequent telephone and face-to-face interactions.

The Advocates program director oversees adherence to the policies and procedures related to data sharing. A grant from SAMHSA funded the development of a fully customized Drug Court Module for Advocates' EHR. The module tracks and collects data on participants' intake date, court appearances, referrals to other programs, scores on trauma screening tools, and mental health records. The EHR has the capacity to track whether authorizations to disclose health information are on file for program participants. Assuming that the appropriate releases are on file, Advocates manually shares pertinent health information by printing and delivering the requested information directly to the individual or organization specified on the release. Advocates also utilizes paper forms that can be faxed to the organization or the individual requesting the information. Most frequently, shared information pertains to treatment compliance, meeting attendance, treatment recommendations, and any violations to the ACDCP sobriety policy that is enforced through the administration of breathalyzer tests.

To measure the effectiveness of its programming, Advocates monitors referral activity and program utilization, graduation rates from the drug court program, and recidivism. Recidivism rates are tracked through an informal manual process whereby Advocates generates a list of participants enrolled in the ACDCP, and drug court staff indicate which of those participants became re-involved with the criminal justice system. Results provided by the Ayer and Concord probation departments indicate that five years after successful completion of the program, 29 percent of participants had become re-involved with the criminal justice system. The data also indicate a 15 percent re-conviction rate for program graduates.

Electronic connectivity does not currently exist between Advocates and the ACDCP, nor is Advocates a participating organization in the Massachusetts Health Information Exchange, more informally known as the Mass HIway.⁶ Advocates stated that an electronic portal or electronic data bridge would be helpful to connect ACDCP staff with a limited data set contained in the EHR's drug court module. For example, rather than submitting a verbal request for information to Advocates and waiting for a response, drug court staff (or other stakeholders with releases on file) could immediately access the portal to determine whether a participant had been attending their required services.

The migration of paper-based forms into the EHR operated by Advocates has not been seamless. Data fields in court and state forms have not been created within the EHR mostly because there is no need for the EHR to store all of the information contained on the paper forms. Forms are manually scanned and uploaded into the EHR as notes. However, as part of a new grant received in October 2014, Advocates has formed a Quality Management and Evaluation Team to identify the fields that should be added to the EHR Drug Court Module in order to track outcomes. There are screening and assessment tools that also will be incorporated into the EHR.

In a parallel process, the Massachusetts Trial Court is developing its own data collection module, MassCourts, but it is unclear what level of connectivity could ultimately be achieved between the EHR operated by Advocates and the MassCourts system. In any case, electronic connectivity will not exist until both parties have completed the development of their IT systems.

The lack of sufficient funding has been an ongoing barrier to electronic data sharing. Grants awarded by SAMHSA are used to fund highly specific programs and interventions, and there have been no specific grants to improve electronic data sharing between ACDCP stakeholders. Similarly, state and local funding has been allocated to improve the court's capacity to identify and refer individuals to treatment services, but the funding has not been specifically budgeted to improve electronic data sharing. Whenever possible, to financially support its programs, Advocates submits claims through third-party insurance. Otherwise, services provided to ACDCP participants are financed through self-pay and available grant funding.

Issues surrounding consent have presented challenges related to data sharing. HIPAA and the requirements of 42 CFR Part 2 have made it difficult to segment data in the EHR in a way that is shareable with other parties. Advocates has encountered challenges related to the many layers of consent that are available and what should occur when a program participant withdraws consent.

⁶ <http://www.masshiway.net/HPP/Resources/ParticipantList/index.htm>

Despite these challenges, the ACDPC has generated positive results, and although funding for the ACHES application has ended, Advocates intends to continue utilizing the network of peer support that has been created as a component of its other treatment services. Advocates also expects to complete customization of its EHR and the Drug Court Module to collect, track, and report data related to the efficacy of the services that it provides to the ACDPC.

DRAFT

Wyandot Center for Community Behavioral Healthcare, Kansas

Behavioral health organizations understand that criminal justice exposure is far greater for people with mental illness than for the general population, especially for those who are seriously mentally ill (SMI). Approaches to lessening this exposure, or ameliorating it once it occurs, involve three basic questions: How can incarceration be prevented? How are people with behavioral health issues identified when incarcerated? What should be done for these people in the event of incarceration?

Wyandot Center for Community Behavioral Healthcare—in conjunction with a community partnership of stakeholders—has answered these questions in its own unique way. The Wyandot Center, located in Kansas City, Kansas, has implemented a Crisis Intervention Team (CIT) training policy to divert mentally ill individuals away from the criminal justice system. At the jail, Wyandot Center is using a low-tech infrastructure to identify its clients in order to immediately connect them with case managers and services—using a human interface to effect data transfer between siloed systems.

To understand how the CIT program got started and how the low-tech infrastructure evolved, some historical context is needed.

In 2011, the Wyandot Center began considering ways to divert its mentally ill clients away from the criminal justice system. Some clients were missing appointments and case managers were not able to locate them. Many of these missing-in-action clients were cycling through jail, but no diversion programs existed in Wyandotte County for the center's clients who were encountering the justice system. This was quite the opposite from other communities in the surrounding area. The Mental Health and Criminal Justice Intercept Project in Johnson County, directly to the south of Wyandotte, had already developed an extensive CIT program as well as other interventions.

To form its own CIT program, Wyandot Center knew that it needed stakeholder partnerships. A task force was pulled together that included the sheriff, chief of police, a judge, Wyandot Center, and Heartland Regional Alcohol and Drug Assessment Center representatives. This task force met monthly to launch the Wyandotte County CIT program.

The Wyandotte CIT program, like all CIT programs, trains law enforcement to respond appropriately to mentally ill people in a crisis situation. Officers have learned how to identify common signs and symptoms of mental illness, and strategies for how best to interact with people in crisis. Whenever appropriate, officers are encouraged to take these individuals to a crisis clinic instead of arresting them. To underscore the importance of the CIT in Wyandotte, every new officer who enters the police force

receives a one-day training about mental health. At this point, about 25 percent of the police force has already received the full 40-hour CIT training course.

