

# DATA-DRIVEN JUSTICE

Johnson County, IA

## ABSTRACT

Lessons learned in launching a data sharing initiative to enable more efficient government and social service delivery for the most vulnerable members of our society.

David Schwindt

Police Officer / DDJ Project Manager

## Table of Contents

Executive Summary.....	2
Partnerships/Collaboration.....	3
Stakeholder Buy-In.....	4
Technology.....	5
Existing Data vs New Data .....	6
Data Security.....	6
Data Governance .....	7
Data/Analysis .....	8
Cross Park Place – Johnson County Jail Data .....	11
Cross Park Place - University of Iowa Hospitals and Clinics Data .....	12
Coordinate Assess Respond Engage (CARE) Application .....	14
AWS Workshop .....	15
Challenges/Lessons Learned .....	16
Key Learnings .....	17
Sustainability.....	17
Appendix 1 – OpenLattice/Dispatch Center MOU.....	19
Appendix 2 – Dispatch Center/Local Government MOU.....	24
Appendix 3 – Cal Poly Dx Hub Challenge Submission Form.....	28
Appendix 4 – Fictitious Press Release.....	29
Appendix 5 – Fictitious FAQ.....	31
Appendix 6 – Storyboard .....	33

## Executive Summary

Johnson County joined the DDJ Initiative in 2016 with the goal of using data and new strategies to divert individuals who come into frequent contact with the law enforcement, emergency health, and social service systems, out of the criminal justice system to break the cycle of incarceration for some of the most vulnerable members of the community. Key justice, health and social service stakeholders from across the community came together with a vision for better leveraging data to stabilize individuals and families, better serving the community, reducing the jail population, and reducing inefficient public spending.

With support from AV, in January 2018, the City of Iowa City and Johnson County allocated staff time to managing this project and partnership with OpenLattice to address this challenge. The goal is to demonstrate impact through actionable insights and the support of system coordination and service delivery.

The stakeholder group, which includes [list stakeholders] met on an ongoing basis to discuss community goals, supporting initiatives, trends in data, and other strategies for addressing this population.

The team started with an initial analysis of four individuals who fit profiles of cross-system service utilization. Provider data for these individuals existed only in silos with no method to electronically share and integrate them, requiring countless hours of research and analysis to draw out meaningful conclusions. However, by following the data, the team uncovered a story of four individuals over a four and a half year period, each repeatedly cycling through existing services, only to return to living on the street; each time in worse health than before for a total cost to the Johnson County community of over \$2.16 million. Since the fall of 2014, two of the four individuals studied have died while living on the streets.

This project was just the start of unlocking the power of data to both understand and better address the needs of frequent utilizer. Ongoing data sharing across multiple systems has led to key insights, planning on new facilities, the development of new tools and programs to support first responders, and policy. Key insights outlined in the report include:

- Established criterion for frequent utilizers: 7 bookings or more in previous 2 years  
On-going integration and analysis of public safety dispatch data, jail data, and Mobile Crisis Outreach data that informed
  - staffing of the planned sobering unit at the GuideLink center
- Descriptive statistics of dispatch data to understand how individuals interact with public safety agencies, even in situations where there are no criminal charges.
- Descriptive statistics of jail booking data to identify individuals responsible for the most bookings and understand how these individuals compare to general bookings on a number of factors, including demographics, charge, length of stay, and release.
- Descriptive statistics of dispatch data + jail booking to see a larger picture on how individuals interact with the local criminal justice system. For example, analysis of dispatch data helped inform the number of times frequent utilizers have contact with law enforcement, but are not charged

Data gathered and analyzed through the DDJ Initiative is driving both change in policy and programming across the community, and early evidence suggests, it is leading to better outcomes.

*Cross Park Place (Housing First demonstration project)* - Through DDJ, local policymakers developed a tool to identify individuals who were most at risk and in need of Permanent Supportive Housing in the community. While they had a referral list of nearly 100 individuals, there were only 24 units available in the new development. Using integrated data to look at contacts and costs associated with police, fire, and EMS, in addition to shelter needs, officials were able to provide units to the most vulnerable and costly frequent utilizers in the community. Leveraging integrated data from DDJ and a partnership with the University of Iowa, local officials are evaluating the intervention, tracking outcomes for the individuals housed. The residents experienced a 32% decrease in nights spent in jail during the first three months of housing and a 95% decrease during the fourth through sixth month. Healthcare costs trended up during the first year in housing. This is likely due to staff introducing residents to preventative care, reactive care that may not have been life-saving but was otherwise needed maintain or regain health, and mental health services. The second year costs are trending down and are expected to result in approximately \$440,000.00 less in services utilized compared to their pre-housing healthcare utilization.

*CARE Application* - DDJ partners are implementing a new tool called the CARE Application to support law enforcement response to individuals experiencing a mental health crisis. The tool, developed in partnership with JoCo's technology partner OpenLattice, aims to provide responding officers access to information such as known triggers and de-escalation techniques to improve their approach to individuals in crisis. The design of the tool has been informed by engagement with law enforcement, mental health treatment providers, and families of individuals suffering from mental illness. The tool also creates automated referrals to Shelter House, the Mobile Crisis Outreach<sup>1</sup>, and the Veteran's administration so follow up by local services providers can be completed without further law enforcement involvement. Data collected is observational data from law enforcement officers and does not include health records. In addition, this information will likely lead to better warm hand-offs to GuideLink, a behavioral health urgent care center scheduled to open in Johnson County in early 2021.

## Partnerships/Collaboration

The Johnson County Data-Driven Justice Initiative is led by the Iowa City Police Department, Johnson County Sheriff's Office, and Shelter House. However, building a strong network of key stakeholders representing health, behavioral health, and housing organizations has been absolutely essential to shaping the work over the last two years. Other key stakeholders have included Johnson County Ambulance Service, Johnson County Public Health Department, Crisis Center of Johnson County, University of Iowa Hospitals and Clinics, Johnson County Attorney's Office, Prelude Behavioral Health Services, and OpenLattice.

Johnson County began developing these partnerships and collaborations in 2014, long before their involvement in DDJ. A small working group decided to study the utilization of services by a small number of individuals who experienced chronic homelessness in the area. This group met frequently to discuss the services each provided to these individuals, what data they could provide, what would be needed to

---

<sup>1</sup> Mobile Crisis Outreach (MCO) is operated by CommUnity, a non-profit organization in Johnson County. MCO dispatches counselors to homes, schools, emergency rooms, or public places where a mental health crisis is occurring.

access the data, and what they should look to measure. The professional relationships built in these meetings, combined with the positive feedback from government officials and the public of their study, helped solidify long-term trust and value in working together.

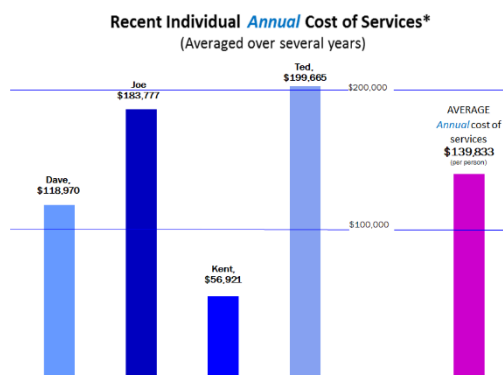
### Stakeholder Buy-In

Johnson County's DDJ efforts started within a subcommittee project within the Johnson County Local Homeless Coordinating Board (LHCB) in 2014 when a group of volunteers from LHCB set out to see if and how they could justify a Housing First/Permanent Supportive Housing project in Iowa City. This would be the first of its kind in the state of Iowa, which meant there would be significant challenges ahead.

The LHCB subcommittee met and discussed a well-known story about Million Dollar Murray. This real-life story in the New Yorker covered the life of Murray Barr. Barr was an alcoholic and homeless in Reno, NV. Over the course of 10 years, Barr cycled through jails and hospitals using services of over one million dollars. Yet, Barr did not see any improvement in his situation or substance abuse. The members of the subcommittee thought a story about one or more individuals in our community could be an honest and powerful way to advocate for the project while simultaneously bringing awareness to the size of the local problem, that they had their own Million Dollar Murrrays in Johnson County. They decided to identify a list of individuals who met the definition of chronically homeless and were known to be frequent utilizers of the different service organizations.

The subcommittee included employees from a wide range of organizations: law enforcement, corrections, shelter services, behavioral health services, mental health treatment, and healthcare. They all used different records systems, many had data compliance requirements that did not match any of the organizations, but they all had a desire in moving this study forward. The subcommittee began with law enforcement data, much of which is public record, to identify individuals who were experiencing homelessness and had frequent contact with police.

Once a group of 26 individuals were identified service providers, without law enforcement or corrections representatives, spoke to the clients they could approach about recruitment into the study. Once this process was complete, four (4) individuals signed the release form allowing various service providers to access their records.



With the signed releases, the subcommittee was able to get information about the individuals from a number of sources. Most of the information was provided on paper. It was manually collected, compiled, entered into a spreadsheet for calculations, and compared. Johnson County learned that, on average, the individuals used approximately \$140,000.00 in services per person per year over the more than 4 years studied. Yet, each of the individuals remained homeless and suffering from substance abuse.

The subcommittee reported back to the LHCB. Members of the group began presenting on their data to local organization, elected officials, and using the data in grant applications. In 2018, they had received approximately \$3.1 million in grant funding to build Cross Park Place. Cross Park Place is a 24-unit permanent supportive housing apartment complex. It is the first project of its kind in the state of Iowa.



## Technology

During the Housing First study in 2014, a query was made in the computer-aided dispatch (CAD) application that essentially locked up the dispatchers' access to the CAD system. They were unable to create or update calls for service, because the query was using too much of the database server's system resources. To work around this issue, queries were run over shorter time periods. For example, instead of running a report for two years, it was run for one month. This meant they had to run 24 separate reports and compile them together, which was much more time consuming for staff. By duplicating the data onto a third-party platform, Johnson County was able to eliminate the negative consequences of running complex, resource intensive queries. They also removed their reliance on the limitations of the vendor's application, such as the type of reports to be run and the output of those reports. Instead of getting an Excel spreadsheet with columns and rows of data, they could generate bar, line, and pie charts as desired.

