

# LAKE COUNTY MENTAL HEALTH COALITION

## Workshop Part 1

- North Highland Facilitation
- August 21, 2017



# AGENDA

**INTRODUCTIONS – 10 MIN**

**EXAMPLE MODELS & EXERCISE – 50 MIN**

**KEY INFORMATION & DATA MATRIX – 40 MIN**

**BREAK – 10 MIN**

**DATA SHARING MODELS FOR LAKE COUNTY – 60 MIN**

**WRAP UP & NEXT STEPS – 10 MIN**

# COALITION GOALS

THE PURPOSE OF THE LAKE COUNTY MENTAL HEALTH COALITION IS TO ADVANCE SUSTAINABLE COMMUNITY-LEVEL CHANGE THROUGH COLLABORATIVE EFFORTS, SUCH AS ENHANCED SYSTEM-WIDE DATA SHARING, COORDINATION, AND COLLABORATION, IN ORDER TO BETTER LEVERAGE EXISTING LIMITED RESOURCES AND MAXIMIZE THE IMPACT.

The development of a systematic, coordinated network that promotes care, recovery, and social inclusion through timely access to prevention, treatment, and recovery support can yield the following benefits:

## RESULTS OF DATA SHARING

The ability to measure and make decisions with data around the following:



### IMPROVED ACCESSIBILITY & SERVICES

Communities with provider shortages gain access to in-demand specialists



### JAIL DIVERSION

A coordinated system can align individuals with their needs earlier and avoid legal and criminal events



### DECREASED COST

Early intervention and less acute cases from consistent coordinated care



### CARE COORDINATION

Systematic tracking and case management of patients can support improved mental health outcomes



### IMPROVED PATIENT EXPERIENCE

Improve patient satisfaction by reducing wait times and reduce attrition in the system



### HIGHER QUALITY DATA

Coordinated systems surface data to make decisions on behalf of individuals with mental health needs



### CLINICIAN SATISFACTION

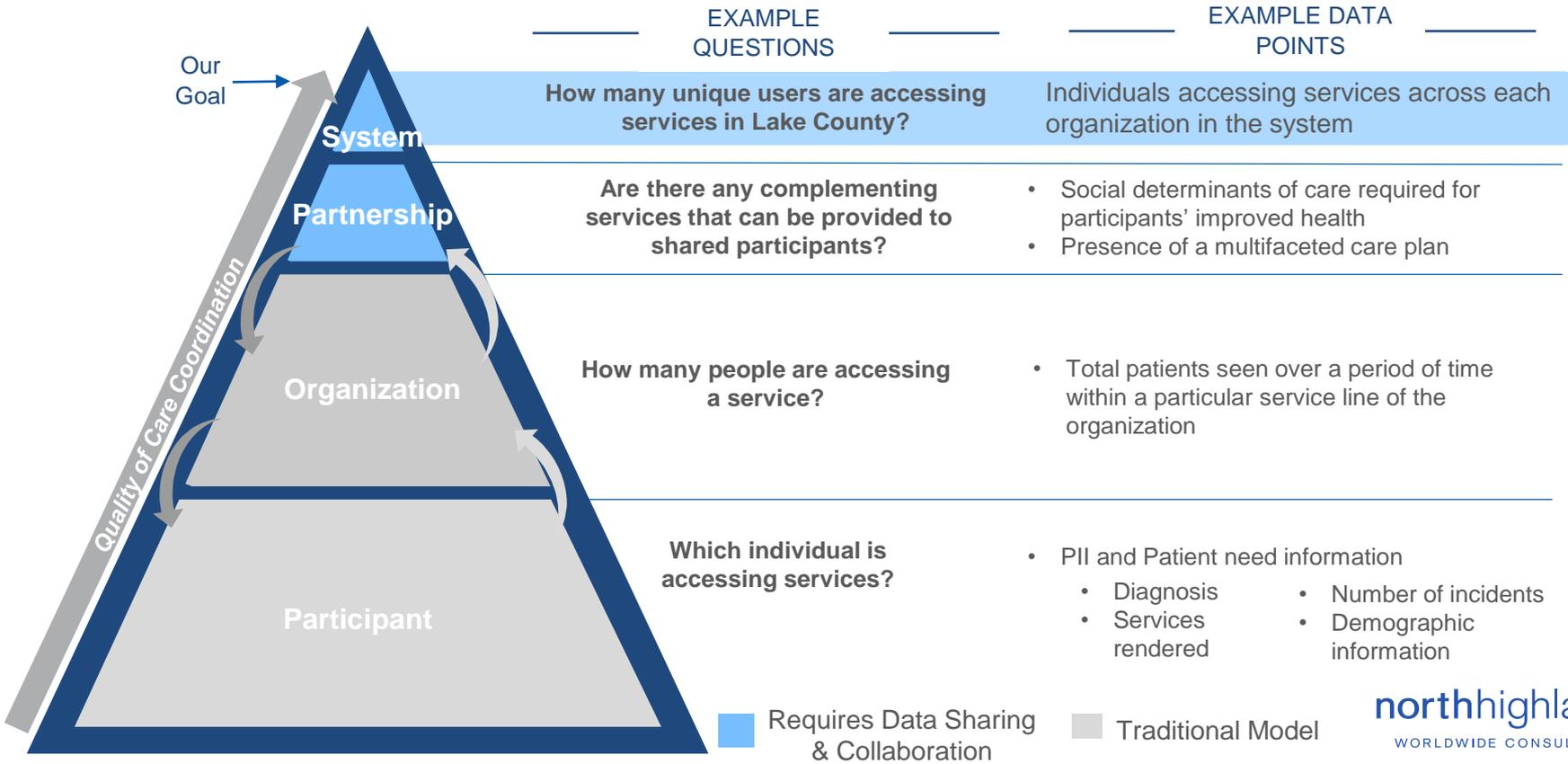
Automation reduces time spent on tasks (i.e. phone calls versus timely ADT messaging)

# DATA SHARING & ITS IMPORTANCE

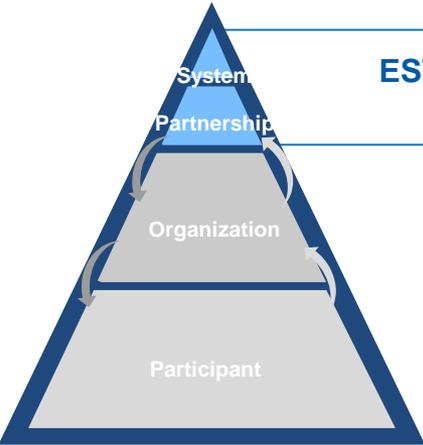
Data can exist across the county in four primary levels. Higher-quality, aggregate level data is the result of information moving up the hierarchy, although select data points can be derived from consolidated data at the organizational level.

As data is shared at a partnership or system level, the participant experience of care and the care coordination network improves. When organizations are coordinated, data is available at the system level to answer key questions.

The purpose of this project is to evaluate what data within each level can be shared so the organizations in Lake County can begin or enhance their operations as a systematic, coordinated care network.



# PROGRESS AND DIRECTION OVERVIEW



ESTABLISHING SYSTEMIC DATA SHARING REQUIRES IDENTIFYING THE APPROPRIATE STRUCTURE AND SUPPORT:

July

## Preceding Steps

- Conduct a gap analysis of data currently shared by the various sectors
- Find cross sector data sharing models

August

## Current Steps

- Interview comparable data sharing models
- Understand the various values, enablers and drawbacks of each model
- Identify legal barriers and best practices per model
- Propose models for Lake County to consider and modify to make evidenced based decisions
- Align on key decisions and model preferences

September - October

## Subsequent Steps

- Reflect on key decisions and their applicability within your organization and services
- Research participation requirements and barriers internally
- Discuss modifications and wish lists for future data sharing

# FACILITATED DISCUSSION TO ALIGN ON A DATA SHARING VISION FOR LAKE COUNTY



## August 21, 2017

- **Purpose of workshop:** **Begin to Align** on a data sharing model and data measurements
- **Content:**
  - **Discuss** *Cross System Collaboration Data Sharing Models being employed in other communities*
  - **Facilitated discussion** – *What is Possible for Lake County*
    - **Review** *Key Information/Questions needing answers for Lake County*
    - **Review** *Data that could be used for answering key information/questions*
    - **Review** *possible data sharing models that could be used for Lake County*
  - **Exploration and discussion of possibilities** - no decisions
  - **Next steps - Homework** – Review content with your organization come prepare

## September 11, 2017

- **Purpose of workshop:** **Continue to Align** on a data sharing model and data measurements
- **Content:**
  - Review materials from the August 21 workshop
    - **Discuss preferences** for Information/Questions needing answers for Lake County
    - **Discuss preferences** for Data that could be used for answering key information/questions
    - **Discuss preferences** for what is possible for data sharing models that could be used in Lake County
    - **Discuss opportunities and challenges** that will need to be over come
  - **Begin to coalesce** on a data sharing model
  - **Next steps** – begin to explore with stakeholders their desire, capabilities and plans to participate in data sharing.

# FEW COMMENTS ABOUT OUR WORK TODAY

## ***Begin to Align on a future data sharing model***

- Our purpose today is to share information in manner that assists in developing ideas of what is possible in Lake County.
  - **Materials are not intended to suggest what is to be**, they are provided as background.
  - The materials build on each other to assist in arriving at a future vision, no one piece of material is intended to stand on its own.
  - **We are not making decisions today** but rather we are to be learning and exploring options.
  - You'll have time to consider and identify for yourself over time what you think will work for Lake County and share these contribution with the Coalition to support future decision making.
  - We eventually will come to conclusion as a community about what data sharing model(s) to move forward with - but not today.

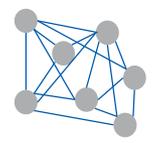
# *Data Sharing Frameworks*

# THEORETICAL MODELS FOR EXPLORATION

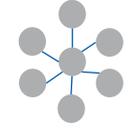
Increasing technology, complexity, communication, and robustness →



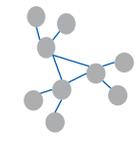
**SILOS**



**POINT TO POINT**



**CENTRAL REPOSITORY**



**HYBRID**

**Definition**

<ul style="list-style-type: none"> <li>Limited or no communication externally of data</li> </ul>	<ul style="list-style-type: none"> <li>Entities send information to some other single entity in discrete transactions</li> </ul>	<ul style="list-style-type: none"> <li>All participating orgs contribute to a central data hub and can pull appropriate information as needed</li> </ul>	<ul style="list-style-type: none"> <li>Provides various combinations of the other models</li> </ul>
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**Pros**

<ul style="list-style-type: none"> <li>+ Requires no shared governance structure</li> <li>+ No reliance on other organizations</li> </ul>	<ul style="list-style-type: none"> <li>+ High degree of control of what information is seen and by whom</li> <li>+ Low technology cost</li> </ul>	<ul style="list-style-type: none"> <li>+ Allows for more sophisticated, cross sector data points</li> <li>+ Governance is established at beginning</li> </ul>	<ul style="list-style-type: none"> <li>+ Allows for more sophisticated, cross sector data points</li> <li>+ Leverages existing infrastructure and technology in place</li> <li>+ Model allows flexibility for growth and evolution to future state</li> </ul>
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**Cons**

<ul style="list-style-type: none"> <li>- Long-term economic loss for community</li> <li>- Is not a patient centered approach</li> </ul>	<ul style="list-style-type: none"> <li>- Operation dependencies for submission and receipt processing</li> <li>- Significant limitations for system-wide data</li> </ul>	<ul style="list-style-type: none"> <li>- Most expensive to execute, generally</li> <li>- Requires most buy-in from participants</li> </ul>	<ul style="list-style-type: none"> <li>- Challenges coordinating different technology</li> <li>- Might require on-going data governance</li> </ul>
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**Potential Methodologies**

<ul style="list-style-type: none"> <li>Methodology only dependent on organizations needs</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls</li> <li>Emails</li> <li>Faxes</li> <li>Direct messages</li> <li>Paper</li> </ul>	<ul style="list-style-type: none"> <li>Data warehouse</li> <li>Health Information Exchange (HIE)</li> </ul>	<ul style="list-style-type: none"> <li>Combination / mixture of other methodologies</li> </ul>
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**Each model has its benefits and challenges and can be blended or customized to meet the needs of Lake County.**

# THEORETICAL APPLICATION

- **Models are not prescriptive across communities** as there is no 'one size fits all' and legal, technical and operational barriers dictate the end architecture of a data sharing program.
- Each program addressed its respective barriers, but early identification of those barriers enables a smoother, faster implementation.
- **Models will evolve over time** and enable programs and services catered to the needs of the community.
- **Most data programs evolve into the hybrid model over time.**
- Initial steps are better than no steps.
- Regardless of the model selected, **data governance rules need to be established and agreed upon across participating entities.**
- A range of technology can help support each program, from excel to an HIE.
- The following example information was pulled from available information and conversations where possible. These examples are provided **for the purposes of brainstorming what could best serve Lake County.**

*Example*

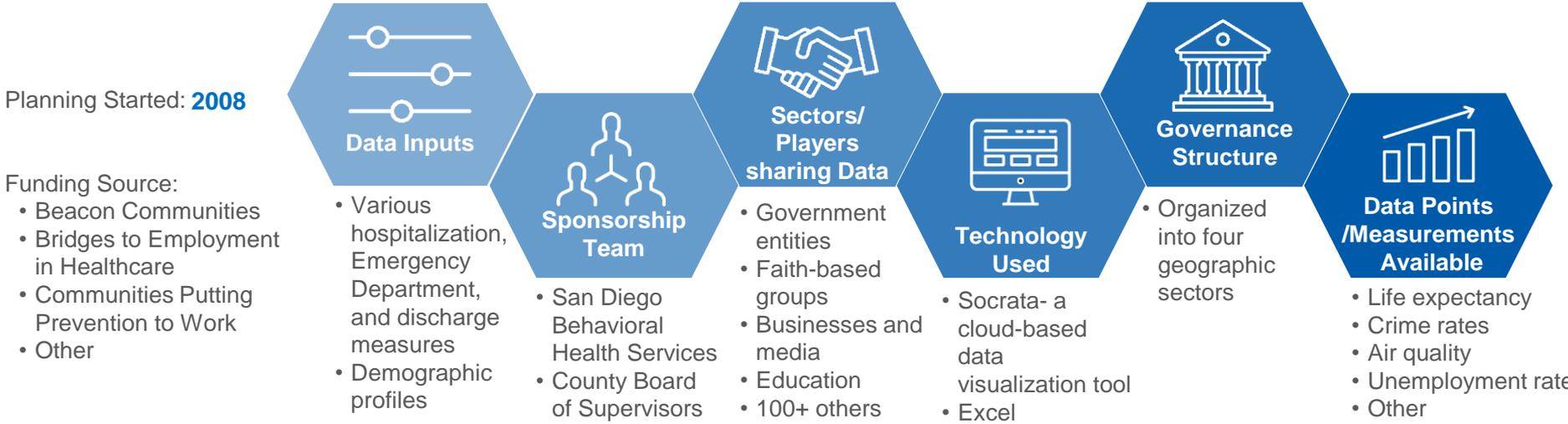
*Cross System Collaboration Data Sharing  
Models*



# SAN DIEGO, CALIFORNIA

## LIVE WELL SAN DIEGO

“Live Well San Diego” is a collection of otherwise unaffiliated entities, anchored by the County Board of Supervisors, of many disparate community organizations aiming to improve the health, safety, and quality of life of San Diego residents by sharing knowledge and best practices. Their aim is not mental health specific but rather to improve quality of life as measured by ten metrics contributing to an estimated 50% of deaths in San Diego County.