Wyandot Center has trained co-responders to assist the police on calls involving behavioral health crises. The co-responder carries a laptop, funded by a Bureau of Justice Assistance (BJA) grant that provides a connection to the Wyandot Center behavioral health electronic health record (EHR). When the CIT responds to a situation involving a Center client, the EHR provides essential health information that helps guide the CIT intervention. Since the co-responder works for Wyandot Center, confidentiality is not an issue when the co-responder views a behavioral health record. The crisis clinic, Rainbow Services, Inc. (RSI), is open 24 hours a day, seven days a week—and serves as the primary law enforcement alternative for persons suffering from mental illness. Since it is a voluntary intervention, individuals must be willing to be taken to RSI.

In 2012, Wyandotte County received a grant from the GAINS Center that allowed the county to build a sequential intercept map to identify system gaps, and then work to bridge these gaps in order to help prevent people with mental illness and/or substance use issues from entering the criminal justice system and diverting them out of the system once they entered. In developing the map, diverting individuals away from the jail became a significant priority. The jail, like most jails throughout the country, was overcrowded, and the sheriff was greatly in favor of any plan that would decrease the census at the jail for individuals with mental health and substance use issues charged with committing low-level misdemeanor crimes.

The key to creating diversion for individuals with behavioral health issues was being able to identify who had a behavioral health history. In reality this was an issue about data residing in different silos. The behavioral health data resided in the Wyandot Center's Cerner Behavioral Health EHR (CBH). The data that could identify someone who was incarcerated, however, resided in the jail's inmate management system, a cloud-based system called BluHorse.

An interface between BluHorse and CBH that could notify case managers at Wyandot Center was not considered a viable option. Such interfaces take a lot of time and money to develop, and do not come with guarantees about ease of use. Wyandot Center needed something more expedient and less risky. It was suggested that it would be far easier if Wyandot Center could gain access to the jail's BluHorse system and crosscheck names within CBH to discover if someone booked into the jail was one of the Center's clients.

This suggestion made a lot of sense. Wyandot Center hired a jail diversion liaison. With the permission of the sheriff, the liaison is housed in the jail and has been given login access to the BluHorse system and to CBH. Each day the liaison crosschecks the jail

booking report in BluHorse with the CBH, and identifies individuals who are active clients or those who have been active in the last two years. The jail liaison connects the incarcerated individual with that person's case manager immediately. Case managers do reentry planning and work with the client to ensure that the client appears at court according to the terms of diversion.

The case manager in the jail also has access to CBH. There is a specific form in CBH for jail assessment in which a case manager can enter an informational note. CBH, like BluHorse, is cloud-based and case managers at the center can view data from both systems entered in the jail. The informational note entered into the jail assessment form is used for quality control purposes and to provide a simple method of ascertaining how often a client has been booked into the jail. Wyandot Center received another grant from the BJA in 2013¹ for two intensive case managers for those clients who have been repeatedly booked. These case managers provide more intensive services to reduce recidivism.

The common problem of multiple aliases that is often encountered with people cycling in and out of jail has had very minimal impact with the work of the liaison. The BluHorse system tracks aliases and also maintains photos of detainees. Identification is not a big issue because many of the people that the liaison tracks have a history of multiple arrests and are easily recognized by the liaison.

Crosschecking by the jail liaison has other benefits for Wyandot Center. Each month, the jail produces a report from the BluHorse system that lists active clients of Wyandot Center who pass through the jail. This report includes length of stay and booking charges. Before this data from BluHorse was available, no one knew how many of the center's clients were in the jail, or why these people were being arrested. This information has been essential for educating stakeholders in the community. There is often the misconception that anyone in jail must be there for serious crimes, but the data that is being received from BluHorse show that approximately 75 percent of Wyandot's clients are in jail for minor misdemeanor offenses, not violent crimes. In addition, these reports show that about 60 to 70 active clients are booked into the jail each month.

The cooperative environment that Wyandot Center and community stakeholders have forged has helped improve the working relationship between different stakeholders. This is especially true with the private health care provider in the jail, Correct Care Solutions (CCS) and Wyandot Center. Prior to these initiatives, Wyandot Center and CCS did not always work effectively with one another. For instance, Wyandot Center and CCS had barriers regarding client consent for release of information, which was frustrating for

¹ The BJA grant was for \$250,000. Besides case managers, the grant fully funded the co-responder and expanded the hours of the crisis center.

both parties. But because of the growing partnership, the two organizations came together to search for a better solution. It turned out that the state of Kansas permits health providers in the jail to have access to health data from outside providers for inmates currently in the jail without a release, which drastically improved efficient communication between the two organizations regarding continuity of care.

CCS's own health information is currently captured on paper, but in 2015, CCS will transition to an EHR (CCS's homegrown system ERMA). Wyandot Center hopes this EHR will provide even more opportunity to effectively share relevant data.

All these interventions seem to be having a positive effect. Bookings are down by almost 1,000 compared to this same time last year. This is indeed good news. Despite a national trend of fewer incarcerations, the sheriff and the jail administrator believe their programs are playing a big role in the reduction in their county.

And even though Wyandot Center's programs for assisting their clients in the jail has emphasized low-tech solutions to get the job done, it does not mean that the center has closed the door to future technical innovations. For example, in the Kansas City area, a health information exchange is being developed for safety net providers, the Metro Kansas City Safety Net Information Exchange. Wyandot Center is going to be included in this exchange. Since some of the center's clients also are the jail's "clients", Wyandot Center believes the definition of "safety net provider" should be explored to see if it makes sense to include the jail as well. Possibly, with the jail recognized as such, it could be connected to the HIE—especially since the jail will soon have an EHR.

With all this discussion ranging from CIT to technological solutions, it can be easy to lose sight of the most important fact: Wyandot Center and its community partners recognized that they had a responsibility to divert individuals suffering from mental illness and/or substance use issues from jail whenever appropriate and to work together to improve continuity of care when they were incarcerated. The CIT program and low-tech crosschecking between silos were established to provide better care for a very vulnerable population. In this endeavor, Wyandot Center, and its community partners have been very successful.