Johnson County uses OpenLattice ([openlattice.com](http://openlattice.com)) for their data integration provider. OpenLattice assists jurisdictions with extracting data from their existing system(s), cleaning the data, and loading into OpenLattice's data model. Data integrated included county-wide computer-aided dispatch (CAD) calls for service, jail bookings, crisis response, and limited records from shelter services.

As department heads began seeing their data presented back to them through custom charts and other visualizations, they responded with additional questions and requests. Some of the requests required data that had not yet been included in the DDJ integration. A combination of the value of the new data analysis capabilities and the desire for additional analysis made it much easier to gain access to additional data. Soon, Johnson County was adding additional data sources to their project based upon request of the data owner, instead of a request to the data provider.

For Johnson County, OpenLattice filled a need by providing expertise in data extraction and secure cloud storage. While there is some staff with knowledge about the data systems used in Johnson County, their knowledge is generally limited to the administration of the systems, not the underlying technology that makes them function. Without OpenLattice's assistance in extracting and integrating data from the

various sources, Johnson County would still be collecting information on paper and manually recording and calculating it for results.

### Existing Data vs New Data

Johnson County experienced a number of ways to better use their data, both by getting it out of propriety systems and by connecting it with other data sources. However, they also discovered gaps in their data. The gaps were caused both by failing to collect important data and entering data in a way it could not easily be retrieved.

For example, information on crisis calls was frequently documented in paragraph form in the dispatch record. Officers may record information on triggers, de-escalation techniques, and contact information for family and/or friends. However, because this was saved in an unstructured data field, it made for information that was very difficult to locate during future calls. The inability of other officers to easily locate and review the information during future contacts with the individual meant the information had little, if any, value. By using the CARE Application from OpenLattice, which saves this same information in a structured format, it can be recalled and reviewed easily. This simplified access to relevant information is expected to result in officers being more informed in their response to individuals while also minimizing the likelihood of utilizing the criminal justice system to resolve a behavioral health issue.

As Johnson County learned more about their existing data, they learned their CAD system was not properly geocoding public safety dispatch calls for service. For example, if a call for service was created for 123 Main St, the system was to automatically add latitude and longitude coordinates for that physical address to the call for service record. This was only working approximately 12% of the time. As a result, agencies were unable to visualize their call for service information on maps.

The Geographic Information System (GIS) Division of Johnson County maintains these types of records, among many others. It was learned their system included a method that would allow the data to be geocoded as part of the processing of data by OpenLattice. As OpenLattice was processing each dispatch record, they could send the street address information, via a specifically crafted internet query, to the Johnson County GIS system. The system would return the latitude and longitude coordinates for any physical address in the county. Because this system existed and was open to the public, it could be utilized at no additional cost to the County. As a result, they increased the percentage of geocoded calls for service to over 85%.

Johnson County analyzed the calls for service that failed to geocode and found many of them used a common name instead of a street address. The GIS was unable to interpret that to a physical address and/or coordinates. Johnson County worked with OpenLattice to add a step into the geocoding process that would check any failed locations against a custom dictionary of common names for locations. This way, when a value in the street address field failed to geolocate it would be checked against a dictionary of known location names. If the location was in the dictionary, a set of geocoordinates would be added to the final record. Using this method, geolocation was increased to over 98%. As a direct result of this work, agencies in Johnson County are able to map their call for service information for the first time. Maps are being generated to understand call for service volume in different patrol areas, crime locations and trends, and to better inform the public on crimes in their neighborhoods.

### Data Security

Johnson County addressed data security in each of the MOUs. For example, the various law enforcement agencies had an MOU with the dispatch center. It stated the dispatch center “shall continue to be responsible for all aspects of technical security and regulatory compliance for the data it maintains on behalf of its member agencies.” This referred to data stored on-premises at the dispatch center. The MOU went on to state the dispatch center “is not responsible for the security of data held by OpenLattice.” It was important that OpenLattice explicitly took responsibility, so this was addressed in the MOU between the dispatch center and OpenLattice. In that agreement, OpenLattice agreed “that it, and the Platform, are compliant with the requirements of both HIPAA and CJIS relating to the security or confidentiality of the Data.” It also includes notification provisions should OpenLattice become aware of a data breach, regardless of the exposure of any Johnson County data as part of the breach.

## Data Governance

Johnson County used their experience and relationships from the Cross Park Place to identify members for their Stakeholders Group. The group includes individuals from many areas, such as law enforcement, corrections, fire, ambulance, health care, elected officials, and academia. The stakeholder group meets once per quarter to receive updates on DDJ work. Updates include successes, stalled projects, failures, ideas for new uses of data, and Q&A time. The diverse expertise, experience, and knowledge proved to be very valuable to the DDJ work. For instance, one concept was brought to the group that would inform school administrators when there was a significant event at a student’s home or if a parent was arrested. The goal would be giving school administration the information they needed to make informed decisions should the student experience behavior issues after the event. One member of the stakeholder group, from academia, was aware of a study showing how this information could have a negative impact. Classroom teachers who were aware of parents’ legal problems had lower expectations for the student. The lower expectations may have resulted in lower achievement, so any information would need to be strictly contained to the administrative level of the school.

Organizations contributing data as part of Johnson County’s DDJ project included data governance language as part of the MOU process. One example is the use of public safety dispatch data. The MOU provided explicit permission for the dispatch data to be included in DDJ work. The common goal across organization was to continue to grow the DDJ effort, so additional language was added to the MOU to allow for an expansion of data. The language in the MOU allows DDJ staff to identify additional data which may be beneficial, write a justification for the data to be included, and send the notification to data owners. The data owners then have 30 days to review the request and justification.

If the data owners are agreeable with the addition of the expanded dataset they need not respond and the data will be included after 30 days. However, if there is an objection to the inclusion of the new data, a written response is all that is needed to prohibit the data from being included.

Johnson County began by integrating limited public safety dispatch data into OpenLattice. These data were chosen since removing a single field (Social Security Number) left them with a dataset that consisted of only data which was public record. This essentially removed any compliance concerns of the data owners. Since the data were considered public record, the public safety agencies and dispatch center were comfortable moving forward without formal data sharing agreements. This allowed the DDJ staff to move quickly with getting data into OpenLattice and to begin using their tools and third-party tools to further their work.



This left only the technology issues to overcome. Johnson County staff was able to identify the relevant tables in the computer-aided dispatch database, but needed help efficiently extracting and securely transmitting the data. OpenLattice was able to assist with both these issues and setup ongoing integration routines. Their solution utilized a small application that was installed on a computer at the dispatch center. A Scheduled Task was created which would cause the application to run every fifteen minutes. When run, it would extract the most recent dispatch data and transmit it securely to OpenLattice. This solution provided a great deal of transparency, because OpenLattice instructed Johnson County on configuring, running, and customizing the application. It also provided Johnson County with a simple way to stop the integration routine, should that become necessary.

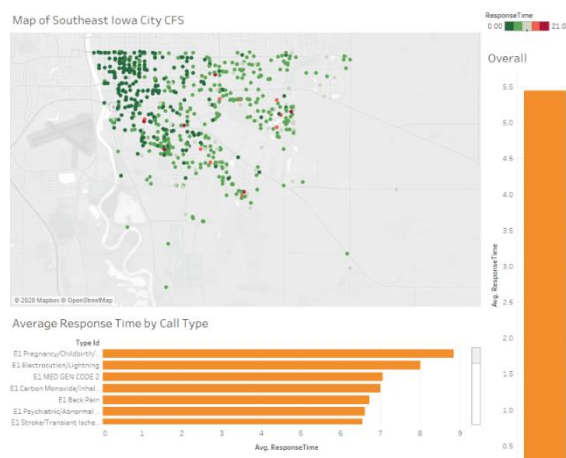
After completing some initial data analysis projects, the DDJ staff were asked to conduct some additional analysis projects. One of the analytics projects required additional data which would require documentation on Criminal Justice Information Systems (CJIS) compliance. The DDJ staff contacted the dispatch center staff about adding in the additional data. They were surprised when they were told that all data integrations needed to be stopped immediately and more formal agreements would need to be in place before the work would be allowed to resume.

This was eventually resolved with two levels of MOUs. First, an MOU was written and executed between the dispatch center and OpenLattice (see Appendix 1). This covered data transfer, storage, security, and use restrictions. Second, they executed an MOU between each participating public safety agency and the dispatch center (see Appendix 2). These covered the data which were allowed to be transmitted, detailed a process for adding additional data into the integration process, and who would be allowed access to the data. This process took approximately eight months. During this time, no data analysis was able to be completed. While moving forward without MOUs or explicit data sharing agreements sped up progress at the beginning, it ultimately caused the work to come to a stop, unexpectedly, when the documents were needed.

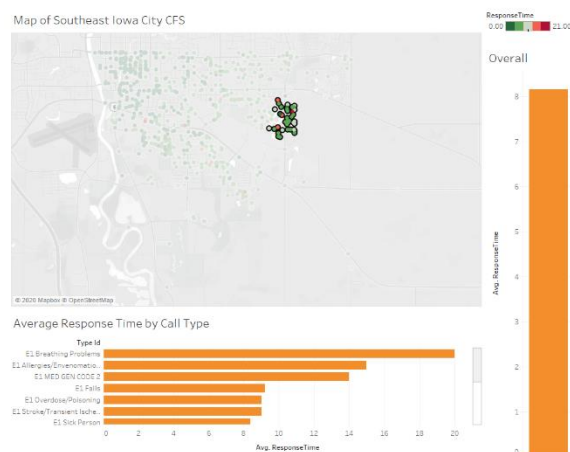
## Data/Analysis

**JOHNSON COUNTY AMBULANCE SERVICE** - One of the first projects was a specific request for the Johnson County Ambulance Service. The Director was interested in learning more about the average response times for ambulance service in a specific area of town. The goal was to understand whether or not there was a need to have one or more ambulances based out of a location closer to this area.