**Programs and Benefits Enabled:**

- *The 3-4-50 study*, which surfaced that 3 issues leading to 4 diseases lead to 50% of deaths, gave rise to the 10 health and wellness metrics the county elected to pursue.
- Breadth of partnerships allows for large scale marketing for community events such as a 5K

**Key Enablers and Differentiators:**

- No HIPAA-protected information is shared- low barriers and risk
- More than 120 organizations contribute to the breadth of information in monthly summit-style meetings

# SAN DIEGO, CALIFORNIA

## LIVE WELL SAN DIEGO

### Purpose and Origins

- Live Well San Diego has some of its origins in the 3-4-50 study. This study found 3 issues leading to 4 diseases which lead to 50% of deaths in SD county. This study began in 2008, the service was launched in 2010 to kick off a 10-year initiative to attack those 3 issues. To do so, Live Well San Diego created 10 community health benchmarks by which to measure progress on their 3-4-50 initiative.
- Those ten health benchmarks are: life expectancy, crimes per 100,000 people, % of days with unhealthy air quality, unemployment rate, (% of population) living independently, with a high school diploma, spending less than 1/3 of income on housing, living within 1/2 mile of a park, have experienced food insecurity, and who volunteer.

### Methodologies and Tools

- Live Well San Diego is a collection of 120+ organizations in and around San Diego. This partnership is anchored by the County Board of Supervisors and San Diego Behavioral Health Services. These organizations gather at summits to share knowledge and best practices to contribute to general population health and, specifically, to the 10 identified health factors. At these summits, information is passed between organizations in a more informal manner.
- Without sharing PII, these organizations see little need for significant governance measures as they circumvent HIPAA by not sharing detailed or protected information. This is carried out by only sharing aggregated or anecdotal information.

### Funding

- Funding sources include: Beacon Communities- \$1.7m, Bridges to Employment in Healthcare- \$25m, Communities Putting Prevention to Work- \$17.9m, Community Nutrition Expansion Project- \$700k, Low Income Health Program- \$50m, Community Transformation Grant- \$15.3m, Public Health Infrastructure Grant- \$350k, SNAP Participation Grant- \$900k

Sources include: [Livewellsd.org](http://Livewellsd.org), [sandiegocounty.gov](http://sandiegocounty.gov), [cuyamaca.edu/services/health/live-well-san-diego.aspx](http://cuyamaca.edu/services/health/live-well-san-diego.aspx), [healthinfo.org](http://healthinfo.org), Email exchange with Office of Strategy and Innovation for Live Well San Diego

# SAN DIEGO, CALIFORNIA

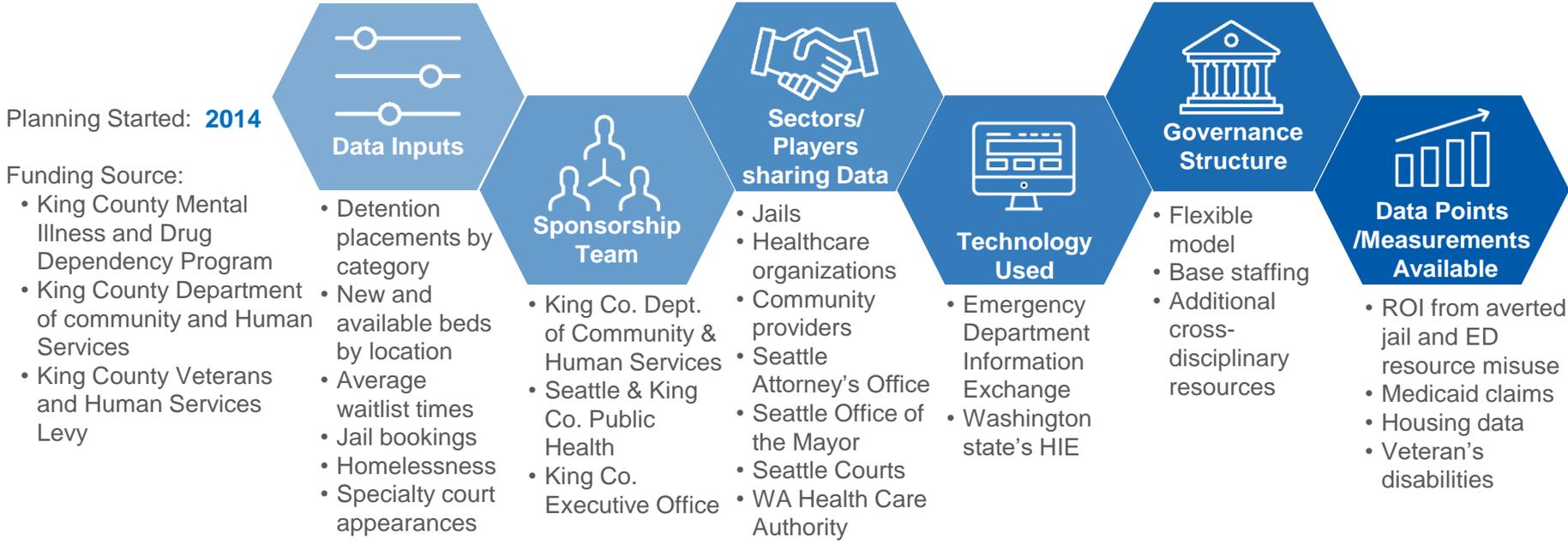
## Live Well San Diego Data Dashboard

  <span style="float: right;"></span>						
<i>Live Well San Diego Expanded Indicators</i>						
October 2016						
		 HEALTH	 KNOWLEDGE	 STANDARD OF LIVING	 COMMUNITY	 SOCIAL
Indicator	Measure	We want to increase this		San Diego	California	United States
		↑	↓			
<b>HEALTH - Enjoying good health and expecting to live a full life</b>						
Life Expectancy	Measure of length and duration of life expected at birth	↑		82.3 yrs (2013)	81.2 yrs (2012)	78.8 yrs (2013)
Cigarette Smoking	Percent of population who smoked cigarettes in the last 12 months	↓		16.5% (2016)	16.7% (2016)	20.5% (2016)
Exercise	Percent of population spending 2 or more hours exercising per week	↑		56% (2016)	53% (2016)	49.5% (2016)
Doctor Visits	Percent of population having visited a doctor in the last 12 months 6 or more times	↑		28.6% (2016)	27.8% (2016)	29.1% (2016)
Quality of Life	Percent of population that is sufficiently healthy to be able to live independently (not including those who reside in nursing homes or other institutions)	↑		94.9% (2014)	97% (2014)	96.9% (2014)
<b>KNOWLEDGE - Learning throughout the lifespan</b>						
Education: High School Diploma	Percent of population with a High School Diploma or equivalent	↑		85.2% (2014)	82.1% (2014)	86.9% (2014)
Less Than High School Diploma	Percent of population with less than a High School Diploma or equivalent	↓		14.8% (2014)	17.9% (2014)	13.1% (2014)
Bachelor's Degree or Equivalent	Percent of population with a Bachelor's Degree	↑		33.9% (2014)	31.7% (2014)	30.1% (2014)
Graduate or Professional Degree	Percent of population with a Graduate or Professional Degree	↑		12.9% (2014)	11.8% (2014)	11.4% (2014)
School Enrollment	Percent of combined gross enrollment of school aged population	↑		89.6% (2014)	90.4% (2014)	87.9% (2014)

# KING COUNTY, WASHINGTON

## FAMILIAR FACES

King County has established itself as a pioneer within the mental, emotional and behavioral health care coordination space. One program, “Familiar Faces,” acts as a systems coordinator for healthcare, justice, and community organizations to identify and intervene on behalf of heavy consumers of King County’s jail and ED resources. The long-term goal is to improve outcomes and reduce costs via an integrated data system by diverting users to the appropriate care when its needed to avoid misuse of high acuity services.



**Programs and Benefits Enabled:**

- Intensive Care Management Team provides comprehensive and integrated services for MH adults
- Participation in state-wide Managed Care Organization
- Improved: health status and housing stability
- Reduced: criminal justice involvement, avoidable ED use, and population health disparities

**Key Differentiators:**

- Used data matching to conclude 94% of all people with 4 or more jail bookings had a behavioral health indicator
- Has flexible staffing model in which only the minimum number of resources are staffed full-time but can be augmented during high volume periods

# KING COUNTY, WASHINGTON

## FAMILIAR FACES

### Purpose and Origins

- Familiar Faces began as a jail diversion program to better understand top utilizers. It evolved into a data integration platform and is set to become a data set analysis. King County community services and public health leaders started by convening both a management guidance team from relevant organizations as well as a project design team. Work began in 2014, services began July 2016, and the hope is to reach the stated goal of shifting from a costly, crisis-oriented response to one that focuses on prevention, embraces recovery without population disparities by 2020.
- An initial data matching effort demonstrated 94% of individuals in the King County jail had a mental or substance use disorder. This created consensus that something has to be done. This effort is similar to the Top 100 Frequent Flyer program in Lake County.

### Methodologies and Tools

- One tool, known as the Emergency Department Information Exchange (EDIE), is a proprietary data-sharing and real-time notification system currently being used by many healthcare providers in King County. The second system is the Washington State Health Care Authority's sponsored Health Information Exchange (HIE), known as Link4Health. King County already houses a range of client-level data including Medicaid claims, behavioral health, Veteran's, developmental disabilities, homeless services and housing data, county-provided employment services data, and county and municipal jail booking and release data.
- Data integration program enables: individual client "lookup" for direct care coordination, identification of high risk groups based on flexible criteria, system-level care coordination, extracting datasets based on flexible criteria, analysis of population health, and program evaluation and costs.

### Funding

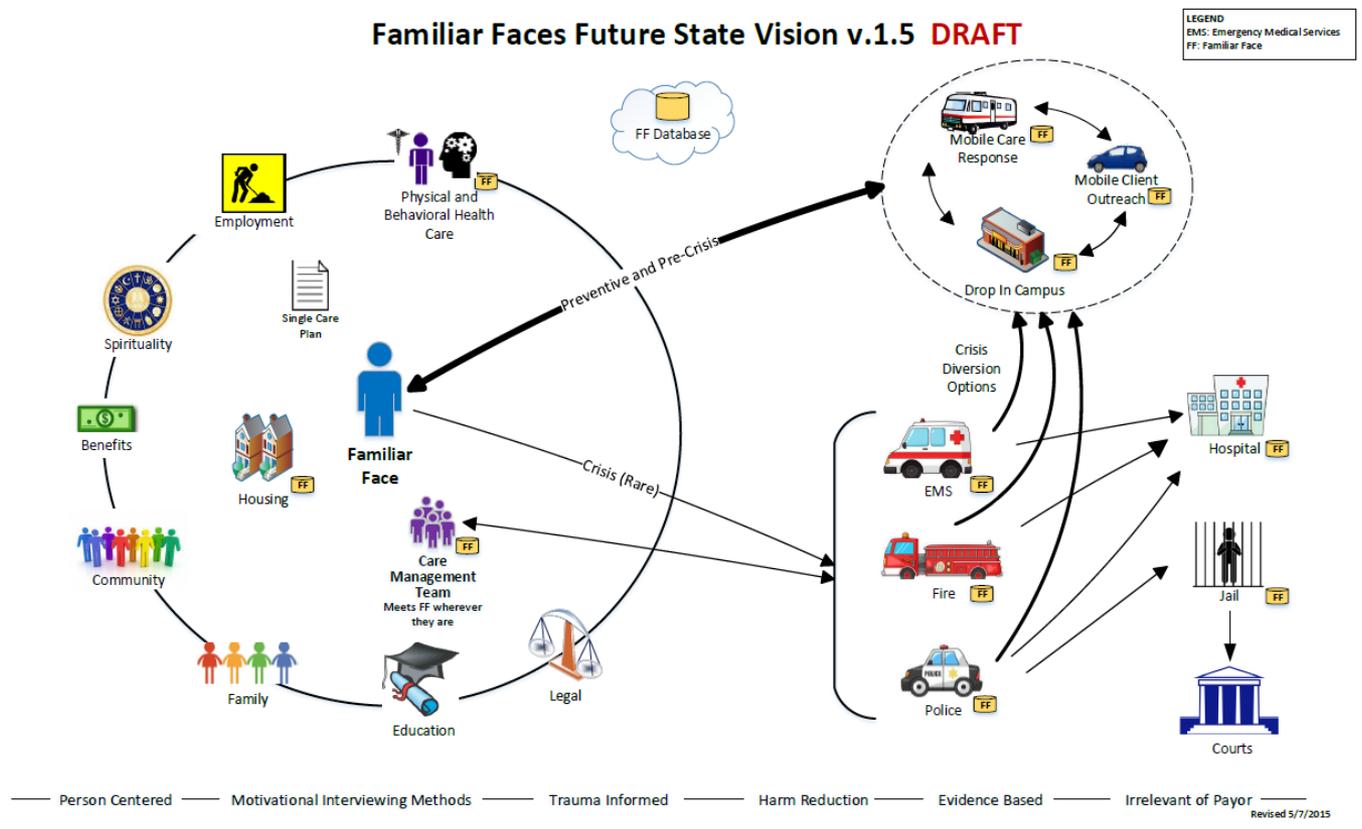
- Funding structures include King County Mental Illness and Drug Dependency and King County Department of Community and Human Services groups & King County Veterans and Human Services Levy.