Centerstone of Indiana, Columbus, Indiana

In Bloomington, Indiana, a behavioral health provider called Centerstone of Indiana faced several problems: many of the individuals entering community supervision were placed on house arrest but did not have a home; they were required to work, but did not have jobs; they were required to check in daily to treatment centers, but did not have reliable transportation. At the same time, Centerstone of Indiana was facing increasing pressure to provide more and more services for individuals with less and less state funding. In the period when most states were expanding Medicaid eligibility as a result of the Patient Protection and Affordable Care Act, Indiana was cutting back its Medicaid program. Any sort of therapeutic or rehabilitative intervention would be undermined without addressing the real barriers to accessing services. Centerstone of Indiana realized that a technological solution could allow them to reach clients through a virtual client-engagement program called e-ROSC rather than have the clients come to them.

Centerstone of Indiana is a subsidiary of one of the largest not-for-profit providers of community-based behavioral health care in the United States, Centerstone of America. In 2013, Centerstone of America served 84,000 individuals and families in Illinois, Indiana, Kentucky, and Tennessee. Centerstone is a uniquely flexible organization. Each state organization of Centerstone operates semi-autonomously from the others and depends on state-specific funding streams. This means that each state organization crafts its response to the unique cultural and material needs of their particular state. At the same time, each state organization can access the resources available at the Centerstone Research Institute, the former research arm of Centerstone of America that now operates as an independent not-for-profit research organization.

Centerstone of Indiana has several physical locations in Indiana. Centerstone's peer support center in Bloomington, the Recovery Engagement Center (REC), is a nucleus for peer support in Monroe County. Real recovery, however, must be enacted in the community. In order to bridge the gap between the REC and the real challenges of living in the community, Centerstone of Indiana worked with White Pines Systems to develop e-ROSC.

E-ROSC is grounded in the philosophy of a recovery-oriented system of care (ROSC). A ROSC is a network of formal and informal services that exist to promote long-term recovery for individuals and families impacted by substance use disorders. The boundaries of what a ROSC can do extend beyond a single treatment agency, to also address the organizational structure of a community. By making such a system available electronically, Centerstone of Indiana can remove barriers between the REC and the outside world, eliminate the boundaries between other community providers,

engage with the criminal justice system, and address the stumbling blocks to recovery that are missed by typical treatment regimes.

E-ROSC engages community members in ways that one-to-one client management cannot. This engagement happens across three interconnected web interfaces: a public website, a secure website, and the personal health record (PHR).

The public website, v-recover.com, provides a public calendar, inspiring stories, moderated discussions, and live chats to support individuals who visit the website. From v-recover, a client with a login and password can access a private, secure site tailored to his own recovery. Here, an individual can review his recovery plan, provide a weekly update, securely message a provider, and access his personal capital recovery scale. A participant may also access his PHR including data related to medications, diagnoses, allergies, and other important health information. The backbone of the PHR is Centerstone of America's homegrown electronic health record (EHR) CenterNet.

The EHR was developed with sharing between hospitals and providers in mind, while simultaneously considering goal of providing client access. Centerstone was an early adopter of the Blue Button technology that allows patients to easily download their medical records. CenterNet employs continuity of care documents (CCDs) to electronically exchange information with other hospitals and providers. It can also receive information from Microsoft HealthVault. Data transfers can be accomplished via secure FTPS or the Direct protocol for secure emailing. The analytics department at Centerstone Research Institute has made it clear that they are willing to attempt any method to transfer data.

Centerstone of Indiana has several data-sharing initiatives underway. Currently, they are piloting information sharing with Monroe County's Health Information Exchange HealthLINC. In Bloomington, Centerstone of Indiana has already been receiving alerts from Bloomington Hospital that notify clinicians when a client has entered the hospital. Rather than collecting data from each independent provider, requiring overcoming many regulatory hurdles, Centerstone collects data for some of its clients from one source—Medicaid Managed Care Organizations. The utility of this program, however, is limited due to Indiana's choice to not expand Medicaid.

Data transfer requires attention to patient privacy. Because of the volume of individuals served by e-ROSC, health information is not collected from every provider for every person. Centerstone strategically targets the data and providers necessary to develop a treatment plan. In order to comply with regulatory constraints of HIPAA, Centerstone maintains Business Associate Agreements with both providers and Managed Care Organizations.

Besides simply sharing health information, the e-ROSC contains evaluative tools to identify appropriate treatment options and eliminate access barriers. Centerstone of Indiana developed an assessment tool that allows an individual to coordinate what treatments would be appropriate given his “recovery capital”. An individual’s recovery capital is made up of the tools and forms of social support an individual has that empower him to successfully engage with therapeutic interventions. By assessing the recovery capital and the treatment need, e-ROSC clinicians and clients work collaboratively to craft a personalized treatment plan. For an individual with low treatment need and low social capital, clinicians would focus on building recovery capital. If an individual has high recovery capital and low treatment needs, a clinician would link that person with other services. This model focuses on empowering the client to work with clinicians to set and achieve their own goals.

The electronic clinical tools in e-ROSC assist clinicians in assessing and tracking the client’s progress toward his goals. On a weekly basis, clients participate in Telephonic Monitoring and Adaptive Counseling (TMAC). This evidence-based approach uses cognitive behavioral therapy (CBT) to provide clients and clinicians with insights into the recovery progress. TMAC allows for analysis of factors that might indicate a heightened risk of relapse or a serious decomposition in mental health status. This helps clinicians target interventions that respond to warning flags and prevent crises before they escalate. E-ROSC and TMAC are constantly being fine-tuned, and Centerstone has recently added screening tools dedicated to addressing criminogenic risk.

Part of e-ROSC’s success derives from the strategic role it plays in meeting needs of stakeholders and clients. Providers in the community are incentivized to participate with Centerstone of Indiana because e-ROSC’s PHR allows other providers to attest for the patient engagement objectives for stage two of meaningful use, the EHR incentive program.

By strategically accessing information through managed care organizations rather than individual providers, Centerstone of Indiana clinicians can receive information on whether any of their clients have been admitted to a hospital—as well as the authorizing code that admitted the client. This allows for a much quicker response on the part of Centerstone to restore a client back on the road to recovery and to preempt a costly initial hospital stay or a re-admission.