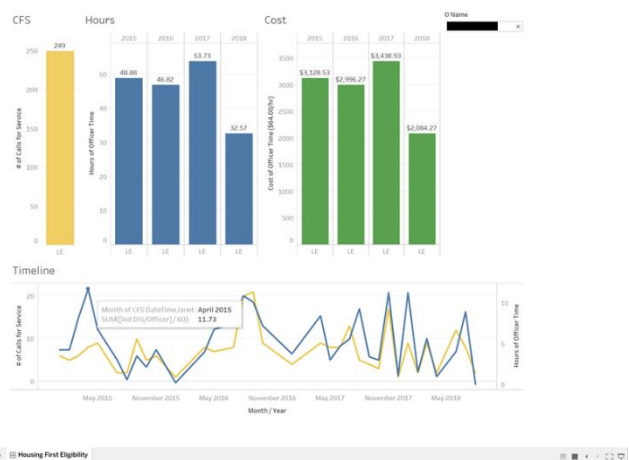
They began by filtering their calls for service to show only those in the southeast quadrant of the city. They then color coded the point representing each call based on the response time. Calls colored dark green had a short response time, grey indicated a moderate response time, and red indicated a long response time. In this quadrant we found the average response time was just under 5.5 minutes.



Once visualized, they noticed an area on the east side of the city where there was a small clustering of red and grey dots. Selecting this small area revealed residents were experiencing a response time of just over 8 minutes. This is approximately 2.5 minutes longer than the average and the most frequent call for service was “Breathing Problems.” This information was used to inform staff members of the delay in arrivals to calls for assistance in the area and begin a conversation on the cost/benefits of deploying one or more ambulances.



**CROSS PARK PLACE** - In January 2019, Cross Park Place opened its doors for the first residents to begin moving in. It was very important to the project that eligibility be verified before someone could be offered housing through the project. There were various criteria that had to be met for eligibility and no efficient way to calculate the appropriate data. With dispatch data now integrated into OpenLattice as part of the DDJ initiative, Johnson County was no longer limited by the reporting build into their CAD system. They were able to use third-party tools to create custom queries, reports and dashboards. Tableau, a data visualization application, was the most common product used in Johnson County. Using Tableau, which was connected to data stored in OpenLattice, Johnson County was able to create a custom dashboard to calculate and display information on an individual’s interactions with law enforcement over a 4 year period. Previously, this would take an estimated 20 hours to complete. With the combination of Tableau and OpenLattice, the same query, which required joining 4 separate database tables, could be completed in thirty seconds to a minute. Using this system Johnson County learned valuable insights into the service utilization of their high-utilizers. Some examples of insights are:



- 80% of charges accumulated by high-utilizers were misdemeanors
- 58% of bookings resulted in less than 1 day in jail / 71% resulted in less than 2 days in jail
- 88% were male
- 51% were black (compared to 8% of the population)
- 57% were booked into jail by 3 or more different law enforcement agencies
- 4 of the top 5 most frequently charged crimes involved substance abuse

**GUIDELINK CENTER** - In early 2021, the GuideLink Center is scheduled to open in Johnson County. GuideLink is a behavioral health urgent care center that will include a number of services, such as a sobering unit, detox, crisis stabilization, and a low-barrier shelter. The Project Manager for GuideLink

reached out to the DDJ staff to ask if they could assist with estimating service utilization when the doors for the center opened. After meeting to discuss options, it was decided the initial analysis would look to estimate utilization of the sobering unit. This unit is designed to be an alternative to arrest for public intoxication charges.

Johnson County decided to look at incidents where individuals were booked into jail on nothing more than a public intoxication charge. Since the sobering unit is a non-criminal alternative, it would likely not be an option if an individual had charges other than public intoxication. Additional charges such as assault, burglary, and theft, for example, would make the individual ineligible. However, some additional charges may not be a disqualifying factor. One example is Interference with Official Acts, because it may not have been committed or charged if the person had not been arrested. Another example is Trespassing, which may be a direct result of someone seeking shelter while intoxicated and could also be diverted to GuideLink with the low-barrier shelter. For these reasons, Johnson County understood their estimations would likely be low.

Two years of jail booking records were analyzed accounting for 878 arrests where Public Intoxication was the only charge. However, it was understood not all of these would be eligible for diversion to a sobering unit. Since the sobering unit is non-criminal, it is also voluntary. Individuals being diverted to this alternative need to be physically cooperative and cannot be violent. To understand the percentage of these instances which could likely be diverted, Johnson County randomly chose 5% of the cases. The charging document, which includes an affidavit written by the charging officer, was pulled for each of these 44 cases. A Crisis Intervention Team (CIT) instructor agreed to read the charging statement of each charge and make a determination on eligibility, had the sobering unit been available at the time of that arrest. Of the 44 charges analyzed, 23 (~52%) were found likely to be eligible for the sobering unit. Based on this assessment, Johnson County estimates 457 of the original 878 arrests could have likely been diverted to a sobering unit.

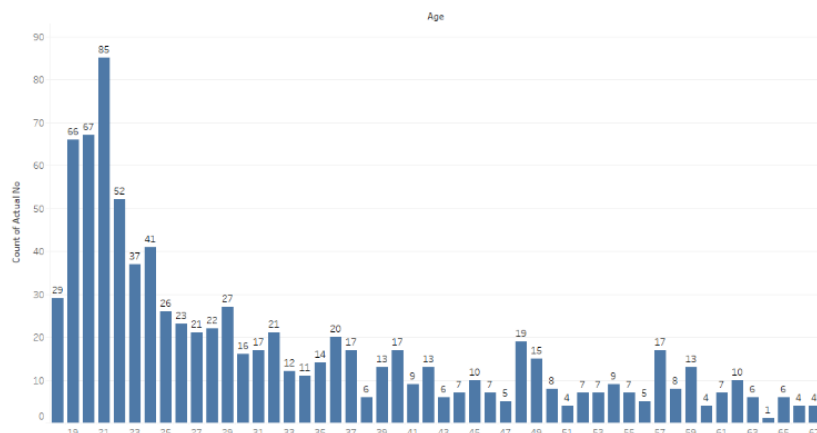
Johnson County DDJ staff were also asked to look at any data to inform staffing. To do this, they looked at patterns in the dates and times of the arrests. This information was compiled, color coded, and visualized on a matrix. It was not surprising to see the largest number of arrests were made during the Friday night/Saturday early morning and Saturday night/Sunday early morning time periods. It was a surprise, though, when some began using this graphic to advocate closing the sobering unit during the week to save money and staff time. While there were no arrests in this analysis during those time periods, this was not intended to be guidance on every possible diversion. It was not known if there were other arrests that would not have had a second charge, if the sobering unit were available. It was also not known how many individuals could have been diverted from the hospital to the sobering unit and what days and times those would occur.

Weekday ..	Date In																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sunday	51	28	30	21	14	3	5	1	1	2	2	2	1	3	1	3		2	4	2	1	4	5	1
Monday	20	6	4	4	2	3	1	2	1	2	2	2	2	2		2	2	2	2	4	3	4	4	5
Tuesday	12	10	5		3	1			1		3		1	2	2		2	3	4	3	4	5	4	3
Wednesday	20	11	11	5	8	2		1	1	1				5	1	3		1	3	3	1	2	1	4
Thursday	15	4	14	6	4	1	2			1	2		2	3	2	2	4	1	3	5	2	2	3	3
Friday	37	14	18	19	6	3	1	1		1	1			2	1	2	2	3	2	2	6	2	7	6
Saturday	46	18	28	27	9	6	1	2	2		2	1	2	3	4	5	8	10	8	8	12	13	13	12

Johnson County wanted to understand how a sobering unit may impact the college students attending the University of Iowa, so they also looked at the ages most affected by public intoxication arrests. They found greater than 18% of arrests were individuals who were not old enough to legally possess or consume alcohol (18-20) and almost 43% of the arrests were for individuals in the college age range (18-24). These data indicate a sobering unit could have a real impact for individuals in college to have a second chance to leave college without a criminal conviction.

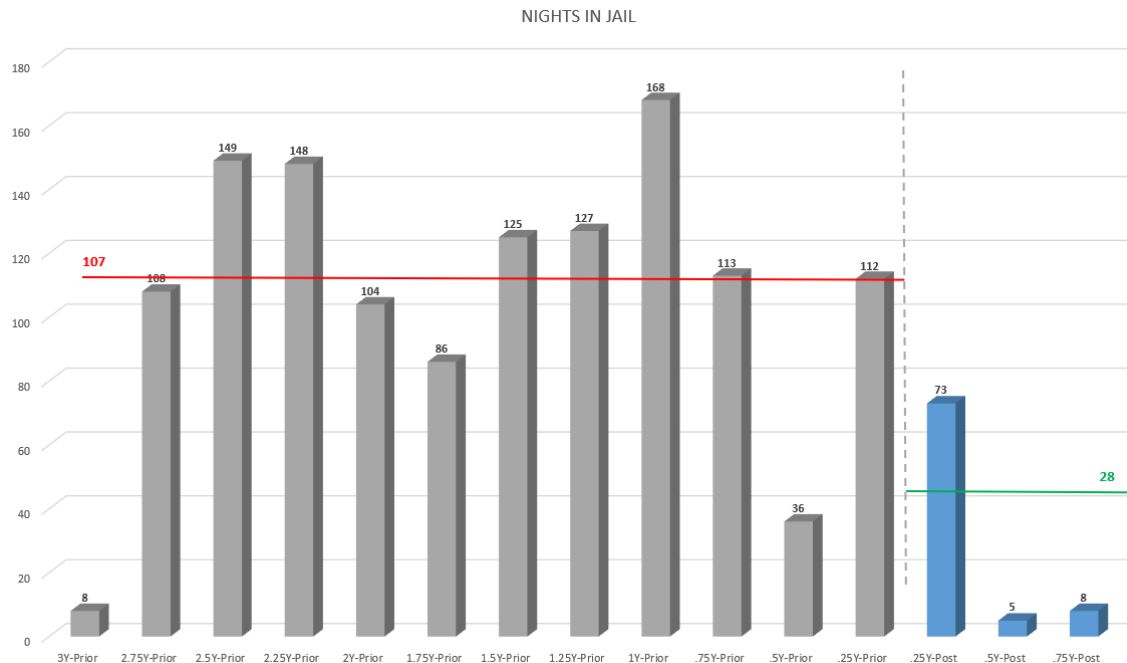
## Cross Park Place – Johnson County Jail Data

Many of the residents of Cross Park Place cycled in-and-out of the Johnson County Jail before they were



accepted into the housing program. It was important to understand any impact on their experience with the criminal justice system once they were housed and had access to the wrap-around services provided. Shelter House, which owns and operates Cross Park Place, asked if we could provide information on jail bookings before an after housing. An analysis of 12

quarters (3 years) pre-housing and 3 quarters post housing showed a dramatic decrease in nights in jail. During the three years before being accepted into Cross Park Place the residents spent, on average, a cumulative 107 nights in jail per quarter. During the first quarter at Cross Park Place, the total fell to 73 nights in jail. During the second quarter it fell to 5 nights in jail and there was a slight increase to 8 nights in jail during the third quarter.