Sources: [http://www.naco.org/sites/default/files/event\\_attachments/Familiar%20Faces%20Brief.pdf](http://www.naco.org/sites/default/files/event_attachments/Familiar%20Faces%20Brief.pdf) , <http://www.naco.org/sites/default/files/documents/DDJ%20Playbook%20Discussion%20Draft%202012.1.16.pdf> , King County Health and Human Services Transformation The Familiar Faces Initiative June 2016 and updates, Washington State HIE snapshot, Evaluation of the State Health Information Exchange Cooperative Agreement Program, kingcounty.gov, bizjournals.com, qualishealth.org

# KING COUNTY, WASHINGTON

## FAMILIAR FACES

Familiar faces is one of King County's programs and the below diagram is a visual depiction of how the county has operationalized a person centric model to improve a variety of outcomes.



**Participants include- 28 participating organizations across hospitals, healthcare centers, psychiatric centers, community organizations, care coordinators, homelessness groups, County Offices, Courts, Sheriff, and State Departments**

Source: <http://www.kingcounty.gov/elected/executive/health-human-services-transformation/familiar-faces.aspx>

# KING COUNTY, WASHINGTON

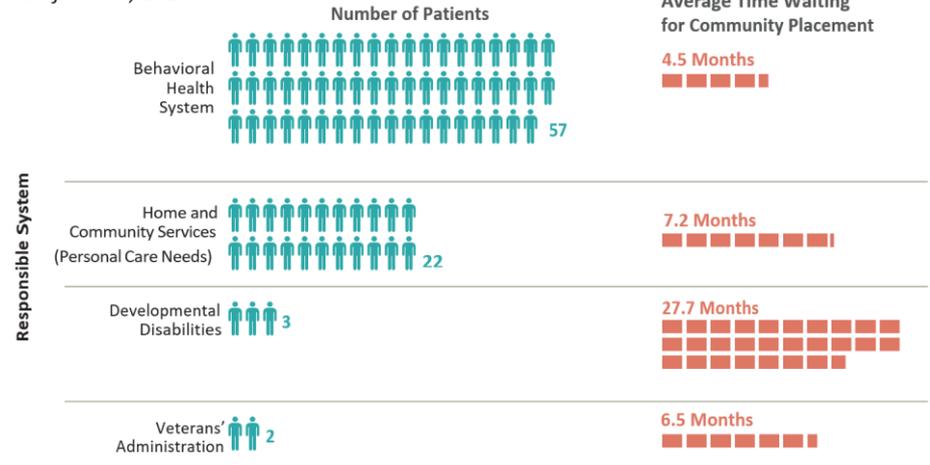
## PSYCHIATRIC BOARDING PROGRAM REPORT

Among many reports and data outputs, King County's data collection efforts can produce reports to outline the following:

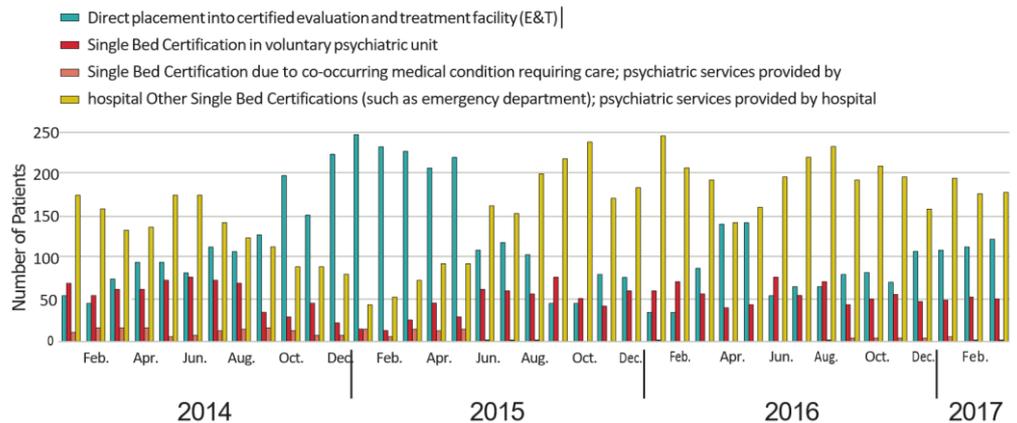
- Number of patients across the responsible system
- Average time patents within each system need to wait for community placement
- Utilization of crisis psychiatric services
- Hospital bed utilization
- Number of patients waiting for a group home
- Average waiting time for a group home
- Openings at group homes
- Patients waiting for supported housing
- Average time waiting for supportive housing
- Openings for supportive housing
- Average number of days on the wait list for state hospitals
- Access to King County E&T beds for acute cate patients by short term and long term orders
- Availability beds from select hospitals
- Estimated number of new E&T beds

### King County Patients Ready for Discharge from Western State Hospital (WSH)

As of March, 2017



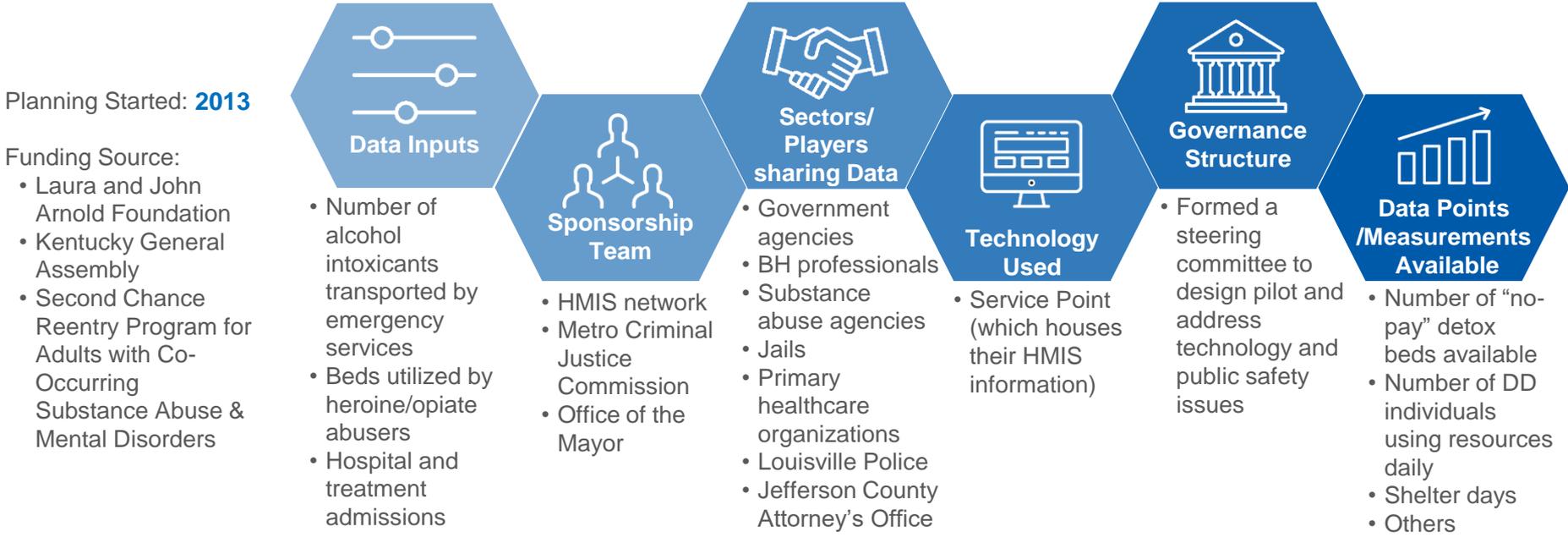
### King County Crisis and Commitment Services Detention Placements by Category



# LOUISVILLE, KENTUCKY

## COMMUNITY CARE MANAGEMENT NETWORK

The Dual Diagnosis Cross Functional Team (DDCFT) is a collaboration of government agencies, behavioral health professionals, and community organizations that came together to create the Community Care Management Network- a coordinated case management super-system. The CCMN taps into existing systems rather than having to be “hard fed” as more traditional systems do.



**Programs and Benefits Enabled:**

- Reduction of: number of jail admissions and bed days, shelter days, emergency service runs, inpatient psychiatric admissions, percent homeless, in-custody detox, number of ED visits

**Key Differentiators:**

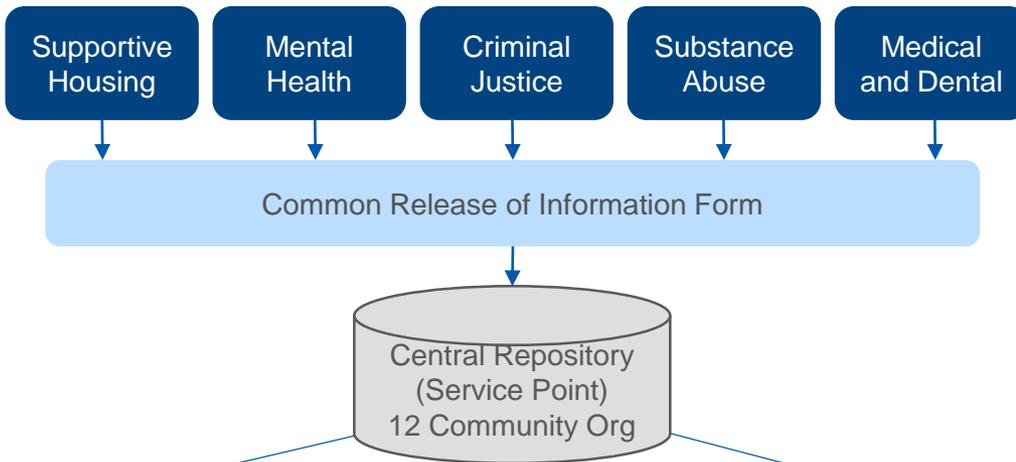
- Ubiquitous use of HMIS allows CCMN to retrieve information more easily
- Common MOU and information releases ease the burden of legal compliance for all involved organizations

# LOUISVILLE, KENTUCKY

## COMMUNITY CARE MANAGEMENT NETWORK

### Community Care Management Network Data Process Flow

1. Participant or high utilizer is referred from one of these entities for systemic case management
2. Ask that a release of information be signed
3. Release of information and patient name uploaded into Service Point
4. Ancillary information entered into Service Point
5. 12 participating organizations track those participants



#### Outcome Measures

- Reduction in the number of jail admissions and bed days
- Reduction in shelter days
- Increase in mental health/substance abuse treatment retention
- Reduction in numbers of Louisville Metro Emergency Medical System runs
- Reduction in percent homeless
- Reduction in number of inpatient psychiatric admissions and hospital days
- Increased in number of ACA/Medicaid enrollments
- Reduction in the in custody detox population
- Reduction in the number of emergency department visits

### Lake County

Several community organization leverage Service Point to track select information on participants. It serves as the central repository for homelessness information and complements a variety of other internal systems for data within the organizations that use the program. Additional fields and reporting capabilities are currently being investigated.

#### Organizations enter the following data:

1. Household Size
2. Where Housed/Sheltered
3. Homeless Service Treatment Providers
4. Vulnerability Index
5. Sources/amount of Income
6. Primary Care Provider
7. Required Data Fields ( name, Gender, Ethnicity, Cell, Birth Date, Race, SSN, Veteran Status)

#### Aggregated Data

- # Homeless
- # Unsheltered Homeless
- # First Time homeless
- # Increase Income
- Average Time Homeless
- From where enter homelessness
- To where exit homelessness
- Housing Stability
- Who is homeless (Families, Veterans, people with disabling condition)

northhighland.

WORLDWIDE CONSULTING

# LOUISVILLE, KENTUCKY COMMUNITY CARE MANAGEMENT NETWORK

## Common Release of Information for Louisville DDCFT

The form outlines

- the purpose of the form and sharing data
- all participating entities
- The type of data being shared

Considerations:

- People can opt out by not signing the release form, meaning the total N ay not be captured
- Options and specificity outlined in release forms would need to be received, monitored, and controlled by the data warehouse system
- New entrants may require new release forms and disrupt availability of existing data and require new signatures
- Electronic documents and secure email contact may help this program evolve

**AUTHORIZATION FOR MULTI-PARTY RELEASE OF HEALTH INFORMATION  
INCLUDING MENTAL HEALTH AND ALCOHOL OR DRUG TREATMENT**

The purpose of this consent is to facilitate referral(s) for treatment, case management, treatment planning, coordination of medical care and other services among providers participating in the COMMUNITY CARE MANAGEMENT NETWORK.

\_\_\_\_\_  
(Print Patient's Name) (AKA) (Date of Birth)

**I hereby authorize** \_\_\_\_\_  
(Name of Requesting Agency) (Address) (Phone)

**to share my health information with these agencies participating in the COMMUNITY CARE MANAGEMENT NETWORK:** *(Please delete and initial any agency to which disclosure is NOT permitted.)*

Jefferson Alcohol and Drug Abuse Center	Louisville Metro Department of Corrections-Inmate Health Services
MetroSafe	The Healing Place
Greater Louisville Medical Society	The MORE Center
Louisville Metro Public Health and Wellness	Our Lady of Peace
University of Louisville Hospital	Wellspring
Phoenix Health Care Center	Bridgehaven
Family and Children's Place	Seven Counties Services
Coalition for the Homeless	Louisville Metro Department of Community Services and Revitalization
Veterans Administration	

Other: \_\_\_\_\_  
(Agency Name) (Address) (Phone)

**I give my permission for the following information to be disclosed:**  
*(Please delete and initial any information that is NOT to be disclosed.)*

• Initial Evaluation	• Treatment/Referral Plan	• Treatment Progress
• Laboratory Tests	• Medication History	• Discharge Summary
• Psychiatric Evaluation	• Medical/Physical History	• History/Psychosocial
• Treatment Information which may include Human Immunodeficiency Virus (HIV) Infection, Acquired Immunodeficiency Syndrome (AIDS), or Tests for HIV	• Alcohol and Other Drug Use, Abuse, and/or Treatment Information	• Other: _____
	• Utilization History	

I understand that my alcohol and/or drug treatment records may be protected by 42 CFR Part 2, Confidentiality of Alcohol and Drug Abuse Patient Records, and by KRS 304.17A-555. I further understand that information disclosed as a result of this authorization may no longer be protected by any applicable federal and state privacy laws, and may be disclosed by the entity or individual receiving my information.