Centerstone is also utilizing the National Center for Quality Assurance’s Healthcare Effectiveness Data and Information Set (HEDIS) as a tool to align the incentives of payers and providers. HEDIS is a collection of measures to assess performance on the most important dimensions of care and service like clinical processes, health outcomes, and patient satisfaction. Payers want health plans to meet HEDIS goals to demonstrate effectiveness and cost savings in treatment. Centerstone receives an automated HEDIS

data stream from providers that can be matched to a client and discover where Centerstone can help a client connect with services that meet different HEDIS goals. By helping payers and providers to meet the HEDIS goals, Centerstone is able to improve outcomes and cost effectiveness while helping clients access the care they need.

None of Centerstone of Indiana's work would be possible without its relationship with the public sector. Centerstone of Indiana already provided behavioral health assessments and community treatment in conjunction with the courts. But when Centerstone of Indiana was planning the e-ROSC, they reached out to judges and probation officers to describe how the evidence-based systems in e-ROSC could be used in criminal and specialty courts to treat individuals rather than incarcerate them.

The analytics provided by e-ROSC allow Monroe County to better intervene and plan treatment for individuals involved with the drug treatment court and the recently created mental health court. E-ROSC shares information with probation concerning an individual's recovery plans, meeting attendance, results of urine tests, and other pertinent information. By having more data available for probation and the courts, Centerstone of Indiana helps keep individuals out of the criminal justice system and provides them with the appropriate means of owning their recovery process.

The e-ROSC has been a major success and Centerstone of Indiana has plans expand it. Within the first year, 2,500 individuals sought help through e-ROSC. E-ROSC quickly expanded from its one-county pilot site to five other counties. While the walk-in center provided help to those who could access it, the volunteers and coaches were faced with the lengthy process and challenge of assessing an individual's history and current resources to accurately portray their recovery capital. The e-ROSC allows for that information to be assessed quickly, with greater specificity, and tracked over time.

Centerstone of Indiana's success has attracted more grants to expand the services available through e-ROSC. A grant from the U.S. Department of Labor allowed Centerstone to create Project HOPE to reduce recidivism by helping clients overcome challenges faced as they transition from a correctional setting to the community. This initiative helped individuals secure skills and degrees necessary to become employable; find employment; and remain employed. Although funding for this initiative ends in 2014, it will be incorporated into the services available through e-ROSC.

Centerstone is also beginning a Correction Health program that will be piloted with 110 clients across the Centerstone of America network. This program will allow Centerstone of Indiana to screen and address criminogenic risks in order to improve treatment outcomes.

Centerstone of Indiana has proven itself to be a paradigm of innovation. Not only has it bravely piloted technological solutions to solve issues around treatment and care

management, but it has also demonstrated how creative problem solving can overcome financial barriers. Centerstone is constantly thinking outside of the typical boundaries of what has habitually been considered health care treatment and delivery. Being this far ahead of the curve means that many of the barriers to using e-ROSC are more ideological and fiscal than they are technological. This, however, does not daunt the leadership at Centerstone of Indiana; their clear focus remains on doing what it takes for the clients. This focus has led it to do more than create a new technological fix to old clinical problems, but rather create a new way of delivering behavioral health care that is both evidence based and client-wellness centered.

DRAFT

Pima County, Arizona

Just as often as broad-scope information technology projects are proposed, they are, unfortunately, not completed. They fall victim to their laudable but unrealistic goals. In contrast, it is often the case that projects with a limited scope and well-defined goals produce the most impressive results. Put more simplistically: thinking small delivers big.

The Pima County Justice-Health Information Data Exchange (PC-JHIDE) exemplifies the virtues of manageable goals. Underlying this project was a very simple idea: when someone is booked into the jail, that person's behavioral health information should be available to the jail's health provider when the detainee presents at medical assessment. This idea, now implemented, is not only beneficial to both the person detained and the health providers at the jail, but is also impressive as the PC-JHIDE has effected a true health exchange between electronic health records (EHRs) in both the community and corrections.

To understand Pima's success, it is necessary to take a few steps backward and see that the simple idea, nevertheless, had a complicated history. Even this straightforward idea required jumping over very high hurdles before it could be implemented to meaningfully exchange health data.

The Pima County Adult Detention Center (PCADC) contracts out the health services delivered in the jail to Correct Care Solutions¹ (CCS). The contract between the jail and CCS specifies that CCS's providers need to identify individuals who are seriously mentally ill (SMI) and separate them out of the general population.

Identifying SMIs is not an easy task, especially in real time at medical intake, right after a person has been booked. The original approach to this challenge was to electronically query Arizona's state Medicaid system, Arizona Health Care Cost Containment System (AHCCCS), about whether the detainee had received behavioral health care in the community. Connectivity with the AHCCCS system was not always reliable and often contained data that was incorrect.

A more reliable system, Data Link, was used by the jail for a court-based diversion program in the jail. Data Link identifies individuals who are receiving behavioral health care in the community through queries to the Community Partnership of Southern Arizona (CPSA), the Regional Behavioral Health Authority (RHBA). Twice a day, the diversion program sends an electronic roster of people booked into the detention center to CPSA. CPSA matches this list against their list of patients and sends it back to the

¹ Formerly Conmed Healthcare Management, Inc.

jail. This process produces results that are similar to the results needed by the health care providers in the jail for medical assessment, but it is not real time. In order to meet the immediate needs at medical intake, CCS providers phoned CPSA to identify the behavioral health history of each individual being detained.

The CCS providers were making approximately 40,000 calls a year to CPSA, a time intensive and expensive process. Although more effective than the original approach of querying AHCCCS, the behavioral health information still was not always accurate.

In 2013, Pima County applied for a grant to automate this behavioral health query process from SEARCH, the National Consortium for Justice Information and Statistics. Pima County was awarded \$75,000 to develop, implement, and evaluate the automated justice behavioral health exchange, what was to become the PC-JHIDE.

One of the specifications of the SEARCH grant was that PC-JHIDE would be implemented using the National Information Exchange Model (NIEM) and Global Reference Architecture (GRA). Both NIEM and GRA provide a standards-based solution for sharing data among disparate organizations. NIEM is an XML-based exchange framework that specifies a common data model across multiple domains, such as justice and, more recently, health. GRA is a service-oriented architecture for the transportation of the information held within the NIEM model. SEARCH heavily promotes the NIEM/GRA framework as a way to build systems that are modular and interoperable across siloed domains.