### Cross Park Place - University of Iowa Hospitals and Clinics Data

Residents of Cross Park Place each signed a release of information that allowed for analysis of, among other service utilizations, their medical costs. The main hospital in the Iowa City area, University of Iowa Hospitals and Clinics, is also the main provider for these individuals. Hospital costs were analyzed for four years prior to placement in Cross Park Place and eighteen months post-housing in Cross Park Place.

Information was collected on nineteen of the twenty-four residents' hospital usage for four years prior to housing.<sup>2</sup> This included calendar years 2015 through 2018. There has been no indication from the data or residents that any of the healthcare services used pre-housing included preventative treatment. The usage was entirely reactive, emergency medical treatment for infections, injuries from falls, psychiatric committals, and acute intoxication. On average, they used \$74,464.20 in hospital services per person per year for this four year period. Collectively, this is an average of \$1,414,819.71 per year.

<sup>2</sup> Five individuals were not included in this analysis. One individual was sentenced to prison for an offense that occurred prior to placement. One individual was evicted, prior to the eighteen month post-housing date, for an event that caused significant property damage to the facility and compromised staff safety. One individual committed suicide before the eighteen month post-housing date. Two individuals prefer to use services at the VA hospital, which was not included in this data collection

We then looked at the usage of services during their first year of housing. It is important to note this initial analysis is using calendar years. Some residents moved into Cross Park Place in January 2019, others did not move in until April 2019. Any costs incurred in 2019 prior to their move in date will be counted toward the post-housing total. This means most, if not all residents, had lower utilization in 2019 post-housing than these numbers will reflect.

Collectively, the residents used \$1,778,477 in services during 2019. This is \$363,657.29 more than the average before housing, however, it includes both reactive services, such as an emergency room visit, and preventative services, such as those provided on site at Cross Park Place. We believe routine and preventative healthcare is appropriate use and should not be included in this comparison. Therefore, we will be comparing the reactive healthcare services, which include emergency department visits and inpatient treatment, to the pre-housing reactive costs.

In 2019, residents used \$1,614,663.00 in reactive healthcare services. This is \$199,843.29 more than the average before housing. Individual analysis shows eight residents had higher costs than the average and eleven had lower costs. Some of the residents had higher costs and utilization as a result of staff working to increase their health from survival to healthy. Others had procedures to repair damage to their health from lack of self-care while living on the streets of Iowa City.

ALIAS	AVG (Pre)	2019 (Reactive)	2019 (R +/-)
LA	\$425,738.11	\$472,516.00	\$46,777.90
AW	\$302,402.45	\$126,938.00	-\$175,464.45
MH	\$251,848.57	\$142,619.00	-\$109,229.57
JC	\$96,457.79	\$68,104.00	-\$28,353.79
CJ	\$60,679.49	\$124,420.00	\$63,740.51
DS	\$33,325.18	\$0.00	-\$33,325.18
JS	\$33,117.50	\$28,380.00	-\$4,737.50
FM	\$30,702.93	\$0.00	-\$30,702.93
RR	\$30,273.21	\$130,420.00	\$100,146.79
JK	\$27,353.14	\$142,769.00	\$115,415.86
VV	\$27,142.35	\$21,339.00	-\$5,803.35
JD	\$25,239.36	\$4,221.00	-\$21,018.36
FW	\$18,485.60	\$252,781.00	\$234,295.40
RW	\$13,809.47	\$61,965.00	\$48,155.54
KW	\$16,649.37	\$0.00	-\$16,649.37
SS	\$9,438.50	\$0.00	-\$9,438.50
MS	\$5,982.90	\$0.00	-\$5,982.90
KM	\$4,960.56	\$9,529.00	\$4,568.44
PM	\$1,213.25	\$28,662.00	\$27,448.75
	\$1,414,819.71	\$1,614,663.00	\$199,843.29

ALIAS	AVG (Pre)	2019 (Reactive)	2019 (R +/-)	2020 (Reactive)	2020 (R +/-)
LA	\$425,738.11	\$472,516.00	\$46,777.90	\$474,210.00	\$48,471.90
AW	\$302,402.45	\$126,938.00	-\$175,464.45	\$97,316.00	-\$205,086.45
MH	\$251,848.57	\$142,619.00	-\$109,229.57	\$26,042.00	-\$225,806.57
JC	\$96,457.79	\$68,104.00	-\$28,353.79	\$58,808.00	-\$37,649.79
CJ	\$60,679.49	\$124,420.00	\$63,740.51	\$64,070.00	\$3,390.51
DS	\$33,325.18	\$0.00	-\$33,325.18	\$10,654.00	-\$22,671.18
JS	\$33,117.50	\$28,380.00	-\$4,737.50	\$15,928.00	-\$17,189.50
FM	\$30,702.93	\$0.00	-\$30,702.93	\$0.00	-\$30,702.93
RR	\$30,273.21	\$130,420.00	\$100,146.79	\$5,968.00	-\$24,305.21
JK	\$27,353.14	\$142,769.00	\$115,415.86	\$79,542.00	\$52,188.86
VV	\$27,142.35	\$21,339.00	-\$5,803.35	\$0.00	-\$27,142.35
JD	\$25,239.36	\$4,221.00	-\$21,018.36	\$0.00	-\$25,239.36
FW	\$18,485.60	\$252,781.00	\$234,295.40	\$0.00	-\$18,485.60
RW	\$13,809.47	\$61,965.00	\$48,155.54	\$79,562.00	\$65,752.54
KW	\$16,649.37	\$0.00	-\$16,649.37	\$0.00	-\$16,649.37
SS	\$9,438.50	\$0.00	-\$9,438.50	\$0.00	-\$9,438.50
MS	\$5,982.90	\$0.00	-\$5,982.90	\$16,870.00	\$10,887.10
KM	\$4,960.56	\$9,529.00	\$4,568.44	\$0.00	-\$4,960.56
PM	\$1,213.25	\$28,662.00	\$27,448.75	\$46,210.00	\$44,996.75
	\$1,414,819.71	\$1,614,663.00	\$199,843.29	\$975,180.00	-\$439,639.71

In 2020, residents used \$487,590.00 in reactive healthcare services in the first six months. This amount was doubled, to \$975,180.00, with the assumption that utilization would remain consistent throughout the year. At this rate, residents are expected to utilize \$439,639.71 less in reactive healthcare services in 2020. Individual analysis shows six residents had higher costs than the average and thirteen had lower costs.

In addition, all twenty four residents were enrolled in healthcare coverage within 30 days of moving into Cross Park Place. A report from the University of Iowa Hospitals on 06/26/2020 shows only one resident having an outstanding balance (\$16.00). This results in both a savings in services provided and the hospital being reimbursed for all services utilized.



## Coordinate Assess Respond Engage (CARE) Application

In 2015, law enforcement agencies in Johnson County committed to sending every sworn officer through the 40-hour Crisis Intervention Team training program. A number of officers were sent to San Antonio, TX to attend their CIT training program and then the train-the-trainer program. The goal was to have them return to Johnson County and, with support from San Antonio staff, conduct a number of training seminars in Johnson County. In this training officers learned techniques to identify an individual in crisis, identify the type of crisis, and techniques in communicating with individuals in that type of crisis. Two of the many goals are to identify triggers and de-escalation techniques for the individual. However, they learned the officers lacked a method of documenting what they learned about an individual, so they also lacked an efficient way to communicate the information to other officers. To remedy this, Johnson County has worked with OpenLattice and piloted their CARE Application (CARE).

The CARE consists of a reporting tool and a profile tool. The reporting tool is used by officers after they respond to someone in crisis. The officer begins by searching the CARE for the individual's name. If the individual has been the subject of a previous CARE, their name will be located and the officer can complete a new report. If the individual is not already in the BHR system, the officer can easily add them to the system.

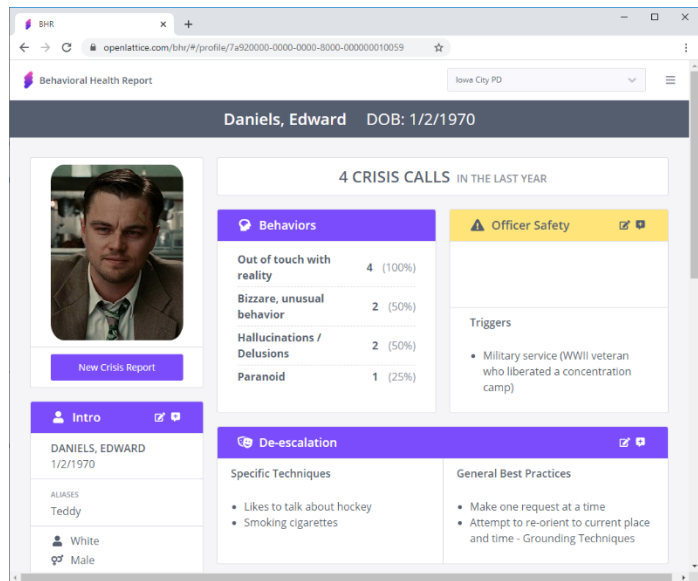
Once the name is selected, there are four pages that consist of a number of categories. Most have been intentionally designed to be completed by simply checking the applicable boxes in each category. A major goal was making the report quick and simple to fill out, while still collecting all of the important information about the encounter. Once completed the officer can submit the report, which completes the process.

The profile tool is designed to provide officers with crucial information, specific to an individual, so they can most efficiently and effectively communicate with the person in crisis. This profile is accessible by searching the BHR for an individual by name. Once the individual is located, their profile page is designed to provide the user with the most relevant information.