# LOUISVILLE, KENTUCKY

## COMMUNITY CARE MANAGEMENT NETWORK

### Purpose and Origins

- The impetus for this initiative came from the mayor with the initial focus on individuals with co-occurring disorders, This initial call to action group included the HMIS network and the Metro Criminal Justice Commission.
- Louisville-Jefferson County Metro, Ky., developed a cadre of community partners to share information and pursue innovative solutions to identify, coordinate and deliver care to individuals who frequently use public services. This collaboration, known as the Dual Diagnosis Cross Functional Team (DDCFT), is composed of government agencies, behavioral health professionals and community organizations serving people with mental illnesses and substance abuse disorders. HIPAA regulations prohibit community providers from sharing this data with the jail but the jail is free to share names and dates of birth with the provider, putting the onus on the provider to do the analysis.
- It took approximately 4 years from the time of the first study to going "live."

### Methodologies and Tools

- The DDCFT is a cross-sector collaboration formed to create a case management super-system with its own "select sharing agreement." This body created the Community Care Management Network (CCMN) which is the community-facing, active arm of the DDCFT and acts as the case management system.
- Significant features include common MOU and release of information documentation and all participants' utilization of HMIS/Service Point.
- The DDCFT utilizes the Homeless Management Information System (HMIS) as the backbone for the new network, which is comprised of the participating community organizations. The HMIS system is operated statewide by the Kentucky Housing Corporation and coordinated locally by the Coalition for the Homeless. The system employs ServicePoint Software for case management and tracking purposes and will supports the information sharing and case management needs of participating network agencies with only minor modifications. Using the HMIS, participating organizations can view and track individuals as they encounter other organizations in the CCMN. (<https://louisvilleky.gov/government/criminal-justice-commission/dual-diagnosis-cross-functional-team>)

# LOUISVILLE, KENTUCKY

## COMMUNITY CARE MANAGEMENT NETWORK

### Funding

- Funding comes from grants from Laura and John Arnold Foundation, Kentucky General Assembly, and the Second Chance Act Reentry Program.

- Sources include: <https://louisvilleky.gov/government/criminal-justice-commission/dual-diagnosis-cross-functional-team>, <http://www.naco.org/articles/what-about-data>, Montgomery County Community Health Assessment And Community Health Improvement Plan 2016-2019, healthinfolaw.org, and the Louisville Metro Government Dual Diagnosis Cross-Functional Team 2<sup>nd</sup> Annual Report-out Session.

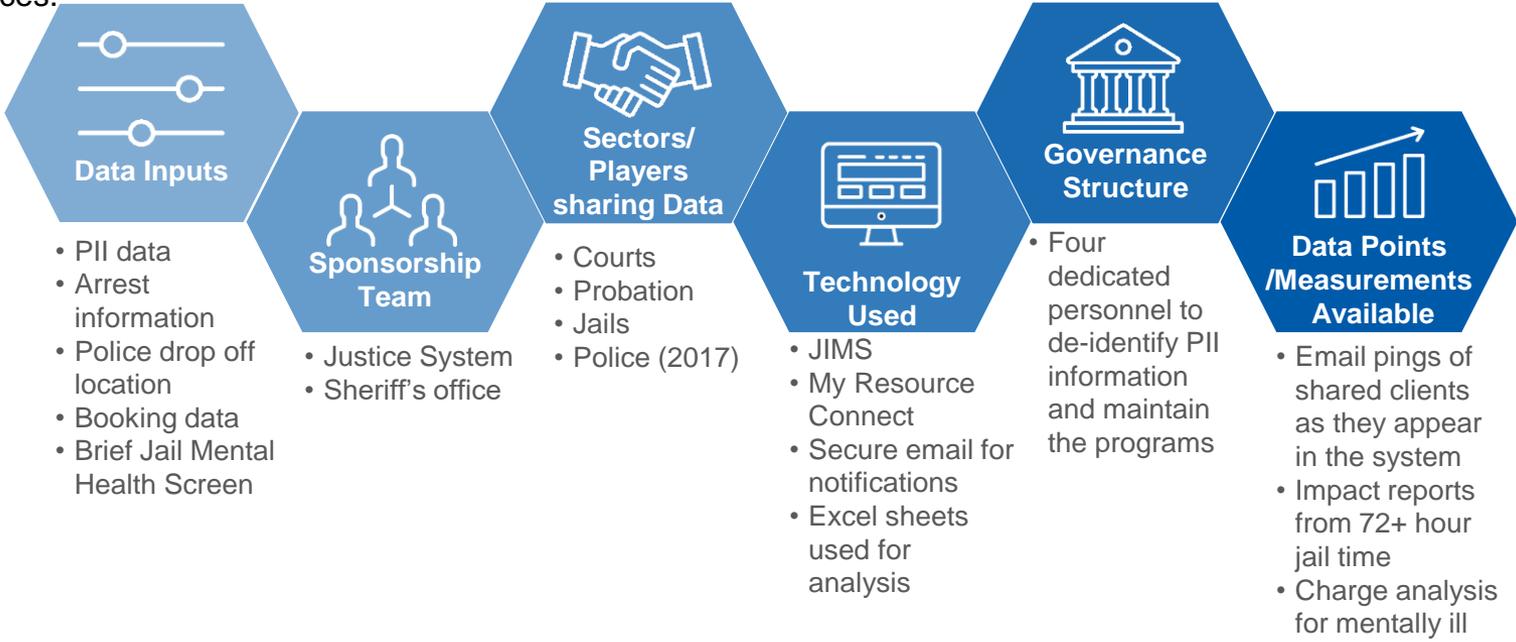
# JOHNSON COUNTY, KANSAS

The Johnson County program exemplifies the power that a single system, improved coordination, and early detection can have on individuals' overall health. Johnson County "Stepping Up" began with all partners in the justice system using their Justice Information management System (JIMS) program and later included My Resource Connect. My Resource Connect receives a few pieces of identifiable information, de-identifies the information and stores it within a central repository that then notifies organizations of a shared client to improve care coordination. This effort has resulted in several data driven programs and services.

Planning Started: **1993**

Funding Source:

- National Association of Counties
- Council of State Governments Justice Center
- American Psychiatric Foundation



- Data Inputs**
- PII data
  - Arrest information
  - Police drop off location
  - Booking data
  - Brief Jail Mental Health Screen

- Sponsorship Team**
- Justice System
  - Sheriff's office

- Sectors/Players sharing Data**
- Courts
  - Probation
  - Jails
  - Police (2017)

- Technology Used**
- JIMS
  - My Resource Connect
  - Secure email for notifications
  - Excel sheets used for analysis

- Governance Structure**
- Four dedicated personnel to de-identify PII information and maintain the programs

- Data Points /Measurements Available**
- Email pings of shared clients as they appear in the system
  - Impact reports from 72+ hour jail time
  - Charge analysis for mentally ill

**Programs and Benefits Enabled:**

- Several longitudinal and multiple factor statistical analysis, i.e. Charges for MEB population
- Program in which care coordinators call recently released individuals to assess needs and connect them to services to improve chances of success and lower recidivism

**Key Differentiators:**

- All participating organizations use JIMS- Justice Information Management System
- Quicker identification of shared patients improves timely access to services
- Brief Jail Mental Health Screen quickly identifies those with mental health needs

# JOHNSON COUNTY, KANSAS

## Purpose and Origins

- Johnson County joined the “Stepping Up” program to address over-incarceration of the vulnerable, mentally ill population. Washington DC, Miami FL, and Sacramento CA were also part of the pilot. However, for Johnson City’s purposes, this initiative has its roots in 1993 when the court systems implemented JIMS.
- Johnson County enjoys a strong sponsorship team consisting of: the National Association of Counties, Council of State Governments Justice Center, American Psychiatric Foundation and the Justice System chief operating officer. The Sheriff’s Department encountered barriers to adoption and was the last to subscribe.

## Methodologies and Tools

- Johnson County built a new tool to pull in data from JIMS (Court System) and other entities and surface it through another customized program- My Resource Connect.
- JIMS houses all court data. Participants receive notifications if a shared client has encounters across the system. Select identifiable data points are sent and then deidentified on the back end, after a universal identifier is provided.
- Hospitals are not included, nor are 42 CFR organizations. This initiative is compliant with HIPAA through log-in and access rights in My Resource Connect.
- A Brief Mental Health Screen is to be conducted within 72 hours of booking which also provides additional data for reference and analyzation.
- My Resource Connect is managed by a team of four individuals responsible for patient data deidentification. Additionally, the initiative partners with programs, universities, or other organizations for additional analysis resources.
- Data collected has helped to understand trends for the mentally ill inmate population and identify areas of intervention, such as a program where care coordinators reach out to individuals within 24 hours of release.

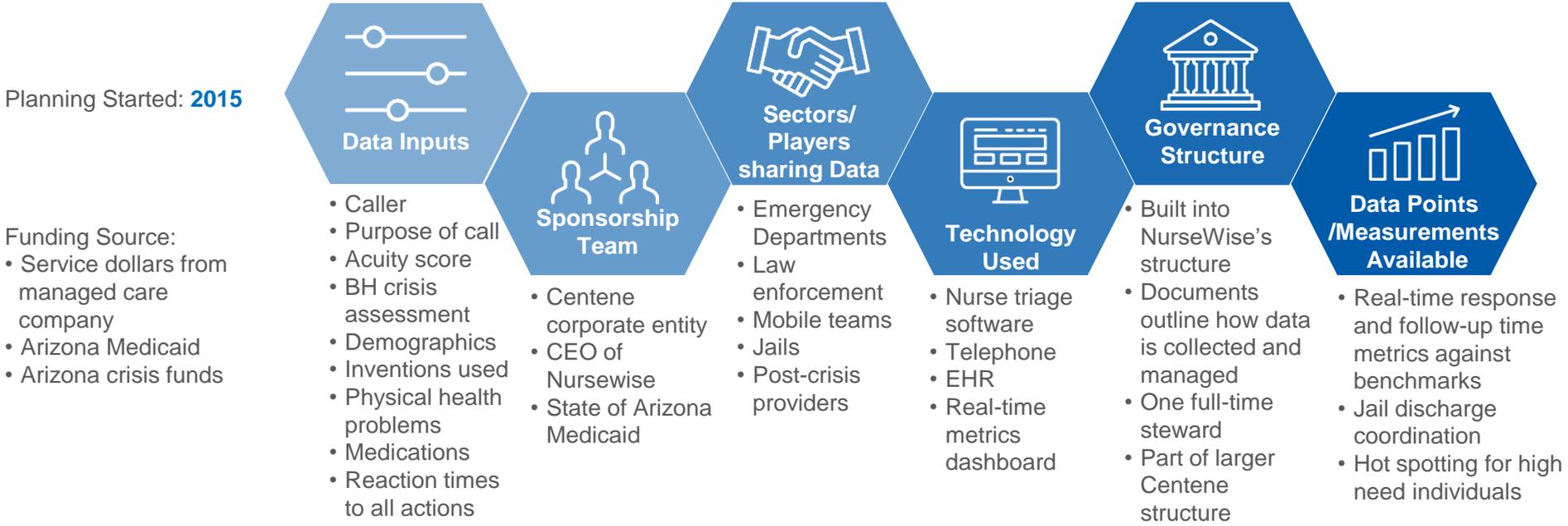
## Funding

- Funding structures include: the National Association of Counties, the Council of State Governments Justice Center and the American Psychiatric Foundation.

Sources: [healthinfo.org](http://healthinfo.org), [jocogov.org](http://jocogov.org), [khi.org](http://khi.org), [csgjusticecenter.org](http://csgjusticecenter.org), [kansascity.com](http://kansascity.com) (Kansas City Star)

# SOUTHERN ARIZONA NURSEWISE

The Arizona State Medicaid program requires in its contacts with managed care organizations to utilize innovative approaches to improve outcomes, reduce costs, and be responsive to individual/families and system partners. Centene corporation has the contract in Southern Arizona and had instituted the use of a “commend and control center” through NurseWise for facilitating access to urgent and routine care. The call management system and electronic health record was developed to facilitate access and capture data for system reporting.



### Programs and Benefits Enabled:

- Ability to track data such as call and response times against contractual requirements in real time
- Geo-map capabilities to identify mobile crisis team with shortest response time, real time transmission of clinical data to mobile team
- Centralized scheduling for urgent and routine appts to community providers

### Key Differentiators:

- Acts a central hub connecting in-crisis individuals to mobile teams, access to crisis beds, and follow-up providers
- Protocols for addressing needs of emergency departments, law enforcement, jails, child protective services established – specific data points collected and reported on – e.g. # referrals, timeliness and outcome/dispositions

# SOUTHERN ARIZONA

## NURSEWISE

### Purpose and Origins

- NurseWise is the single crisis line for all of southern Arizona and functions as the information hub for that geography.
- Medicaid is forcing health plans to be more responsive to cost efficiencies and outcomes- forcing them to be more responsive to people in crisis, child welfare, justice, and those with high service needs.