The underlying modularity of the proposed system fit well with the justice and health landscape of Pima County because disparate systems and organizations were going to have to cooperate in order to develop the PC-JHIDE. These organizations included Pima County Sheriff's Department and IT Department, Pima County Information Technology Department, Pima County Behavioral Health Authority, Pima County Health Department, CPSA, CCS, CorEMR (the jail's EHR vendor), Spillman (the jail's offender management system vendor), and SEARCH.

The underlying design for the PC-JHIDE was dependent on multiple messages being sent to different systems. On booking, demographic data from the offender management system (OMS) are sent as a message to an intermediary system located in the Pima County IT Department (ITD). This intermediary system coordinates all system messages. The ITD intermediary system converts the data from the OMS into a query message that is sent to the CPSA system. The CPSA system conducts a query through its records and sends the results back to the ITD intermediary system, which in turn sends the results to the jail's EHR, where the data is visible to the health care provider at the jail—in real time.

The design of the PC-JHIDE was complex, and needed a great deal of coordination among partners and vendors, which resulted in a number of delays. The original completion date of August 31, 2013, was extended twice. However, once the work was started in March of 2014 with the final design in place, implementation was completed relatively quickly by the end of August 2014.

PC-JHIDE is now in production. As planned, after a person is booked into the jail and proceeds to medical assessment, the behavioral health information from CPSA is now populated in that person's medical record within CorEMR. There have been minor glitches—sometimes messages between the multiple systems are lost— but these bugs are being addressed. On the whole, the PC-JHIDE is working very well and all messages are transmitting. Evaluation of the automated process will occur among the stakeholders over the next year. This evaluation will determine how effective message transmission of accurate data is in producing cost savings, appropriate behavioral health treatment, and accessibility to community providers when offenders are released.

With the dust of development settling, one can begin to glean its broader impact: the integration of the PC-JHIDE into other jail systems, expansion of the PC-JHIDE's current scope, and possible replication of the PC-JHIDE in other jurisdictions.

The jail already has connectivity with the Arizona's state health information exchange, Arizona Health-e Connection (AzHeC), through a web portal that allows CCS to access health information about incarcerated individuals. The portal does not support data exchange, but with a proposed upgrade of CorEMR, it may be possible to integrate the PC-JHIDE and AzHeC systems to share data. CCS providers would be able to send a continuity of care document (CCD) to the AzHeC that would include a description of the treatment provided in the jail. The CCD might include data supplied either from the PC-JHIDE or from CCS about treatment they provided in the jail that was based on information obtained from the PC-JHIDE. This integration of the PC-JHIDE into another jail system could potentially facilitate improved care coordination and seamless transition to community care.

As for expanding the scope of the PC-JHIDE, the jail may pursue one of the original but as yet unimplemented goals of the PC-JHIDE: to connect it with pre-trial services. Pima County has placed a strong emphasis on using pre-trial services to divert people with a behavioral health background out of jail. The HOPE organization, a community re-integration team, places peer counselors in the jails seven days a week, 24 hours a day, to assist anyone being released by pre-trial screening. Replacing the twice-daily exchange between Data Link and CPSA with the real time PC-JHIDE, could allow pre-trial services to more quickly identify people with behavioral health issues and more efficiently divert them into systems like HOPE.

From a NIEM and GRA perspective, the PC-JHIDE provides exciting potential for reuse. One of the more frustrating aspects of designing and developing information technology projects is that there are so many similar projects being built that do not take advantage of what has been designed and developed elsewhere. Essentially the wheel is being constantly re-invented. The PC-JHIDE's ability to use the NIEM model to enclose the data from the various systems and then transport them through the services provided by the GRA means that other jurisdictions wishing to create justice and health connectivity can more readily take advantage of what Pima has achieved without having to build a system from the ground up. As recognition of the Pima County collaboration, the PC-JHIDE received a Best of NIEM 2014 award.

Based on the automation established by the PC-JHIDE, the county estimates it will save \$300,000 and 20,000 hours of personnel time per year. Returning to the idea that thinking small often produces big results, what could be a better result than an IT project saving money instead of going down the all-too-well-trodden road of cost overruns and malfunctioning systems? In fact, the PC-JHIDE is viewed as such a success that it has received budgeting from community reassessment funds for any future action plans.

But the real success is that PC-JHIDE is working, and what "working" means is that people with behavioral health issues receive the appropriate housing and treatment within jail. There is hope that the PC-JHIDE will eventually be integrated with the pre-trial program, and that, in the future, "working" will also mean that those with behavioral health issues will more quickly be diverted out of the correctional environment into treatment within the community.

Hennepin County, Minnesota

Hennepin County recognizes that health and justice domains are essentially linked, but are often sequestered based on technological limitations. On January 1, 2012, the Minnesota Department of Human Services (DHS) awarded Hennepin County a demonstration contract for health care innovation, which now includes the Hennepin County Jail as one of the partners, to streamline continuity of health care. County administrators, with Hennepin County agencies and stakeholders as active participants, lead this health care initiative called Hennepin Health. Members of Hennepin Health include Hennepin County Medical Center; Hennepin County Human Services and Public Health Department; Hennepin County Jail; Metropolitan Health Plan; NorthPoint Health & Wellness Center; and over one hundred additional network providers. These diverse stakeholders are linked through the Epic electronic health record (EHR) system. Hennepin Health also participates in the Criminal Justice Coordinating Committee (CJCC). The CJCC is a forum where city and county policymakers meet to discuss issues and initiatives that require collaboration with the criminal justice system. By including the jail, Hennepin Health acknowledges the critical role of the jail as a provider that shares health care information to meet the initiative's goal of providing more effective and efficient health care services.