The top screenshot shows the 'Behavioral Health Report' interface for Iowa City PD. It features a 'Search People' section with input fields for 'Last Name', 'First Name', and 'Date of Birth' (MM/DD/YYYY), a calendar icon, and a 'Search People' button. There is also a '+ New Person' link and an 'Additional Fields' dropdown.

The bottom screenshot shows the 'New Crisis Report' form. On the left is a sidebar menu with the following items: 'Person Information' (checked), 'Observed Behaviors', 'Nature of Crisis, Assistance, and Housing' (selected), 'Officer Safety', 'Disposition', and 'Review & Submit'. The main content area is titled 'Nature of Crisis' and includes a 'Select all that apply' instruction. It lists several categories with checkboxes: 'Biologically induced (Depression / Anxiety)', 'Medically induced (Traumatic Brain Injury / UTI)', 'Chemically induced (Crack / Meth / PCP / Heroin)', 'Excited Delirium', and 'Unknown'. Below this is the 'Assistance on Scene for Subject' section, also with a 'Select all that apply' instruction, listing roles like 'Case Manager / Service Provider', 'Spouse / Partner / Girlfriend / Boyfriend', 'Family Member', 'Friend', 'Neighbor', 'None', and 'Other'. At the bottom, there is a 'Current Housing Situation' section with a 'Select one' instruction.

To prevent officers and dispatchers from unnecessarily searching the CARE system for an individual, they implemented a “flag” in their existing CAD system. Most CAD systems allow users to enter flags for important information, such as arrest warrants, harassment warnings, etc. Johnson County implemented a CARE flag, so officers and dispatchers would be immediately notified when someone with a record in the CARE was entered into a call for service in the CAD system. This allows the officers and dispatcher to realize the benefits of the CARE without requiring them to check the separate CARE system during every encounter.



## AWS Workshop

In May 2019, David Schwindt was introduced to Nick Osterbur at the Code for America Summit. Nick Osterbur is a Digital Innovation Lead with Amazon Web Services and works closely with the Cal Poly Digital Transformation Hub (DxHub). The DxHub applies proven innovation methodologies in combination with the deep subject matter expertise of the public sector, the technology expertise of Amazon Web Services (AWS), and other partners to solve challenging problems in ways not contemplated before.

The DxHub was interested in helping to bring together DDJ stakeholders and utilize a design thinking workshop to identify a common, agreed upon goal. The documentation generated a result of the work could be used to quickly explain the problem and value of a DDJ solution to other jurisdictions. The process (see Appendix 3) began with identifying local stakeholders that were important to the goals of the project. We invited elected officials, hospital administrators, directors of local non-profits, heads of law enforcement agencies, and heads of other first responders, such as fire departments and ambulance services. Next, we had a video call with the AWS/Cal Poly staff where we talked about the problem, identified solutions, and discussed individuals who would benefit from a solution. At the end of the call we all agreed on a solution statement that would become the basis of an in-person, Innovation Workshop.

The Innovation Workshop was held in October 2019. The attendees participated in group discussions, small group projects, and eventually agreed upon some guiding statements and important questions and answers. The work was compiled into three deliverables: a fictitious press release (see Appendix 4), an FAQ document (see Appendix 5), and a storyboard (see Appendix 6). These documents are intended to present the problem to the reader, identify the solution, and provide supporting information on why the solution is defensible.



## Challenges/Lessons Learned

The DDJ Project Manager for Johnson County, David Schwindt, is a Police Officer with the Iowa City Police Department. With more than 20 years of experience, he brought a great deal of operational knowledge and professional relationships to the DDJ effort. His work with the chronically homeless has been well documented and respected, including his involvement in establishing Cross Park Place, the first Housing First/Permanent Supportive Housing project in the state of Iowa.

The research, advocacy, and planning for Cross Park Place helped to build a number of relationships between Officer Schwindt and many service providers. They saw firsthand how he, along with the Iowa City Police Department and City of Iowa City administrations, worked to better the lives of the individuals who would benefit from this type of housing option. For some, who only view police as an enforcement agency, there was surprise that such an effort would be undertaken by a police department.

However, even with these accomplishments and relationships, the title of “Police Officer” was a burden in many conversations. Rightfully so, many service providers were immediately dismissive of their ability to share data. There were several reasons for this, but one in particular was the concern over how clients and the public would view a provider sharing information with law enforcement. Would the data be used to target enforcement efforts at the provider’s clients? Would the data be used to bias an officer’s decision making in a way that the client would be more likely to be charged with a crime? How would the client feel if they knew their treatment data was being shared with law enforcement, when so many have a distrust of policing agencies? These immediate reactions didn’t wait for the provider to learn that police could not access the data without permission. The reactions only proved to create a greater burden on the discussions to move the process forward. A greater burden than would likely have existed if the project manager were sourced from a different agency.

The burdens Johnson County experienced as a result of having a police officer participate in these initial discussions could likely be lessened or eliminated by taking a more strategic approach. An approach which would be beneficial to any profession leading the effort. Instead of immediately discussing data sharing with a high-level staff member of a service provider, it is recommended a jurisdiction uses any existing relationships with staff in the organization, regardless of the level of the position. Engage with the staff members to learn about the current pain points of the organization or topics that are of interest in their profession. Follow up with questions to help you understand how data sharing with other organizations could benefit the service providers and/or their clients. With this information you can customize a presentation for decision-makers that begins with the information relevant to their organization, articulate the positive results of a solution, and then address the data-sharing project to accomplish it.

Cross Park Place demonstrated the ability for data to make real world changes in Johnson County. However, the manual process of collecting, compiling, and calculating the data was not sustainable. This was a project most members completed on top of their typical job duties. They recognized this work would need to become more automated for it to be useful for other projects. It would also require the ability to examine data on a wider scale, because they would not always have a specific project in mind. They anticipated projects would need to be designed in response to the information learned from the

data. This means they had to get the data first, without specific waivers, to allow it to be analyzed in aggregate. With the success of the Cross Park Place project now well known, Johnson County began meeting with area service providers to talk about data sharing. They learned two very consistent barriers: legal/compliance concerns and technology limitations.

The legal and compliance concerns are a result of a lack of experience with data sharing. To begin, it was necessary to teach providers what data sharing is and what it isn't. Some providers immediately thought sharing meant they were giving their data to others without any restrictions. This required additional communication with the provider to inform them on the technological safeguards that were in place to prevent unauthorized access to data. To effectively communicate this information, Johnson County DDJ staff had to learn some high-level details how OpenLattice stored data, how to configure user accounts, and the level at which those accounts could control access to data. However, even those providers who understood the data could be protected and only shared with others as allowed by the data owner did not necessarily know permissible reasons for sharing their data. Additionally, most providers do not have legal experts on staff to task with researching and advising them on this issue. Getting that advice results in a real-world cost to the provider, since they would have to pay their outside counsel for the time working on the issue. This cost is rarely one providers will immediately commit to covering. It was seen as an expenditure that does not directly impact their immediate operations or benefit their clients, so it was carefully considered.

Technology skills and questions are another area that frequently fell to outside contractors. Some providers in Johnson County use on-premises records management systems and others use cloud-based systems. Regardless, almost all providers had to connect DDJ staff with a third-party to learn about options for accessing and/or exporting data. The providers of cloud-based systems generally fell into one of three categories: they did not have a solution to securely share data, they had a solution that required a user to manually download the data, or they had an automated solution that was available at an additional cost. As of August 2020, Johnson County is working with two providers who must use the manual download method, because the automated solution is cost prohibitive. One of these providers, in the past, has gone months without updating their data. The staff member who was originally responsible for this manual process was promoted to a new position. The new staff member was focused on learning the responsibilities of the position, which included many mission critical responsibilities, and was unable to prioritize learning the data download and submission process. This type of inconsistent data submission makes ongoing data analysis very difficult. This difficulty is magnified when two or more datasets are being integrated for analysis and one of them is not consistently updated.

## Key Learnings

### Sustainability

Johnson County's DDJ grant has provided staff with time to better understand their existing data, learn and think of new ways to use that data, learn how to use software applications that are already available to staff and specialized applications, and provided administrators and elected officials data reports they had otherwise never had available. For example, Microsoft Excel and ArcGIS Pro were already licensed and available, but staff were not trained on how to use them for data analytics. Tableau and Microsoft Power BI are two examples of applications specifically for data analytics that weren't available or known

to staff. The City of Iowa City purchased Tableau for their DDJ and other data analytics projects. As custom reports were able to be generated for specific projects using these tools, the City of Iowa City and Johnson County saw advocacy for DDJ become less important. The value of these reports to elected officials and department heads, which allowed their organizations to make more data-driven decisions, became a catalyst for staff to be asked to assist and participate in projects more often. In 2020, the Iowa City Police Department added a new staff position to help continue DDJ efforts in the county. The position is responsible for advising the administration on data collection, data integration with third-parties, data analysis, and assisting in data-driven decision making, both for social good and to help guide law enforcement efforts, so they can reduce unnecessary enforcement contact with citizens.

**OPENLATTICE DATA SHARING  
MEMORANDUM OF UNDERSTANDING**

THIS MEMORANDUM OF UNDERSTANDING (“MOU”), made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2019 by and between the OpenLattice, Inc., a public-benefit corporation based in Redwood City, California, and the Joint Emergency Communications Services Association of Johnson County, an Iowa 28E entity, hereinafter referred to as “Customer,” collectively referred to as “Parties,” and

WHEREAS, OpenLattice provides a commercial data integration and sharing platform (“Platform”); and

WHEREAS, the Customer provides emergency and non-emergency communications for police, fire, medical and general service responders in Johnson County, Iowa;

WHEREAS, the Customer, in collaboration with its member entities, wishes to implement a Data Driven Justice Initiative (hereinafter, “DDJ initiative”) that is aimed at demonstrating how communities can implement the DDJ process of combining data across health, criminal justice, and social service systems to (i) identify and better understand the needs of the highest utilizers of services; (ii) identify and deploy interventions; and (iii) track the costs and outcomes of those interventions; and

WHEREAS, the Customer desires to facilitate the sharing of information contained within its electronic data systems using commercially available and open source data integration systems; and

NOW, THEREFORE, for and in consideration of the covenants contained herein, the Parties hereby agree as follows:

**DEFINITIONS**

**Data** means any information that is provided by Customer to OpenLattice for transmission, storage, integration, import, display, distribution or use in or through use of the Platform.