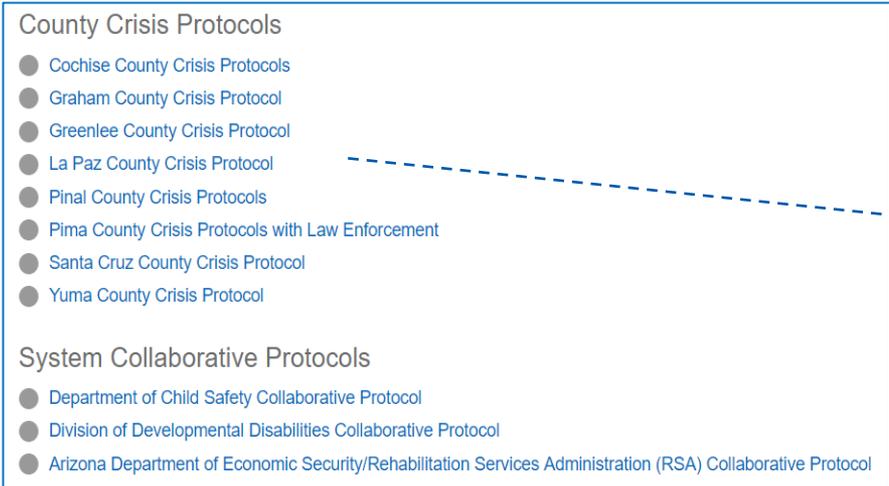
### Methodologies and Tools

- NurseWise acts a central hub between mobile teams and law enforcement. NurseWise is capable of real time exchange with the mobile teams, as their EMR is connected to the mobile teams' mobile phones. Police calls are prioritized, using the same dispatch technology from the mobile team system. After assignments are made, pings are sent to mobile phones. If a mobile team is on site for a significant period of time the dispatcher is pinged. The mobile teams sends in information about care, acuity, next steps, and disposition. The goal is to leave the individual in the community.
- Mobile teams and crisis staff have access to online scheduling for service providers (centralized scheduling) for urgent and routine care by community behavioral health providers.
- Process flow: calls come in, data is captured, call management system and EMR put out real time information, daily reports from prior day generated. These reports include: volume, timeliness against metrics, and the exception report.
- HIPAA allows for coordination with crisis call centers. Law Enforcement can share information with Nursewise who can then transmit it to the mobile teams.
- Arizona's Statewide HIE has 2 year plan to connect all hospitals, community health providers and behavioral health providers. NurseWise is participating in that plan to share crisis data and receive other data.
- There are plans to transition some of the daily reporting into dashboards for the community.

# SOUTHERN ARIZONA

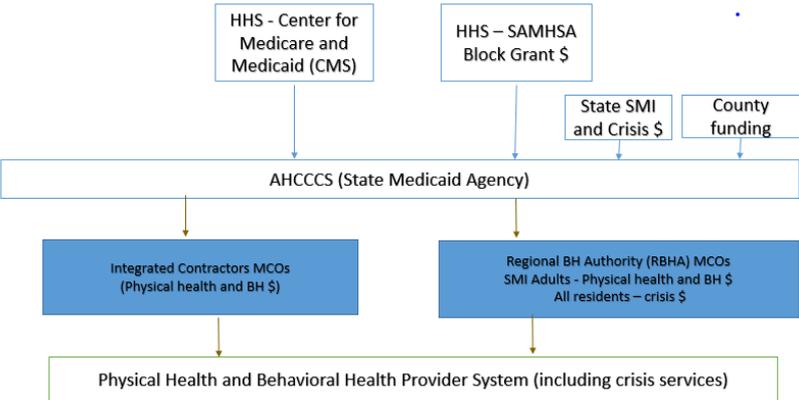
## NURSEWISE

- The 8 counties within Southern Arizona agreed upon their own protocols and standards across a host of services and partnered with system collaboratives, such as the department of children safety and developmental disabilities, to establish system wide goals. These protocols also outline Tribal agreements and approve providers.



- Protocols include, but are not limited to the following:
- Key definitions for crisis
  - Relationship with Law Enforcement and interactions while on site
  - Crisis line availability
  - Mobile team territories within each county
  - Warm Lines
  - Critical Incident Stress Management involvement,
  - Relationship with and interaction in the Jail or Detention center
  - Emergency admissions into behavioral health inpatient facilities
  - Assistance in emergency rooms as needed

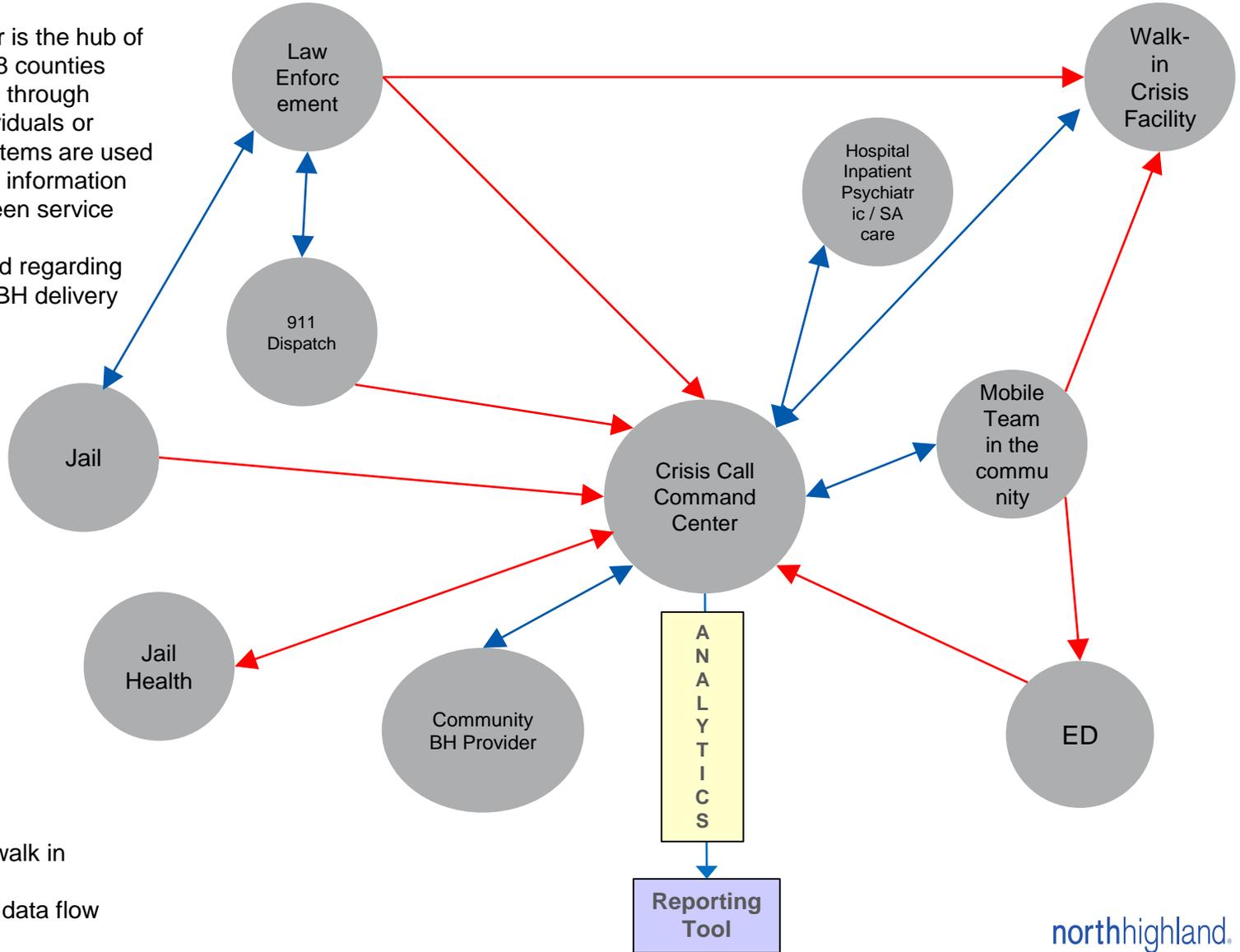
### Funding and Sources



- Sources include: AHCCCS's Building a Health Care System: Care Coordination and Integration, <https://www.cenpatointegratedcareaz.com/inthecommunity/crisis-intervention-services.html>, <https://www.cenpatointegratedcareaz.com/inthecommunity/system-partner-resources.html>, <https://www.cenpatointegratedcareaz.com/inthecommunity/system-partner-resources.html>

# SOUTHERN ARIZONA NURSEWISE

The Crisis Call Center is the hub of collecting data for all 8 counties (roughly 3 mil people) through phone calls from individuals or system partners. Systems are used to facilitate the flow of information and connection between service providers. Reports are developed regarding the operations of the BH delivery system.



Red – phone call or walk in  
 Blue – data transfer  
 Arrows – direction of data flow

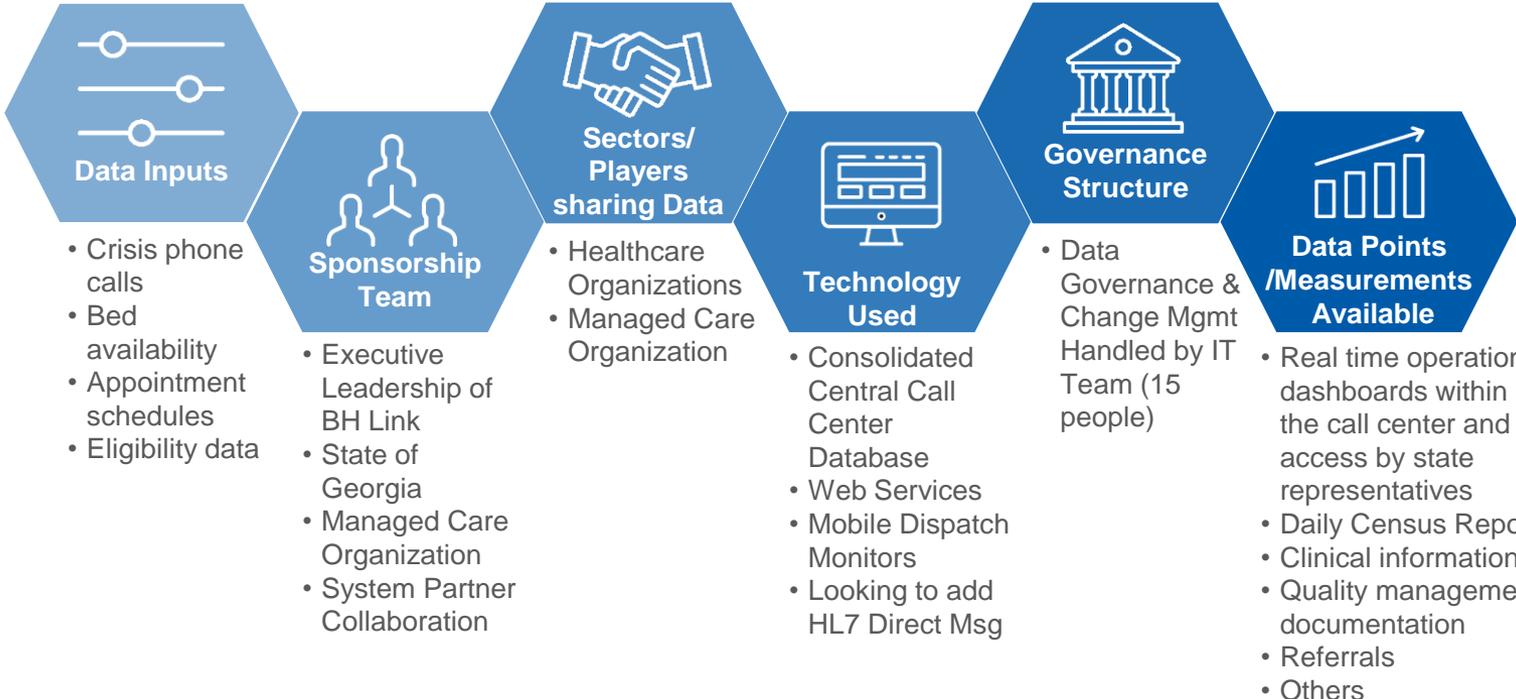
# GEORGIA

## BEHAVIORAL HEALTH LINK

In 2006, BHL began a unique collaboration with the state of Georgia to form the *George Access and Crisis Line*, a single statewide crisis call center to facilitate access to routine care or help in a crisis. The collaborative is intended to serve individuals and families and be responsive to system partners such as law enforcement and emergency departments. A hallmark of the operations is provide real-time and incremental data /reports so there is statewide transparency of the service delivery system.

Planning Started: **1998**

Funding Source:  
 • Funding for the technology and reporting is obtained through their overall service funding.



**Programs and Benefits Enabled:**

- Single number for access to care or help in a crisis
- Mobile clinicians assess more than 600 individuals per month at their residence, in the community (park, social service agency), in the emergency departments to disposition them to the community and meet with law enforcement in the street as needed

**Key Differentiators:**

- Consolidated database with all necessary data
- Mobile teams are dispatched electronically
- Real-time operational dashboards
  - Mobile team availability, timeliness
  - Beds boards for inpatient / crisis care

# GEORGIA

## BEHAVIORAL HEALTH LINK

### Purpose and Origins

- BHL was founded in Atlanta in 1998 when the county decided to model other successful ventures. The organization started with a single number for crisis care across Georgia Department of Behavioral Health & Development Disabilities. In 2005, it won its bid for the Georgia state-wide crisis hotline and web-based internet service.
- The organization has continued to evolve the use of technologies to be more responsive clinically and offer transparency to the community.

### Methodologies and Tools

- BHL develops fully customizable software (in conjuncture with RI International) "to assist our call takers in managing the complexity of crisis calls while capturing vital information necessary to ensure we link individuals to the most appropriate care available." BHL then sells software packages/programs to other entities.
- The primary purpose of BHL's software tools is data collection.
- The software is designed to capture crisis call center generated clinical information, quality management documentation, mobile crisis assessment data and to manage bidirectional, electronic referrals to outpatient services, mobile crisis teams, crisis stabilization units, and inpatient facilities. Additionally, the software tracks the progress of referrals and availability of resources in real time and provides interactive dashboards and complex reporting solutions designed to measure the efficiency and the effectiveness of the process.
- The crisis center is staffed with social workers 24/7.

### Funding

- Funding is in part supplied by Medicaid and state resources.

### Sources-

- <http://behavioralhealthlink.com/>
- Interview with BH Link CEO, Wendy Frammer

# GEORGIA

## BEHAVIORAL HEALTH LINK

Behavioral Health Link is a real time dashboard measuring key metrics on the response time and availability of resources across Georgia.