As commonly experienced throughout the nation, Hennepin County was faced with a diminishing tax base, rising health care costs, and high utilization of costly crisis services by their Medicaid population. To tackle these issues, the county began the Hennepin Health initiative to focus on improving health outcomes and reducing costs for the Medicaid population by aligning and coordinating health systems. County partners, including the jail, had previously worked well across their respective "silos", but county administration recognized that they must create a stronger relationship with the jail to effectively reach the county's target population. Hennepin Health's target populations predominantly consist of individuals with overlapping medical, behavioral, and social needs. Nearly two-thirds (65 percent) have conditions including mental illness, chemical use disorders, and more than 30 percent are homeless or have unstable housing. National criminal justice data corroborate the high prevalence of serious and complex needs of individuals in the criminal justice system and more effective outcomes through provision of coordinated care and treatment.¹

Reaching this target population required improving methods of sharing information. Hennepin Health implemented electronic data sharing to decrease utilization of acute

¹ SAMHSA, 2012 National Survey on Drug Use and Health; Washington State (Sept., 2010), for individuals with AOD treatment needs, medical costs were lowered after SUD treatment expansion.

treatment services and provide a seamless, timely, and effective delivery system. Most providers in Hennepin use a single Epic-based EHR in jail, clinic, hospital, and behavioral health settings. Providers that do not use Epic can still share their provider data by using Epic's Care Everywhere system. Sharing records allows providers to track demographics, health status, and assessments, and authenticate an individual's identity. This means that an individual who is a high service utilizer can be managed through a network of providers in a way that improves care and decreases costs.

Hennepin Health has many noteworthy accomplishments regarding electronic sharing of health care information and creation of joint patient care plans. Through a secure server portal, Hennepin Health staff directly accesses admission, discharge, and transfer notifications, thereby enhancing continuity of care and treatment between the jail and other stakeholders. These alerts can be accessed by health care staff inside and outside the jail through Epic's dashboard.

Epic also serves as a case management tool for Hennepin County Welfare, but privacy restrictions can cause roadblocks to full coordination. Welfare can view health records and joint treatment plans, and receive reports from corrections, but health care providers can neither see welfare information for case management purposes, nor receive any information back from welfare without individual patient consent.

Although Hennepin has developed some effective means of sharing data, there are still some regulatory barriers that have to be overcome. Despite having a joint treatment plan, welfare and jail health care providers cannot share important data because of limitations imposed by 42 CFR Part 2. Specifically, welfare cannot provide information to the health care partners about whether individual clients have been linked to community chemical use treatment services upon release from the jail, or whether their community treatment subsequently ended. In order to circumvent these limitations, welfare hired additional staff social workers and embedded them within the jail. As welfare employees, these social workers can access the welfare department's patient information without breaching confidentiality. This allows for an incarcerated individual to continue his treatment plan once he enters the jail, or to begin a treatment plan inside the jail that can then continue seamlessly upon the individual's release.

Hennepin Health is aggressively eliminating the barriers to accessing health insurance once an individual is released from jail. Previously, upon release from the jail, there was a lapse in Medicaid benefits of up to four weeks, meaning individuals may not have had access to their medications and were at risk for falling back into the criminal justice system. However, data matching now provides a means of determining who is in the welfare database by comparisons with the weekly jail census. These efforts have resulted in verification of Medicaid eligibility; timely enrollment at the point of release from jail of eligible individuals who were not already enrolled; and activation of benefits

upon release. Individuals may now attend health care appointments set for the week they are released. By assuring that individuals are enrolled in Medicaid upon release, jail health care providers can provide a warm hand-off to community providers.

Hennepin has also developed a HIPAA Business Associate Agreement to help support effective sharing of information between stakeholders. Contractual agreements provide that only the authorized person at each point of contact can view patient information. Data security and privacy officers continue to meet regularly with county attorneys to determine how necessary information can be accessed within regulatory constraints. Even with continuing training by county administration, a number of welfare staff remains hesitant to view EHRs because of concerns surrounding potential violations of privacy.

Each change Hennepin Health makes must make business sense. Hennepin Health is successful because it strategically invests in ventures to provide positive outcomes and leverage existing resources. Hennepin Health has structured its Medicaid financing to incentivize care coordination, target social service intervention, promote better health outcomes, and reduce costs. Every goal is attached to metrics, and Hennepin Health prides itself in the excellence of its data. Hennepin Health utilizes a measured approach to change by evaluating the outcome measures of pilot programs prior to any potential system improvements or expansion.

Hennepin Health's data-sharing techniques have been successfully utilized to report and match Medicaid beneficiaries to community-based services and programs, including those that support the transition from the jail to the community. Data shows progress toward its long-term goals²:

- Crisis/emergency department visits and inpatient services are decreasing, as primary care visits increase. Utilization outcome data from claims comparing 2012 to 2013 demonstrated that primary care visits increased 2.5 percent, while emergency department (ED) visits decreased 9.1 percent, and inpatient admission decreased 3.2 percent;
- The provision of appropriate housing and treatment for medically complex individuals (i.e., supportive housing) has increased and correlates with resulting reductions in ED and hospital use post-housing. ED costs reduced from \$89.07 to \$42.53 per member per month (PMPM); inpatient hospital costs reduced \$1,767.68 to \$495.64 PMPM post-housing; and,
- Optimal care is increasing for diabetes, vascular and asthma care. Provider data submitted to MN Community Measurement regarding improved quality of care outcomes, comparing 2012 (July-December) with 2013, demonstrated optimal

² Data is not specific to jail subpopulation.

diabetes care increased 10.82 percent, optimal vascular care increased 23.46 percent, and optimal asthma care increased 7.55 percent.

The Epic EHR has enhanced timely and effective sharing of essential health care information among stakeholders. The use of Epic in the jail has played an integral role in creating a coordinated care system. Hennepin Health plans to continue reinvesting health care savings in systems improvements, aligning incentives across funding streams including corrections, and evaluating and expanding effective innovations. This includes assessing the impact of Hennepin Health on recidivism. In its first year of collecting post-release jail data, Hennepin Health hopes to use this data to finely tune its programs.

Privacy restrictions limiting sharing of potentially helpful information between partners will continue posing obstacles to Hennepin Health's achievement of greater success in addressing goals of common health conditions. Absent additional federal policy or guidelines, the ability to share needed information within an established data sharing collaborative remains restricted and perhaps subject to interpretation. Creative solutions, such as embedding social workers within the jail, exemplify Hennepin's resourcefulness and commitment to making its collaboration work.