**Data Custodian** is the entity that is authorized by Customer’s member entities to share specified member entities’ Data with OpenLattice.

**End User** is a person that is authorized by Customer to access and use Data on the OpenLattice Platform.

**Services** refers to any work performed by OpenLattice on behalf of Customer, including integration of Data and development of tools, applications, add-ons, or extensions.

**AGREEMENT**

IT IS HEREBY AGREED, by and between the parties as follows:

**1. PURPOSE**

- a. The purpose of this MOU is to provide a framework for Customer to upload and share Data on the OpenLattice Platform to support Customer's, and its member entities', DDJ initiative.

## 2. DESCRIPTION OF DATA

- a. Customer will provide the following Data under this MOU:

Data shared with Customer by its member entities, that the member entity has authorized to be uploaded to OpenLattice for the purpose of supporting the DDJ initiative as authorized by a separate agreement.

## 3. DATA OWNERSHIP AND USE

- a. **Ownership of Data.** Customer affirms that it: (i) is the owner or the Data Custodian of Data described above; (ii) has authority to upload and share Data to the Platform; and (iii) has authority to grant permission to OpenLattice to perform any requested Services on such Data. Customer will not upload, or provide to OpenLattice for Services, any Data that is not owned by Customer or for which Customer is not a Data Custodian. Customer, or the respective owner, retains ownership rights over all Data whether uploaded to the Platform or transferred to OpenLattice for the performance of requested Services or created on the Platform by Customer's authorized users through any tool, application, or extension that is part of or integrated with the Platform.
- b. **OpenLattice Data Use.** Customer authorizes OpenLattice to access, transfer, copy, process, analyze and use the Data in any manner reasonably necessary to manage and administer the Platform, perform requested Services, and improve the Platform and Services, subject to the terms of the MOU, any separate agreement between the Parties, and all applicable laws and regulations pertaining to the Data. Customer does not authorize OpenLattice: (i) to use Data for commercial purposes, its own benefit or to the detriment of Customer or its member entities; or (ii) to share Data with any third party without prior written consent from Customer.
- c. **End User Data Use.** Data on the Platform by default is not shared by OpenLattice with any End User. Customer is solely responsible for: (i) determining whether a given End User has an appropriate need to access the Data, (ii) entering into an agreement with the End User and/or its member entities that addresses any and all laws, regulations, rules, or policies pertaining to the Data, and (iii) configuring or requesting OpenLattice assistance in configuring Platform permissions to grant to that End User the authorized access to the Data.
- d. **Requests for Data.** If OpenLattice receives any request for Data from a person or entity other than Customer or its member entities, OpenLattice shall immediately forward such requests to Customer. OpenLattice shall have no authority to fulfil such requests and agrees that Customer shall have sole discretion regarding whether and how such requests are fulfilled or not.

#### 4. COMPLIANCE AND SECURITY

- a. **Legal and Regulatory Compliance.** OpenLattice warrants that it, and the Platform, are compliant with the requirements of both HIPAA and CJIS relating to the security or confidentiality of the Data. Customer shall inform OpenLattice of any other law, regulation, rule, or policy pertaining to Data, and, if required, Parties will execute a separate agreement to address all applicable requirements prior to Customer uploading Data to the Platform or transferring Data to OpenLattice for uploading to the Platform or the performance of any requested Services. Any provisions for adherence to applicable requirements set forth in such a separate agreement will supersede the respective terms of the MOU. If OpenLattice discovers or is notified of a noncompliance event that affects the Data or the Platform, OpenLattice will immediately notify Customer.
- b. **OpenLattice's Agents and Subcontractors.** OpenLattice shall ensure that any agents or subcontractors, to whom it provides Data, agree to the same restrictions and conditions that apply to OpenLattice with respect to such Data. Parties hereby agree that if OpenLattice utilizes the services of Amazon Web Services, it will do so pursuant to a separate agreement between OpenLattice and Amazon Web Services that complies with the terms of the MOU and any separate agreement between the Parties and all applicable laws, rules, and regulations. In all cases, before sharing with agents or subcontractors, OpenLattice shall notify Customer and permit Customer to object to such sharing.
- c. **Appropriate Safeguards.** OpenLattice shall implement appropriate administrative, technological and physical safeguards as are necessary to prevent use of Data other than as permitted by the MOU and any separate agreement between the Parties that reasonably and appropriately protect the confidentiality, integrity, and availability of the Data, and comply with applicable laws. At a minimum, OpenLattice warrants that all Data is encrypted in transit using at least TLS 1.2+ and at rest using industry-standard AES encryption.
- d. **Account Protection.** Customer is solely responsible for monitoring and controlling Platform login information in the possession of the Customer or its authorized users. In the event that Customer becomes aware that the security of any Platform login information has been compromised, Customer shall immediately deactivate or change such login.
- e. **Breach Notification.** OpenLattice warrants that it has a breach notification policy, that it will follow its breach notification policy should a data breach take place, and that it will act in the best interest of the Customer. If OpenLattice discovers or is notified of a breach of security that affects the security of any Data subject to any data breach notification law, OpenLattice will notify Customer as required by its breach notification policy, applicable law and any separate agreement between the Parties.

#### 5. INFORMATION ACCURACY:

- a. **Customer Data Accuracy.** Customer is responsible for ensuring the accuracy of the Data uploaded to the Platform. Customer agrees to carry out an internal audit of the Data upon initial integration and periodically thereafter to review the Data for accuracy. Customer agrees to report any inaccuracies to OpenLattice and, as necessary, work with OpenLattice to correct any such inaccuracy.
- b. **Platform Data Accuracy.** Customer acknowledges that information maintained in the Platform, whether contributed by the Customer or shared with the Customer by a member entity, consists of information that may or may not be accurate. OpenLattice provides access to information on the Platform “as is”, and none of OpenLattice, Customer, nor its member entities warrant the accuracy of their own information nor may rely on the accuracy of information contributed by other member entities.

## 6. TERM AND TERMINATION

- a. **Term:** MOU shall become operational and effective upon execution by the Parties and shall remain in force until terminated.
- b. **Termination:** Parties may, subject to terms conditions in any separate agreements between the Parties, terminate MOU at any time for any reason by giving written notice to the other party at least thirty (30) days prior to the effective date of termination.
- c. **Material Breach:** Subject to terms and conditions set forth in any separate agreements between the Parties, a breach by either party to the MOU of any provision of this MOU shall constitute a material breach of the MOU and shall provide grounds for immediate termination of the MOU if such breach is uncured by party responsible for the breach within thirty (30) days of receiving notice of such breach.
- d. **Effect of Termination:** Subject to terms and conditions set forth in any separate agreements, upon termination of the MOU for any reason, OpenLattice shall, at the option of Customer, return or destroy all Data that OpenLattice or its agents or subcontractors still maintain in any form, and shall retain no copies of such Data. If return or destruction is not feasible, OpenLattice shall continue to extend the protections of this MOU or any separate agreement that supersedes this MOU and limit further use of such Data to those purposes that make the return or destruction of such Data infeasible. If Customer elects destruction of the Data, OpenLattice shall certify in writing to Customer that such Data has been destroyed.

## 7. GENERAL PROVISIONS:

- a. **Amendment.** Upon the request of either party, the other party agrees to promptly enter into negotiations concerning the terms of an amendment to the MOU embodying written assurances consistent with the standards and requirements of all applicable laws relating to the security or confidentiality of the Data.

- b. **Interpretation.** Parties agree that any ambiguity in this MOU shall be resolved in favor of a meaning that complies and is consistent with HIPAA, the HITECH Act, CJIS, 42 Code of Federal Regulations (CFR) Part 2, the Privacy Rule and the Security Rule and other applicable laws relating to the security or confidentiality of the Data.
- c. **Costs.** Unless otherwise specified in a separate agreement, Parties shall be responsible for their own costs associated with establishing, maintaining, or terminating the MOU. Nothing in the MOU shall be construed to mean Parties incur new costs.
- d. **Benefits and Immunities.** Parties shall agree that the provisions of the MOU are not intended to directly benefit, and shall not be enforceable by any person or entity not a party to this MOU, except to the extent that, individually or collectively, Customers' member entities may step into the role of the Customer to benefit from or otherwise enforce this MOU. Beyond this, this MOU is not intended to confer any legal rights or benefits on any person or entity other than the Parties to this MOU.
- e. **Indemnifications.** OpenLattice shall defend, indemnify, and hold harmless Customer and its board members, officers, agents, employees, and representatives from any and all losses, liability, damages, claims, suits, actions and administrative proceedings, and demands and all expenditures and cost relating to acts or omissions of OpenLattice, its board members, officers, agents, or employees arising out of or incidental to the performance of any of the provisions of the MOU. OpenLattice does not assume liability for the acts or omissions of persons other than its respective board members, officers, employees, or agents.
- f. **Authority to Bind.** Parties to this MOU shall have no authority, express or implied, to act on behalf of any signatory in any capacity whatsoever as an agent. The Parties shall have no authority, express or implied, pursuant to this MOU to bind each other to any obligation whatsoever.

IN WITNESS WHEREOF, the parties hereto have executed this MOU on the date as written below.