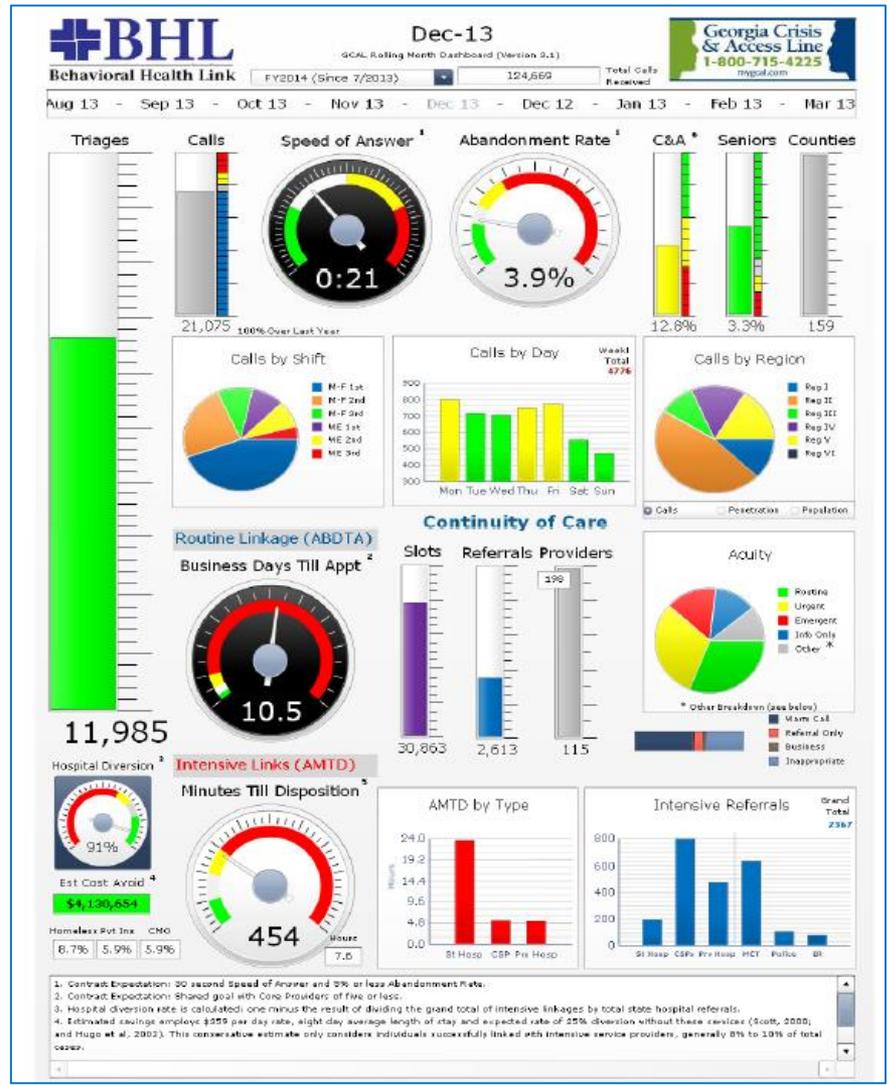
- Key metrics include:
- # of triages completed
  - # of calls by region
  - # of referrals
  - % of hospital diversion

Behavioral Health Link then provides reports on a monthly basis regarding their Call Center Operations and performance.

The state also has real time access to the dashboard

Behavioral Health Link also provides a daily census report that includes the number of beds filled daily.

### Example Monthly report



# CAMDEN COALITION OF HEALTHCARE PROVIDERS

The Camden Coalition of Healthcare Providers has several models and initiatives for data sharing among its partners that has evolved over time:

## Camden Coalition Health Information Exchange (HIE) 2010

- Objective - Linking patient data across systems for improved care delivery. The Camden Coalition HIE is a web-based technology offering participating local and regional health care providers secure, real-time access to shared medical information.
- **Exchange of data is bi-directional**, facilitates sharing of detailed clinical data **among primarily healthcare organizations**: hospitals, physician practices, laboratory and radiology groups, and other health care organizations.
- Currently, there is **no exchange of data to non-healthcare organizations** – organization are able to only view HIE data.

## Camden Administrative Records Integration for Service Excellence (ARISE) 2015

- Objective - Combines information from public data systems to create a multi-dimensional picture of citywide challenges. By linking information from multiple data systems, including criminal justice, health care, and housing, Camden ARISE can help drive better decisions about allocation of resources and address the root causes of recurring public problems.
- **Exchange of data is unidirectional**, project's first phase integrates data from the Camden County Police Department with claims data from regional hospitals to shed light on overlapping issues in health care and public safety.
- Analysis of the combined data will indicate strategic points of intervention that may reduce hospital readmissions, arrests, recidivism, and more.
- **This model does combine healthcare data with non-healthcare data.** Combines hospital claims data with police records.

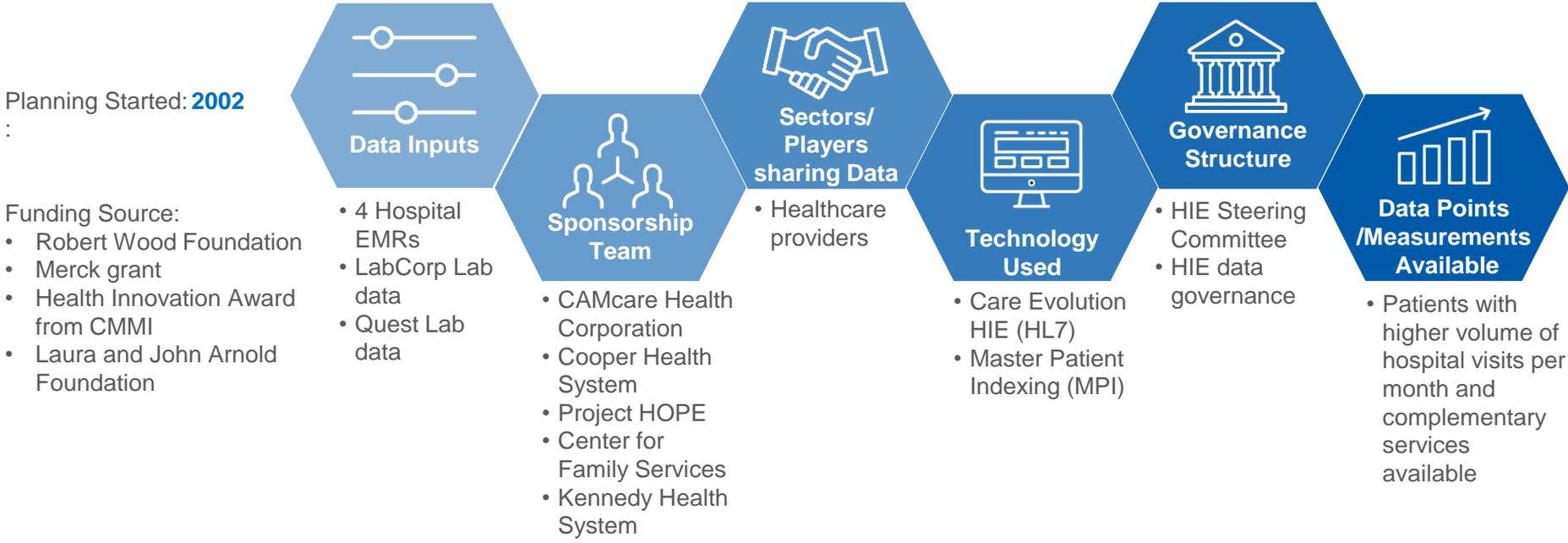
## Camden Behavioral Health Collaborative 2015

- Initially a hospital based driven initiative.
- Objective –Identifying high utilizes of ED services across hospitals.
- **Exchange of data at this point is unidirectional**, hospitals shared 5 years of claims data to identify individuals with behavioral health needs that are high utilizers of ED services.
- Recently prioritized metrics they want for a dashboard.
- Currently building portal in the HIE to document behavioral health care plan for those who utilize ED services.
- Recently added community behavioral health services providers to the collaborative to start exploring how the interface with hospitals and community providers can address the needs of individuals.
- Note- they have interpreted that hospitals are not 42 CFR facilities and therefore share information for service coordination.

# CAMDEN, NEW JERSEY

## CAMDEN COALITION HIE

The Camden Coalition HIE aims to link primary healthcare providers in such a way as to allow bi-directional data exchanges of patient information. Nine hospitals and four local health organizations have partnered to create a robust data exchange specific for participatory organizations- no non-healthcare organizations can exchange data at this point.



**Programs and Benefits Enabled:**

- Healthcare organizations can share data bi-directionally
- Care Management Initiatives identifies patients with frequent hospital admissions for care coordination

**Key Differentiators:**

- Detailed data sharing agreements to standardize onboarding additional contributors, aside from the hospitals and county police
- Extensive grant funding, most notably from Laura and John Arnold Foundation

# CAMDEN, NEW JERSEY

## CAMDEN COALITION HIE

### Purpose and Origins

- The founder, Dr. Jeffrey Brenner, had a regular patient with two terminal health issues. That patient ended up in jail and Dr. Brenner was unable to get the patient's information to the appropriate entities at the jail.
- The Camden Coalition was founded in 2002 and launched the HIE in 2010.
- The program adds no money but holds the pilot programs out as examples to train others on how to run successful mental health diversionary programs and keep mentally ill people out of jail.

### Methodologies and Tools

- Live time basis HIE consolidating EMR information across 4 hospitals. Updates made within the hospital send an automated change file via HL7 messaging with the specific data point that was deleted, changed, or added.
- Local hospital EMR is connected to the HIE and will scan the EMR for updates. If present, doctor will receive a notification that updates are available and will sign off on a series of rights and consent statements, often referred to break the glass rights. Upon sign off the updated information is pulled from the HIE to the local hospital EMR.

### Funding

- The Camden Coalition is run mostly on grants, of which the most notable came from Merck.

**The following hospitals contribute clinical data to the Camden HIE:**

- Cooper University Hospital
- Our Lady of Lourdes- Camden
- Our Lady of Lourdes- Burlington
- Virtua Health System- Camden
- Virtua Health System- Marlton, Voorhees (ADT feed only)
- Kennedy Health System- Stratford
- Kennedy Health System- Cherry Hill
- Kennedy Health System- Washington Township

**Additional local organizations contributing data:**

- Labcorp (outpatient lab data)
- Bioreference (outpatient lab data)
- Quest Diagnostics (outpatient lab data)
- South New Jersey Perinatal Cooperative (perinatal risk assessments)

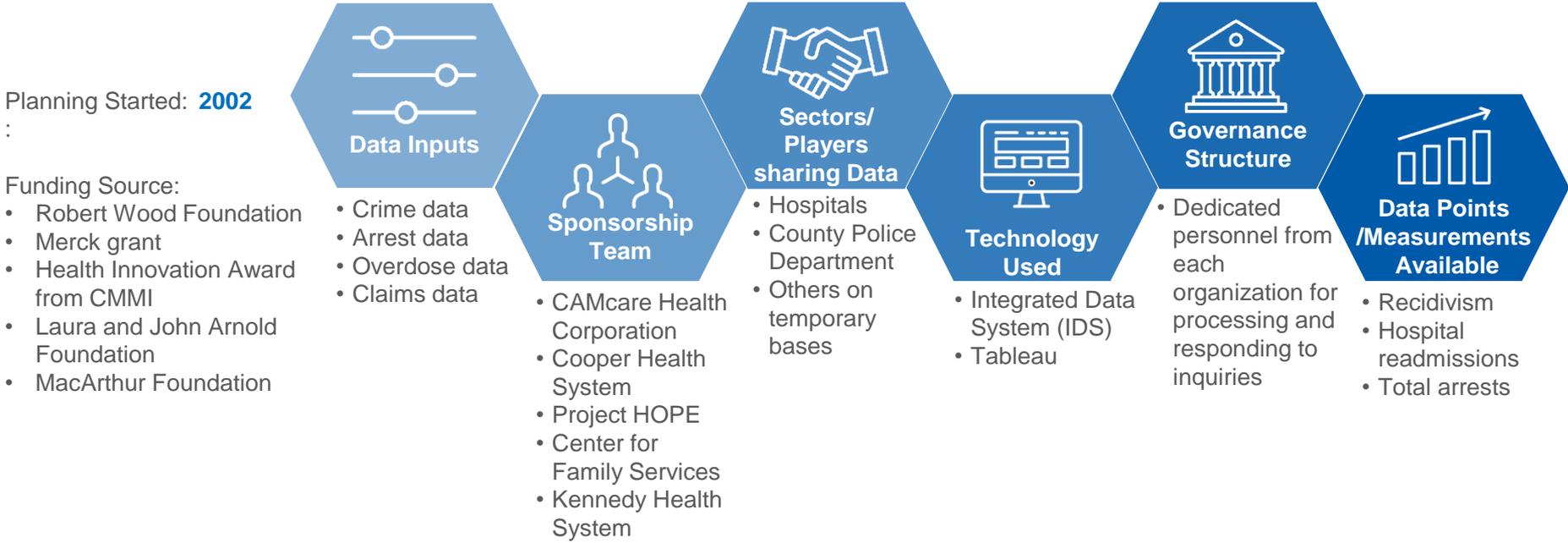
**The Camden Coalition HIE is connected to two regional HIEs: the Tren**

Sources: Camdenhealth.org , Data Sharing Agreement Between the Camden City School District and the Camden Coalition of Healthcare Providers, Memorandum of Understanding By and Between the Count of Camden and the Camden Coalition of Healthcare Providers, and healthlaw.org

# CAMDEN, NEW JERSEY

## CAMDEN ARISE

Camden built an integrated data system (IDS) linking administrative data from healthcare, criminal justice, and other social services systems to allow research into overlapping issues in the delivery of healthcare and criminal justice services. Camden’s hospitals and county police are program anchors but work with other community stakeholders on contract basis to augment data quality and quantity.



**Programs and Benefits Enabled:**

- Allowed for “Hotspotting”: a tool within criminal justice including maps that are by historical record and leveraged to predict future activity
- Hospitals’ 7-Day Pledge to hospitalized individuals to meet with their primary care provider within a week of discharge

**Key Differentiators:**

- Detailed data sharing agreements to standardize onboarding additional contributors, aside from the hospitals and county police
- Extensive grant funding, most notably from Laura and John Arnold Foundation

# CAMDEN, NEW JERSEY

## CAMDEN ARISE

### Purpose and Origins

- Camden Coalition was founded in 2002 and launched ARISE in 2015 for the purpose of driving better decisions about resource allocation and addressing the root causes of recurring public problems.