Salt Lake County, Utah

A technical infrastructure is built on much more than computers. While Salt Lake County has created an extensive infrastructure for sharing data and creating electronic connectivity between health and justice, this infrastructure is wholly dependent on the extensive collaboration and innovation the county engages in among its various agencies and its contracted behavioral health providers. The organization most responsible for establishing the infrastructure between justice and health stakeholders is the county's Criminal Justice Advisory Council (CJAC).

Initially, CJAC was a loose-knit organization created in the early 1980s to primarily address acute issues surrounding criminal justice. CJAC focused on long-term system planning and enhancing Alternatives to Incarceration (ATI). The recent trend toward increasing substance abuse and mental illness in the criminal justice system elevated the importance of CJAC in the county.

In 2002, the role of CJAC was formalized, a coordinator was hired and placed in the mayor's office, membership was expanded, and the mission was modified to include strategic planning. The CJAC is now a robust organization. All the major stakeholders in the county concerned with criminal justice sit on the CJAC. These include the mayor, sheriff, district attorney, legal defense, criminal justice services, and representatives of the county council, state corrections, the courts, local law enforcement, and behavioral health. Many initiatives concerning criminal justice are vetted through the CJAC.

One of the major issues facing Salt Lake County and the CJAC has been overcrowding in the jail facility. At least sixty percent of individuals in the jail have substance use disorder or mental health issues. To manage overcrowding, the county council adopted a Resolution Regarding Limitation of Jail Capacity that authorized a Jail Cap Management Plan. This plan set a cap on the number and type of people—based on offense types and levels—that could be detained in the jail. The plan also provided direction to the sheriff on the release of individuals when the cap's limit was crossed.

A symptom of overcrowding in the jail facility that had raised significant concern was the pretrial release of individuals simply due to lack of space but without pretrial supervision or even a bail bond. This type of release is known as an Overcrowding Release (OCR) and seen by all stakeholders as problematic. OCR was perceived as turning the jail into an institution with a revolving door. In response to concerns with jail overcrowding—and a growing OCR population—CJAC began to consider using the Jail Cap Management Plan and ATI programs to reduce the impact of individuals with substance use disorder or mental health issues on the jail and criminal justice system. For example, instead of

just releasing people to alleviate overcrowding, a new program could identify and assess individuals for potential release with supervision and placement in community-based treatment and diversion services.

At the same time, the county mental health director applied to the Bureau of Justice Assistance (BJA) for a grant to provide better services to mentally ill offenders. The Division of Behavioral Health Services worked with the GAINS Center to conduct Sequential Intercept Mapping to develop a model to formalize a set of ATI programs that would also help manage the jail population.

But decisions about who can be diverted and receive treatment need to be based on data. This data, such as behavioral health information, booking data, outstanding warrants, and previous convictions, were held in the different silos of county agencies and of behavioral health providers. Although Salt Lake County is a very cooperative environment, ATI could not be an efficient and effective system without automatic sharing of electronic data across multiple silos.

To implement the level of data sharing required by ATI, the CJAC proposed and the county council approved the Integrated Justice Information System (IJIS). IJIS is maintained by a core staff of two programmer/analysts and one statistical analyst who act as independent resources for inter-agency data sharing, reporting, and analysis. This structure enhances inter-agency cooperation by providing cross-system expertise, filling in technological gaps, and eliminating roadblocks that might otherwise arise around budgets, responsibilities, and resources.

IJIS has many components: peer-to-peer data sharing between agencies; business intelligence to facilitate decision making; a web portal centered on data associated with people involved in the criminal justice system; and a subscription/notification service to allow users of the web portal to track changes in status of justice involved individuals. While each component is important, the web portal, known as the Summary Offender Profile (SOP) and the subscription notification service are on the front line of the ATI program.

The development of these two components of IJIS was contracted out to MTG Management Consultants to develop the high-level design, and Palantir Technologies for implementation. Palantir is a data analysis firm with many US government contracts including ongoing involvement with law enforcement in Utah to consolidate information for investigative purposes. In that role, it had experience with many of the systems that were to contribute data to the SOP.

For the IJIS project, therefore, Palantir would not be developing a new system but use its existing system to interface with the agencies that needed to be integrated into the

IJIS project. With some modifications, Palantir could meet most of the requirements of the MTG design.

The Palantir system is based on a federated approach to consolidating data from multiple sources. There is no master database containing all the data, but each agency's system acts as a repository to the Palantir system. When a user queries the SOP for information about an offender, the Palantir system invokes rule sets that identify data for that particular person across agency silos. Once that query is run, the SOP presents a unified view of the offender's data. Since the data is coming from a federated system, each data element's provenance is identified, whether it is coming from the sheriff's offender management system, the district attorney's system or any other system that is included in the IJIS.

The user of the SOP can subscribe to notifications about offenders. The Palantir system maintains a data model—which Palantir calls an “ontology”—with links back into the federated repositories that allows the Palantir system to monitor each system. When a change occurs to data associated with an offender, a notification is sent to the subscribing user. This notification is in the format of an email that has a secure link back into the SOP. The data available to users in the SOP is based on roles and responsibilities of the group the user belongs to and the specific data granted permission to access by the data owners.

One of the issues facing the development of the SOP was the problem of multiple identities. Many people involved in the criminal justice system use aliases, and the quality and completeness of identifiers varies across data sources. The remedy to this challenge was matching on multiple data elements, such as booking number, case number, and other identifiers across repositories. A simple set of resolution rules is applied on the fly within the SOP and the portal also utilizes a Master Name Index developed by the county to assist in identifying individuals. This resolution process employs robust and complex criteria. Shared data elements associated with an individual across systems can help bridge the various aliases with a high degree of probability. However, it is no secret that this data can be problematic. In the case of known misidentification, a user can drop what is considered erroneous information from the SOP view. Also a user can notify administrators who can take further actions to investigate and resolve the cause of the misidentified information.

The initial users of the SOP are the County Criminal Justice Services' probation case managers who went online at the end of 2013. They have access to data from the following sources: the police department, district attorney, pretrial services, Utah Adult Probation & Parole, offender management system, statewide warrants and protective orders, and Utah criminal history.

The next set of data scheduled to be added to the SOP is the consent mechanism for behavioral health data. The CJAC has always seen behavioral health as key to its ATI programs, but recognized that the sharing of behavioral health information with criminal justice stakeholders must respect consent and privacy requirements to access clients' confidential health data. These concerns were driven in large part by issues surrounding the 42 CFR Part 2 regulations. This regulation gives individuals who are receiving substance use disorder treatment strict control over who has permission to see their health information.