Approved By	Date	Approved By	Date
-------------	------	-------------	------

Approved By	Date	Approved By	Date
-------------	------	-------------	------



**JOINT EMERGENCY COMMUNICATIONS SERVICES ASSOCIATION  
OF JOHNSON COUNTY DATA SHARING  
MEMORANDUM OF UNDERSTANDING**

THIS MEMORANDUM OF UNDERSTANDING (“MOU”), made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by and between the Joint Emergency Communications Services Association of Johnson County (hereinafter, “JECSA”), an Iowa 28E entity, and the \_\_\_\_\_ (hereinafter “\_\_\_\_\_”), a municipal corporation, collectively referred to as the “Parties”; and

WHEREAS, the Data Driven Justice Initiative (hereinafter, “DDJ initiative”), is an initiative aimed at demonstrating how communities can implement the DDJ process of combining data across health, criminal justice, and social service systems to (i) identify and better understand the needs of the highest utilizers of services; (ii) identify and deploy interventions; and (iii) track the costs and outcomes of those interventions; and

WHEREAS, the DDJ initiative is being implemented in Johnson County as a proof of concept site, an initiative supported by both \_\_\_\_\_ and JECSA; and

WHEREAS, OpenLattice, Inc., a public-benefit corporation based in Redwood City, California (hereinafter, “OpenLattice”), provides a commercial data integration and sharing platform; and

WHEREAS, \_\_\_\_\_ wishes to grant JECSA explicit permission to share certain data with OpenLattice for use in the DDJ initiative; and

NOW, THEREFORE, for and in consideration of the covenants contained herein, the Parties hereby agree as follows:

**AGREEMENT**

IT IS HEREBY AGREED, by and between the parties as follows:

**1. PURPOSE**

The purpose of this MOU is to provide JECSA with explicit permission to share certain \_\_\_\_\_ data with OpenLattice for use in the DDJ initiative.

**2. DESCRIPTION OF DATA**

- a. Data to be provided is that information marked as “integrated” on the following Exhibits, attached hereto and incorporated herein by this reference:
  - i. Exhibit “A”, TABLE: “dispatch\_type”
  - ii. Exhibit “B”, TABLE: “dispatch\_persons”
  - iii. Exhibit “C”, TABLE: “dispatch”
  - iv. Exhibit “D”, TABLE: “systemuserbase”

- b. \_\_\_\_\_ further empowers the JECSA Policy Board of Directors (hereinafter, the “Policy Board”), to approve the sharing of additional \_\_\_\_\_ data with OpenLattice, without further approval of \_\_\_\_\_, subject to the following:
- i. Data to be shared is limited to that data which is stored as part of the computer-aided dispatch (CAD) system.
  - ii. At least thirty (30) days prior to sharing additional \_\_\_\_\_ datasets or additional data from the Exhibits referenced in paragraph 2(a) herein with OpenLattice, the Policy Board shall provide \_\_\_\_\_ with written notice of said intent.
  - iii. \_\_\_\_\_ may veto the sharing of said additional \_\_\_\_\_ datasets by providing written notice to the Policy Board within the thirty (30) day notice period. Said exercised veto shall not serve to terminate this MOU or the sharing of any \_\_\_\_\_ dataset not identified in the veto notice.

### 3. JECSA TO MAINTAIN TECHNICAL SECURITY AND REGULATORY COMPLIANCE

- a. JECSA shall continue to be responsible for all aspects of technical security and regulatory compliance for the data it maintains on behalf of its member agencies. JECSA is not responsible for the security of data held by OpenLattice. JECSA shall promptly notify \_\_\_\_\_ of any communication it receives from OpenLattice regarding a security breach or non-compliance with regulatory requirements associated with data shared by JECSA with OpenLattice.
- b. \_\_\_\_\_ further empowers the Policy Board to authorize any and all access to data held by OpenLattice, without further approval of \_\_\_\_\_, subject to the following:
- i. At the outset, the Policy Board authorizes \_\_\_\_\_ of the \_\_\_\_\_ to access all data held by OpenLattice pursuant to this MOU.
  - ii. At least thirty (30) days prior to authorizing additional access, the Policy Board shall provide \_\_\_\_\_ with written notice of said intent.
  - iii. \_\_\_\_\_ may veto the additional access by providing written notice to the Policy Board within the thirty (30) day notice period. Said exercised veto shall not serve to terminate this MOU or any access not identified in the veto notice.

### 4. TERM AND TERMINATION

- a. **Term:** MOU shall become operational and effective upon execution by the Parties and shall remain in effect for a term co-extensive with any data sharing agreement between JECSA and OpenLattice unless expressly terminated by either of the parties pursuant to the following provisions.
- b. **Termination:** Parties may, subject to terms conditions in any separate agreements between the Parties, terminate MOU at any time for any reason by giving written notice to the other Party at least thirty (30) days prior to the effective date of termination.
- c. **Material Breach:** Subject to terms and conditions set forth in any separate agreements between the Parties, a breach by either party to the MOU of any provision of this MOU shall constitute a

material breach of the MOU and shall provide grounds for immediate termination of the MOU if such breach is uncured by party responsible for the breach within thirty (30) days of receiving notice of such breach.

- d. **Effect of Termination:** Subject to terms and conditions set forth in a separate agreement between JECSA and OpenLattice, upon termination of the MOU for any reason, JECSA shall do the following:

Convey to OpenLattice that \_\_\_\_\_ has terminated the MOU and withdrawn permission for the continued use and storage of \_\_\_\_\_'s data. JECSA shall, pursuant to JECSA's separate agreement with OpenLattice, demand that OpenLattice:

1. Return or destroy all data that OpenLattice or its agents or subcontractors still maintain in any form and retain no copies of such data; and
2. Continue to extend the protections of the separate agreement if return or destruction of the \_\_\_\_\_ data is not feasible, and limit further use of such data to those purposes that make the return or destruction of such data infeasible; and
3. Certify in writing to JECSA, with a copy to \_\_\_\_\_, that such data has been destroyed.

#### 5. GENERAL PROVISIONS:

- a. **Amendment.** Upon the request of either Party, the other Party agrees to promptly enter into negotiations concerning the terms of an amendment to the MOU embodying written assurances consistent with the standards and requirements of all applicable laws relating to the security or confidentiality of the data.
- b. **Interpretation.** Parties agree that any ambiguity in this MOU shall be resolved in favor of a meaning that complies and is consistent with HIPAA, the HITECH Act, 42 Code of Federal Regulations (CFR) Part 2, the Privacy Rule and the Security Rule, and CJIS and other applicable laws relating to the security or confidentiality of the data.
- c. **Costs.** Unless otherwise specified in a separate agreement, Parties shall be responsible for their own costs associated with establishing, maintaining, or terminating the MOU. Nothing in the MOU shall be construed to mean Parties incur new costs.
- d. **Benefits and Immunities.** Parties shall agree that the provisions of the MOU are not intended to directly benefit, and shall not be enforceable by any person or entity not a party to this MOU. This MOU is not intended to confer any legal rights or benefits on any person or entity other than the Parties to this MOU.

IN WITNESS WHEREOF, the parties hereto have executed this MOU on the date as written below.

JOINT EMERGENCY COMMUNICATIONS  
SERVICES ASSOCIATION OF  
JOHNSON COUNTY

CITY OF \_\_\_\_\_, IOWA

\_\_\_\_\_  
Approved  
By Date

\_\_\_\_\_  
Approved By Date

\_\_\_\_\_  
Approved By Date

\_\_\_\_\_  
Approved By Date

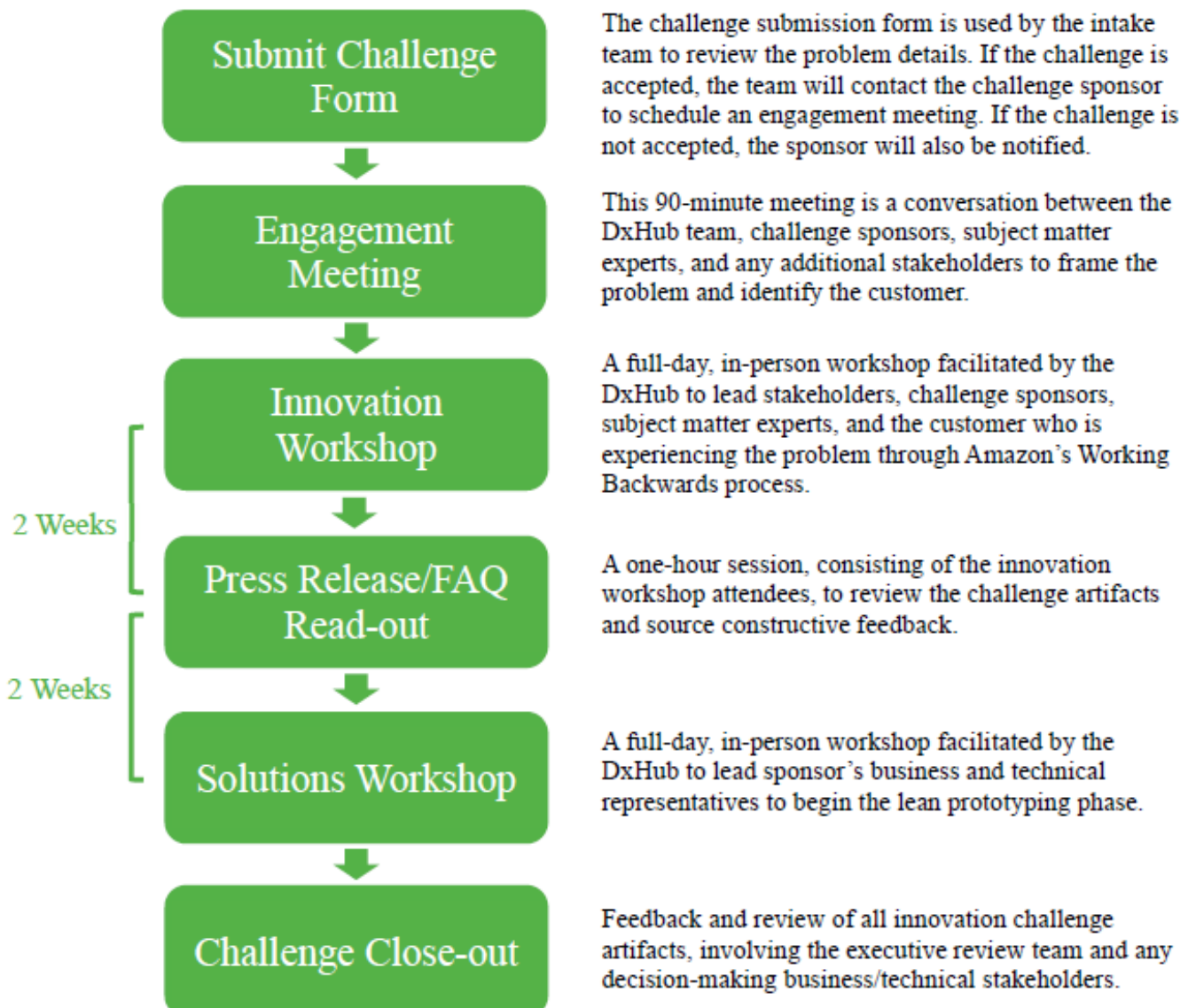


## Challenge Submission Form

Cal Poly Digital Transformation Hub powered by Amazon Web Services

Welcome to the Cal Poly Digital Transformation Hub (DxHub) Challenge submission process. The purpose of this submission form is to assist in understanding the problem specific to public-sector organizations and begin the process towards generating innovative solutions. All results and artifacts from the challenge process, including the challenge sponsor organization, will be published on the DxHub's website.