### Methodologies and Tools

- The Camden ARISE project is planned in multiple phases. The first integrates data from the Camden County Police Department with information from regional hospitals to shed light on overlapping issues in health care and public safety. While the strategic partnership is mostly between healthcare organizations and justice system organizations, the integrated data system (IDS) does include other institutions such as school systems for temporary data links. However, these are not permanent partners.
- Camden has dedicated personnel from both justice and healthcare organizations to own the processing and inquiries specifically for the data they collect.
- IDS is housed on one hospital grade server. It collects crime data (13 discrete points), arrest data (16 points), overdose data (12 points), and computer-aided dispatch data (12 points).
- Metrics reported include: hospital readmissions, arrests, recidivism, and others. Analysis of the combined data will indicate strategic points of intervention that may reduce hospital readmissions, arrests, and recidivism further.

### Funding

- Funding for the coalition came from: a Robert Wood Johnson foundation grant in 2007, a large Merck grant 2009, \$6m Health Innovation award from CMMI, \$8.7m in grants in 2016, and a \$15m strategic partnership with UnitedHealth announced. The Laura and John Arnold Foundation funds ARISE specifically.

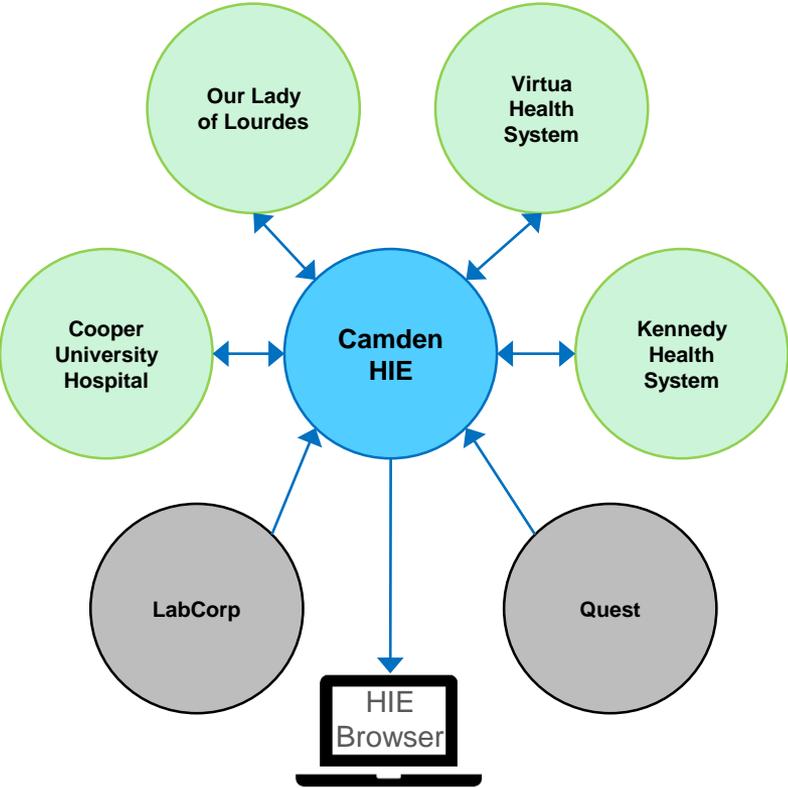
Sources include: Camdenhealth.org , Data Sharing Agreement Between the Camden City School District and the Camden Coalition of Healthcare Providers, Memorandum of Understanding By and Between the Count of Camden and the Camden Coalition of Health Care Providers, and healthlaw.org

# CAMDEN COALITION OF HEALTHCARE PROVIDERS

The Camden Coalition of Healthcare Providers utilizes **two different models** for data sharing among its partners:

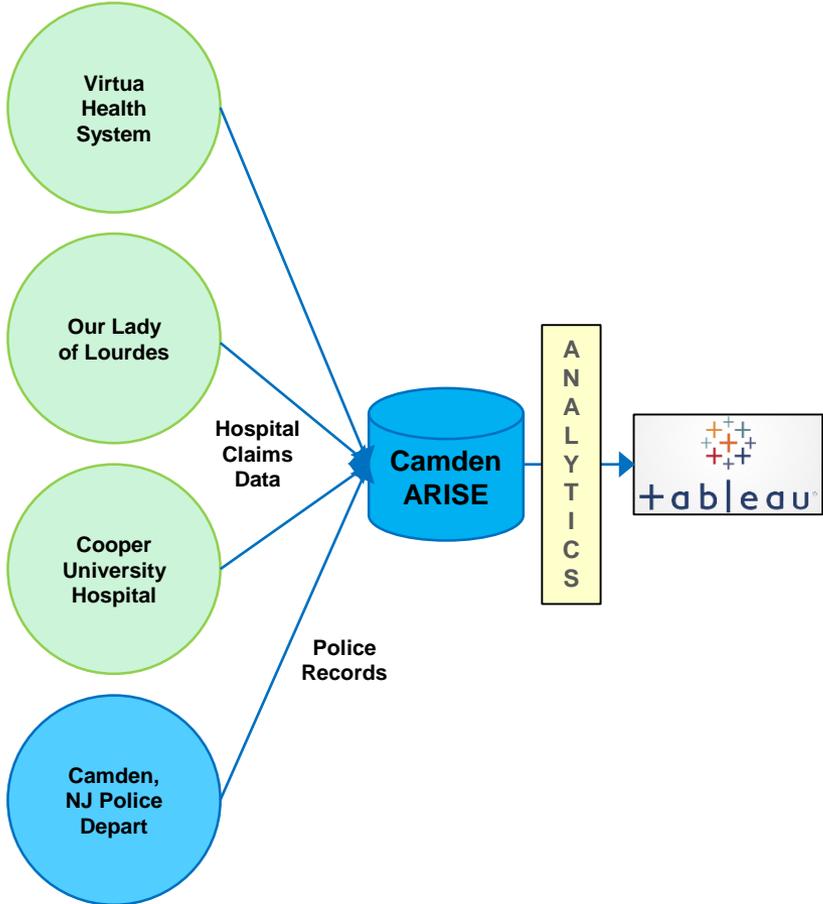
## Camden HIE

- Data Sharing Model

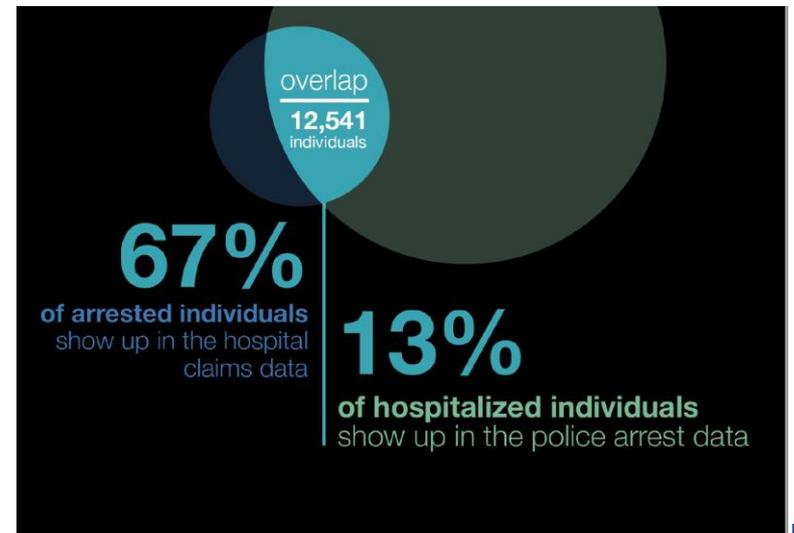
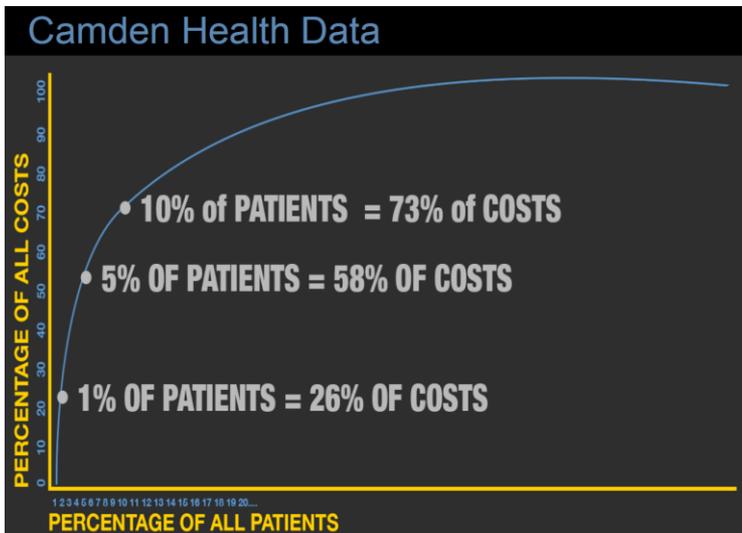
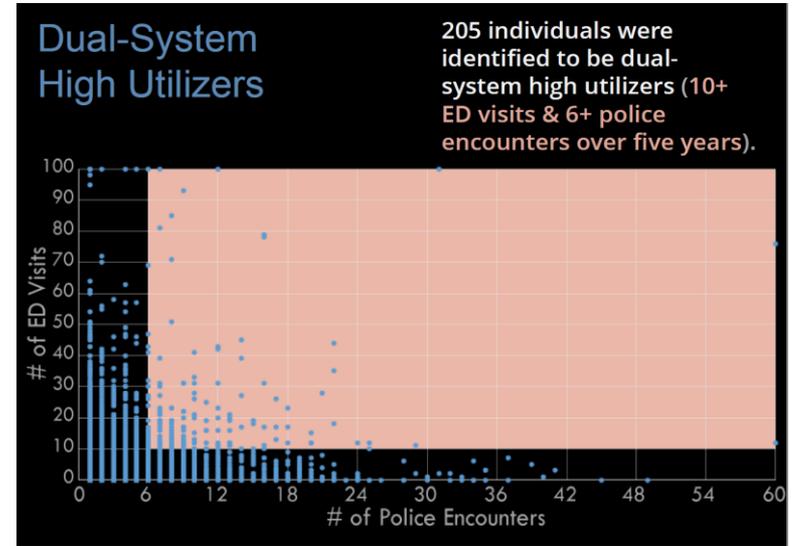
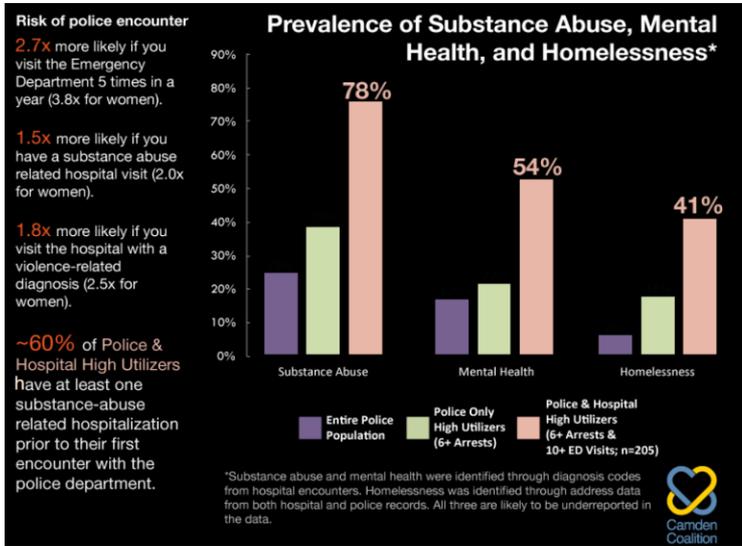


## Camden ARISE

- Data Integration Model



# DATA AVAILABLE FROM CAMDEN'S ARISE DATA WAREHOUSE



# DISCUSSION – COMPARABLE COMMUNITIES

## Share with you neighbor:

- What comparable community(s) captured your interest the most and why?
- What comparable community has data to help them understand what is and is not occurring in their community?
- What comparable community(s) has the most we can learn from as we begin to envision what is possible for Lake County?

*Questions/Information about the  
behavioral health system  
that could be obtained through data*

# EXERCISE – DECISIONS/INFORMATION NEEDED

Please review the “Using Data to Answer System Questions” handout.

Please discuss the following with your neighbor

- What are the most important questions/information that is needed in order for the coalition to plan for the future and have oversight of the behavioral health delivery system and improve access and care for individuals/families?
- Are there other important questions/information that is needed in order for the coalition to plan for the future and have oversight of the behavioral health delivery system that are not on the list?



*Data Matrix*  
*Using Data to*  
*Answer Questions and Have Information*

# EXERCISE – USING DATA TO ANSWER QUESTIONS AND HAVE INFORMATION

Please review the Data Matrix.