Concerns about 42 CFR Part 2 were assuaged by the fact that many behavioral health providers are using the same EHR, UWITS (Utah's Web Infrastructure for Treatment Services), that is fully compliant with 42 CFR Part 2. Loading the consent mechanisms from UWITS into IJIS will only allow users of the SOP access to 42 CFR Part 2 data to which clients have given permission within UWITS.

Behavioral health providers are not only sharing their own data, but as users of the SOP, they will also be able to view data from other sources within IJIS. This has many benefits. Through the SOP, providers can get risk assessment information from criminal justice agencies that will assist them in developing treatment plans. If a client is re-arrested, the provider will be notified because the sheriff's offender management system is connected to the IJIS. At a very practical level, if a client is going to be incarcerated for a considerable amount of time, then the provider can make scarce treatment space available for other patients.

The IJIS project is still in its initial stage, and its full impact on ATI programs cannot yet be known until more user groups have access to the SOP. But it is very important for the CJAC to know the impact of this program. As was mentioned, one of the components of the IJIS was business intelligence. This was implemented through IBM's Cognos product that provides reporting with statistical analysis functionality—essential feedback to impact future decision making.

In addition, the Council of State Governments is currently working with the county to create a dashboard of key elements to help reduce crime associated with mental health and substance abuse. By monitoring this data, the county hopes to identify what interventions are working and which ones are not.

The next step for IJIS is to expand and share data with other systems. This includes connecting information from statewide courts and mental health. One of the largest mental health providers, Valley Behavioral Health (VBH) has not yet been connected to the IJIS. VBH is an important provider for the IJIS project since it provides most of the ATI programming for the county's SMI population. VBH is currently in the process of

purchasing an EHR and architectural designs for connecting to IJIS are being developed.

Another connection being discussed is information sharing between the provider community and correctional provider community through Utah's Clinical Health Information Exchange (cHIE). It is uncertain whether the connections would be through the Palantir system or whether the jail's EHR (Pearl) might be able to interface directly with the cHIE. No matter how the connection is made, connectivity would create much needed continuity of care for somatic health within the jail and also give providers in the community a way of knowing what treatment occurred to their patients while incarcerated. There is data that seems to suggest that continuity of care is a major factor in reducing recidivism.¹

As can be seen, there is a whole host of technological solutions being advanced in Salt Lake County. With greater access to diverse data, the goals of the ATI programs are more easily attainable: keeping those individuals who need to be in jail in jail, releasing low-level offenders who pose no threat to society to supervised treatment. But this is not just a case of throwing technology at challenges. Salt Lake County had a culture of cooperation that was not brought about by technology but rather technology has enhanced the cooperation that already existed. Too often technology is thought of as a magic bullet that will somehow solve a host of problems, while the real magic bullet is the desire to work together for a common goal and a common good.

¹ SAMHSA, 2012 National Survey on Drug Use and Health; Washington State (Sept., 2010), for individuals with AOD treatment needs, medical costs were lowered after SUD treatment expansion.

Methodology

COCHS conducted background research and key informant interviews to generate the nine case studies included in this collection. The focus of inquiry was on the approach each county jurisdiction or grantee project has adopted towards communicating and sharing data with its partners and other stakeholders. COCHS staff investigated the context and need for each intervention, the potential and reality of using technology solutions to improve workflow and increase efficiencies, and the effect of information technology on project goal attainment. All statistics stated in the case studies were derived from the key informant interviews unless otherwise noted.

The following is a list of key informants interviewed for the studies, by site.

Advocates, Inc., Ayer Concord Drug Court Program, Ayer, MA

- Hilary Curtis, Program Director for Advocates, Inc. (providing clinical services to the Ayer Concord Drug Court)

Centerstone of Indiana, Bloomington, IN

- Linda Grove-Paul, Vice President, Recovery and Innovation at Centerstone
- Honorable Mary Ellen Diekhoff, Monroe County Drug Court
- Christina VanRegenmorter, Director of the Center for Clinical Excellence and National Policy at Centerstone Research Institute

Hennepin County, MN

- Jennifer DeCubellis, Assistant County Administrator for Health, Department of Human Services and Public Health, Office of the County Administrator, Hennepin County, MN

Louisville/Jefferson County, KY

- Tom Walton, Director of Healthy Communities and Academic Relations, KentuckyOne Health
- Karyn Hascal, Vice President, The Healing Place
- Mark Bolton, Director, Louisville Metro Department of Corrections

Pima County, AZ

- Sarah Davis, Special Staff Assistant at Pima County Health Department
- Spencer Graves, Special Staff Assistant at Pima County Health Department
- Jill Hilber, RN, CCHP, Pima County Health Department
- Danna Whiting, M.S. Behavioral Health Administrator, Pima County Behavioral Health

Positive Futures, San Bernardino, CA

- Kim Carter, Founder & Executive Director, Time for Change Foundation

- Eula Charles, Case Manager Specialist, Positive Futures
- Phyllis Scott, Case Manager Specialist, Positive Futures
- Kira Jeter, MPH, Project Evaluator, UCLA Integrated Substance Abuse Programs

Rutland County Adult Drug Court, Rutland, VT

- Kim Owens, Coordinator, Rutland County Drug Court

Salt Lake County, UT

- Courtney Bowman, Civil Liberties Engineer, Palantir Technologies
- Patrick J. Fleming, MPA, LSUDC, Director of Substance Abuse, Salt Lake County Division of Behavioral Health Services
- David Litvack, Director, Salt Lake County Criminal Justice Advisory Committee
- Jon Thelen, Analyst - Integrated Justice Information Systems, Salt Lake County Information Services
- Cory Westergard, Health Information Systems Manager, Salt Lake County, Behavioral Health Services

Wyandot Center for Community Behavioral Healthcare, Kansas City, KS

- Major James Eickhoff, Wyandotte County Sheriff's Office
- Julie Solomon, LCSW, MBA, Chief Strategic Officer, Wyandot Inc.
- Karen Suddath, Chief Operating Officer, Wyandot, Inc.