The innovation process diagram below spells out the resources required to engage with the DxHub. Please complete and submit the following pages to [DxHub@calpoly.edu](mailto:DxHub@calpoly.edu).



## Appendix 4 – Fictitious Press Release

### **Press Release**

#### **Data sharing critical in helping GuideLink provide individuals with the right care at the right time**

*Public safety agencies, healthcare providers, and social service organizations have launched secure data-sharing capabilities to provide clients of the newly opened GuideLink center access to the care they need when they need it.*

Iowa City, IA – May 1, 2020.

**[Summary]** ASSOCIATED PRESS | HEALTH – Public safety agencies, healthcare providers, and social service organizations, in collaboration with Cal Poly’s Digital Transformation Hub (powered by Amazon Web Services), have created InterConnect, a system and process that provides participating organizations, such as healthcare and crisis service providers, with the ability to securely share patient information to improve service delivery, while maintaining all compliance requirements. What was once a fragmented and inefficient crisis care experience, is now connected and seamless, providing clients/patients efficient and coordinated care whenever and wherever they need it.

**[Opportunity/problem]** First responders, healthcare, and social service providers can provide better client/patient services if they have the relevant information about the individuals they are serving. The use of electronic health records to record patients’ previous interactions has become common place. This allows providers to bill for services, understand how and when services are used, and more importantly, provide the correct care to clients in the future. Clients routinely interact with more than one care provider, but all-to-often the data is not shared between providers. The result is clients having to repeatedly answer the same questions, provide the same information/documentation, and verbally explain the care they have received elsewhere. This can be frustrating to the client, result in incomplete and incorrect information being provided to the provider, and result in fragmented and inefficient care. When addressing mental health crises, the data sharing problem can make it much harder for clients to receive the appropriate and connected care they need. This makes it more difficult to stabilize clients’ health status and break longer term cycles on service dependency.

**[Approach/Solution]** Public safety agencies, healthcare providers, and social service organizations routinely interact with the same individuals. Most of these organizations use third-party platforms to enter, search, and store their data. Some are maintained on-site and some on cloud services. However, very few of them, if any, have the capability to share data with other platforms. Because these are third-party products, the customer organizations usually do not have the rights, access, or expertise to add sharing functionality. The solution is to use InterConnect, a platform which imports data from the various organizational and 3<sup>rd</sup> party databases and integrates them into a single dataset that can be appropriately leveraged by the larger service provider community. InterConnect allows each original service provider organization to maintain control over each piece of data and explicitly authorize any sharing of that data to maintain compliance with applicable laws. By using InterConnect, each agency has authorized access to the data they need, when they need it, to provide the best care for the client.

**[Leader Quote]** *“InterConnect is a game changer for Iowa City healthcare service provision. Especially to our clients that utilize services repeatedly and routinely and have routine interactions with law enforcement.”* said City Council Member Jane Doe. *‘We’ve been hearing that data sharing is key to our ability to combat this once in a generation mental health crises in our community. All of the different service providers now have a way to share insights about patients with their fellow organizations on their*

*own terms and in a way that is ethical, legal, and results in the best care possible for the clients. InterConnect is what's best for both the clients and the folks that service their needs."*

**[Customer experience]** Clients visit their care providers as usual. During routine or emergency care, the provider will have access to the data maintained by the clients' other care providers. This eliminates the need for clients to recall and report previous care on each visit. It provides the care provider with a complete picture of the client's health, which allows for more informed and timely decision making. The coordinated care that is made possible drastically increases the efficiency of care of likelihood of long-term, positive outcomes for the client.

**[Customer testimonials]** *"I had an episode again the other day and ended up in the ER. That's the third time this year. Usually, I have to sit there and try to remember all the last visits I had and what they gave me. This time was different."* said Mike, who experiences frequent mental health crises. *"The ER folks already knew what I got the last time and even that I had recently went to the new county wide mental health facility. They've got me set up with a counselor at the County tomorrow and they said that she will have my records and not to worry about that part. This is a lot better than trying to do this myself every time which is what usually happens and then 3 months later I'm right back in here again."* said Mike.

The data sharing problem in healthcare has been around for a long time.

*"Sharing data about clients in the past has been difficult at best."* Said Sherry Kovina, a nurse for 20 years and now ER Administrator at a local hospital. *"As an ER nurse, I needed to know what my client had been through, why they were in my ER room, and what treatment or services they've had in the past. And then it always felt like I was just patching the client up and sending them off to the next service provider, so they could start blind all over again. Sharing client data in the past has been nearly impossible because no one wants to be responsible for HIPAA data compliance issues or getting wrapped up into a bad headline where sensitive client data ended up in the wrong hands. Now I can get access to the right information about the client and provide access to the data that I know the next service provider will need all through the master data dashboard down to the client level. InterConnect has been approved from the very top and audited by independent entities and our top management has made it clear that we owe it to our clients and other service provider colleagues to share the appropriate client data so they can get the best healthcare possible. I've seen the same culture and organizational change in my colleagues at the other agencies as well."*

## Appendix 5 – Fictitious FAQ

### Customer FAQ (Client/Patient)

Q: How is this beneficial to my care?

A: Data sharing allows your providers to focus on your immediate care and needs. This is accomplished by centrally coordinating your care, instead of having you spend time completing repeat forms. Regardless of the provider, they will be able to determine the right treatment at the right time by having instant access to your health history.

Q: Who will have access to my data?

A: Your data will only be viewed by experts providing direct care to you on a system that is compliant with the HIPAA Security Rule.

### Stakeholder FAQ (Agency Management, Elected Officials, Community)

Q: How is this beneficial to my organization?

A: Your staff will be able to see a complete view of historical and current treatment by other providers, plus information on your client/patient's criminal justice involvement. This information can help them to understand what other organizations are providing or have provided services and whether or not those services resulted in a positive outcome.

Q: How can data sharing help to improve services and outcomes for my clients/patients?

A: Service providers can better understand the history and any changes in behavior and health. This will allow one provider to notify and coordinate with one or more other providers, as needed, in response to any client/patient behavior or health changes.

Q: Does this meet my compliance requirements?

A: The data sharing platform meets HIPAA and 42 CFR Part 2 security rules. It is up to the provider to authorize and share data in compliance relevant to their professional requirements.

Q: Does my organization maintain ownership of the data?

A: Yes. The data sharing platform acts as data custodian, which is responsible for the custody, transport, and storage of data. Data stored on the platform will only be used as directed by owner of the data.

Q: How is it going to make my employees' work more efficient?



A: It will reduce the time and frustration of asking repeat questions while providing a better starting point for treatment. Your employees will no longer spend time waiting for information from other providers to understand the client/patient's history.

Q: Does this app report information on queries, in detail or aggregate, to any entity outside our agency?

A: No. The data sharing platform does not provide any information on your data or your use of the system to any third party.

Q: Does this work with our existing application(s)?

A: Yes. Any application vendor that provides a method to allow access to your data by a third-party or an application that stores data in a common database format will work with this platform. However, some vendors may charge for or limit access.

Q: Is this app HIPAA compliant? How do I know?

A: The operator of the platform will sign a Business Associate Agreement (BAA) with a covered entity and the platform is configured to be compliant with HIPAA security Rule.

Q: Where do I get help? What if I have questions?

A: The operator of the platform provides support via telephone, email, and remote desktop.

Q: Will it be updated and current?

A: In most instances, the data stored on the platform will be updated live.

## Appendix 6 – Storyboard



Jason suffers from mental illnesses and drug addiction. He is a frequent patient at social services and health agencies.

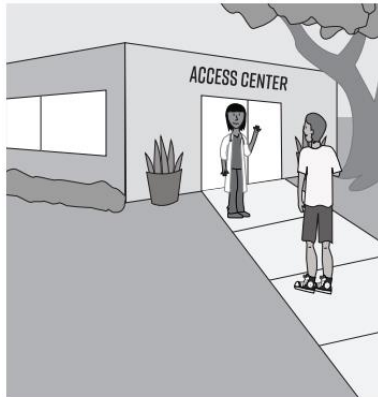


With access to information allowed by their profession, law enforcement and medical personnel conduct an informed conversation built on Jason's previous calls for help.



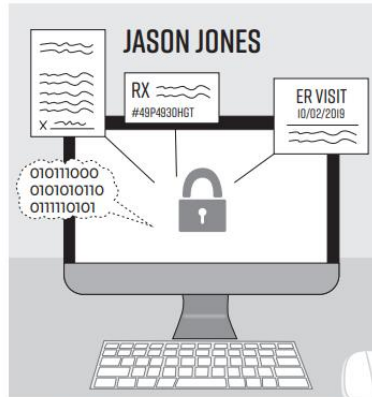
Jason is put at ease after receiving non-threatening communication, and is transported to the help he needs.

Frame 4



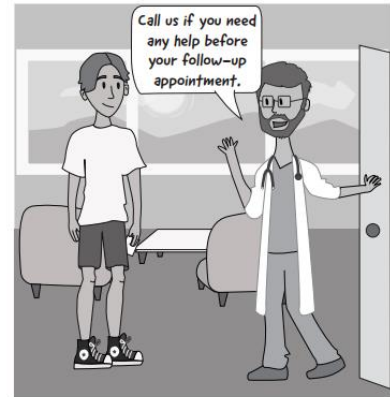
The personnel at the access center are able to provide Jason with coordinated services and document his visit for future secured sharing.

Frame 5



Data sharing allows health and social services to legally and ethically share client information to efficiently direct patients like Jason through progressive care.

Frame 6



Jason leaves feeling prepared to return home and confident that he is connected to community health and social services that will continue to support him.