Please discuss the following with your neighbor

- What data points on the data matrix could be used to answer some of the questions/ information listed on the “Using Data to Answer Systemic Questions” handout.
- Are their data points available in Lake County that are not on the Data Matrix that could be used to answer some of the questions/ information listed on the “using Data to Answer systemic Questions” handout.
- **What other observations do you have about the Data Matrix?**

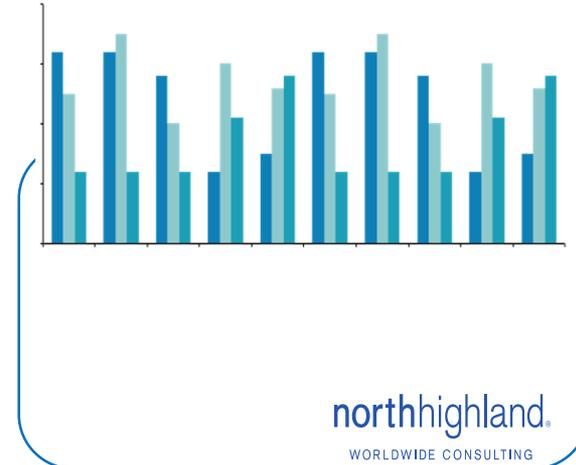
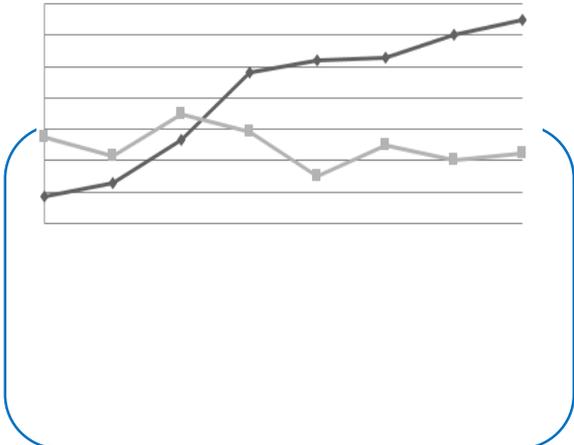
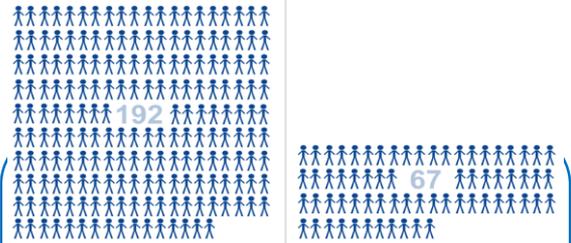
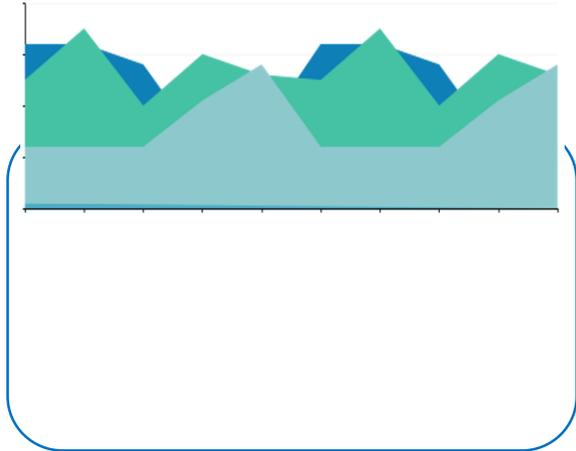
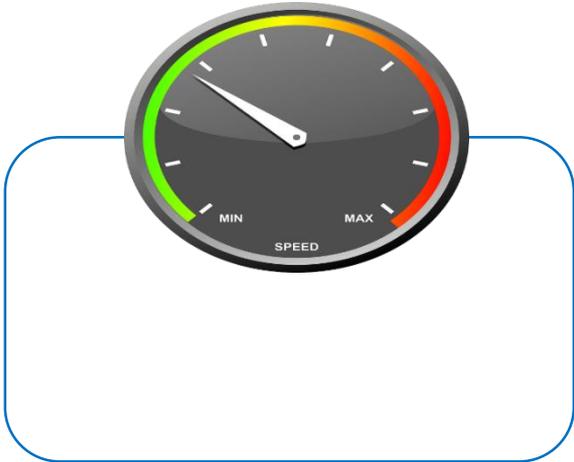
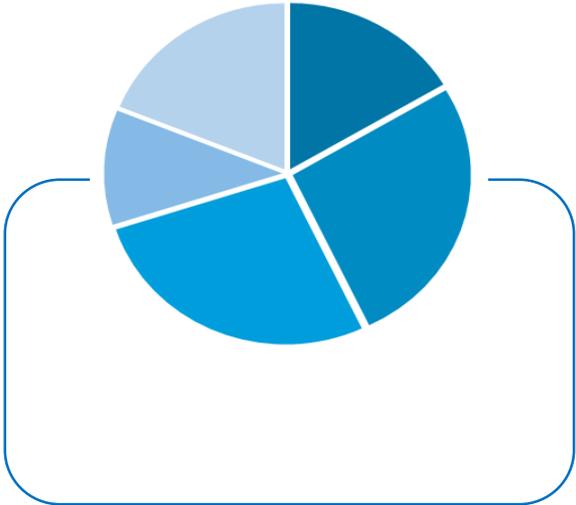


# EXERCISE – CREATE A DASHBOARD

- **Based on what you know or prefer today, complete the “Ideal System Dashboard”**
- **After completing your “Ideal System Dashboard,” share your dashboard with your neighbor and why you choose the measurements you selected.**



# Dashboard



# DATA MATRIX

The Data Matrix is intended to highlight how data measurements can be reached with existing or new data points and/or agreements and protocols. The purpose of providing this matrix is to brainstorm data that can be used to support key decisions.

To support on-going decision making, programs and continuous data sharing on a set frequency would need to be established. This list does not include all of the data measurements or points that *could be* shared nor is this matrix a list of all the data points that *will be* shared.

Furthermore, this list does not suggest that it is possible or easy to share select data point, it is simply a tool to surface and raise awareness of the data that would be most impactful for decision making.

*Exploring Potential Data Models  
for Lake County*

# POTENTIAL DATA SHARING MODELS FOR LAKE COUNTY

After looking at comparable data sharing models in other communities, let's take a look at potential data sharing models for Lake County.

**Purpose:** To brainstorm the partnerships and data points that can answer crucial questions for Lake County

## **These models are:**

- Hypothetical in nature
- Not representative of what's implemented today
- Only suggestions of what COULD be implemented in the future to provide ideas
- Intended to encourage brainstorming and productive conversations

There are multiple ways (several data sharing models) to generate a metric or report – there is no single right or wrong way.

Often times there will be a progression of implementations (crawl, walk, run) over time

## **When Reviewing these Models:**

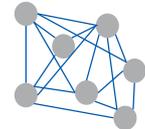
- Focus on **what can be done**
- **Avoid only thinking of the barriers** to implementation (there are barriers in every scenario)
- Consider **which models could lead to populating your dashboard**
- Consider lessons learned from other communities that can be customized for Lake County (Remember, many solutions take a hybrid approach of multiple models)

# THEORETICAL MODELS FOR EXPLORATION

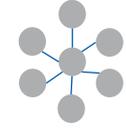
Increasing technology, complexity, communication, and robustness →



**SILOS**



**POINT TO POINT**



**CENTRAL REPOSITORY**



**HYBRID**

**Definition**

<ul style="list-style-type: none"> <li>Limited or no communication externally of data</li> </ul>	<ul style="list-style-type: none"> <li>Entities send information to some other single entity in discrete transactions</li> </ul>	<ul style="list-style-type: none"> <li>All participating orgs contribute to a central data hub and can pull appropriate information as needed</li> </ul>	<ul style="list-style-type: none"> <li>Provides various combinations of the other models</li> </ul>
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**Pros**

<ul style="list-style-type: none"> <li>+ Requires no shared governance structure</li> <li>+ No reliance on other organizations</li> </ul>	<ul style="list-style-type: none"> <li>+ High degree of control of what information is seen and by whom</li> <li>+ Low technology cost</li> </ul>	<ul style="list-style-type: none"> <li>+ Allows for more sophisticated, cross sector data points</li> <li>+ Governance is established at beginning</li> </ul>	<ul style="list-style-type: none"> <li>+ Allows for more sophisticated, cross sector data points</li> <li>+ Leverages existing infrastructure and technology in place</li> <li>+ Model allows flexibility for growth and evolution to future state</li> </ul>
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**Cons**

<ul style="list-style-type: none"> <li>- Long-term economic loss for community</li> <li>- Is not a patient centered approach</li> </ul>	<ul style="list-style-type: none"> <li>- Operation dependencies for submission and receipt processing</li> <li>- Significant limitations for system-wide data</li> </ul>	<ul style="list-style-type: none"> <li>- Most expensive to execute, generally</li> <li>- Requires most buy-in from participants</li> </ul>	<ul style="list-style-type: none"> <li>- Challenges coordinating different technology</li> <li>- Might require on-going data governance</li> </ul>
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**Potential Methodologies**

<ul style="list-style-type: none"> <li>Methodology only dependent on organizations needs</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls</li> <li>Emails</li> <li>Faxes</li> <li>Direct messages</li> <li>Paper</li> </ul>	<ul style="list-style-type: none"> <li>Data warehouse</li> <li>Health Information Exchange (HIE)</li> </ul>	<ul style="list-style-type: none"> <li>Combination / mixture of other methodologies</li> </ul>
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**Each model has its benefits and challenges and can be blended or customized to meet the needs of Lake County.**

# DATA SHARING – SILOS

## Description:

- Organizations stand and function alone, with minimal to no interaction with others
- Collect, store, and use data that the organization captures as it interacts with the public
- Any aggregation of data and reporting is self contained to each organization

## Data Sharing:

- Minimal to no data sharing with other organizations

## Technology Used:

- Applications (off the shelf), databases, and reporting tools that each organization decides to buy or build
- There is no leveraging of technologies between organizations

## Data Governance:

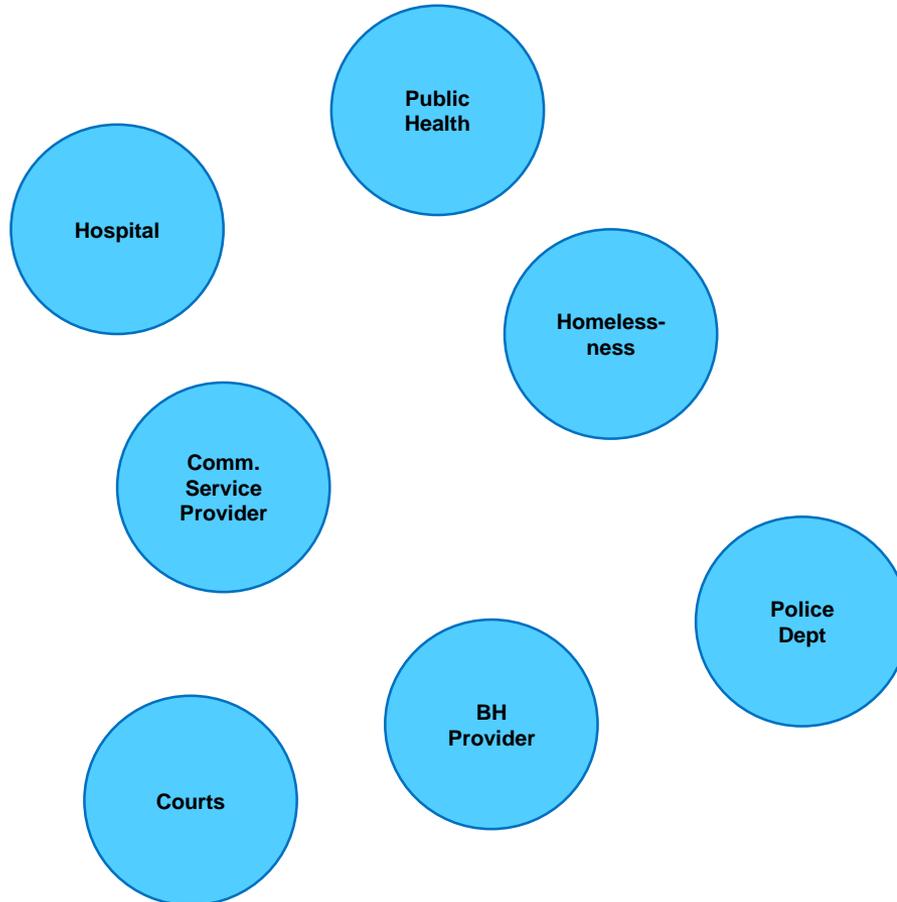
- Governance is left to each organization to define and use data as they see fit

## Resources:

- Each organization must support the operations and finances to maintain and support the technology used

# DATA SHARING OPTION 1 – SILOS

Lake County Examples – not inclusive all of entities



**System Metrics/Reports Possible:**  
*None - organizational or patient level data*

- Organization level aggregated data as of a specific time or internal dashboards
- Grant information and data collection

**Services made easier through collaboration:**  
NA

# DATA SHARING – POINT TO POINT

## Description:

- Point to point data sharing involves two organizations who agree to share data with one another. –usually a specific data set that is of value to one or both organizations.
- A given organization can have multiple point to point data sharing agreements in place – often leading to repeated/redundant processes, duplicated for each organization that data is shared with.

## Data Sharing:

- Data, as however agreed between two organizations, is shared using varied electronic means.
- Data standardization definitions are defined per relationship and factors in the controls of the two technology systems involved (i.e. name formats between an EMR and Excel program)

## Technology Used:

- Electronic communication tools as agreed upon the two organizations involved.
- If an organization has more than 1 agreement additional technologies or translation systems may need to be put into place
- Can be done with relatively low technology using spreadsheets which enables more individuals to take part, but results in greater onus on organizations looking to consolidate received data.

## Data Governance:

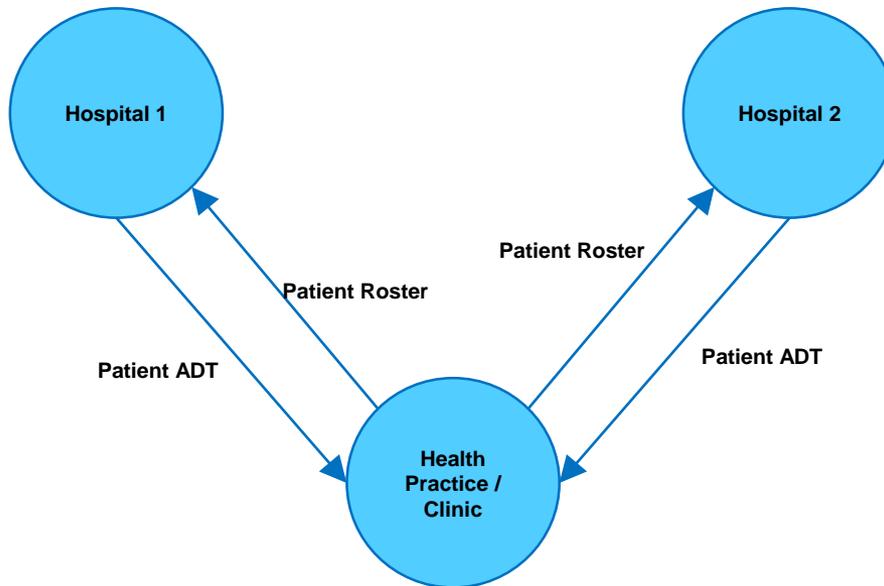
- Governance is defined by the two organizations involved in terms of content and format.
- Typical structure requires data extraction to be owned by a single person and communicative technologies per system involved. Depending on the number of relationships, this can be costly from an operations and financial standpoint.

## Resources:

- Relatively quick and easy to setup a point to point data sharing agreement and process. Becomes unwieldy and inefficient as the number of point to point agreements grows.

# DATA SHARING OPTION 2 – POINT TO POINT

Lake County Examples – not inclusive all of entities



The Health Practice/ Clinic will inform each hospital, separately, of its patient roster. The hospitals will take that data and notify the health practice / clinic when a patient comes either to the ED or has an inpatient stay.

## Decisions Possible

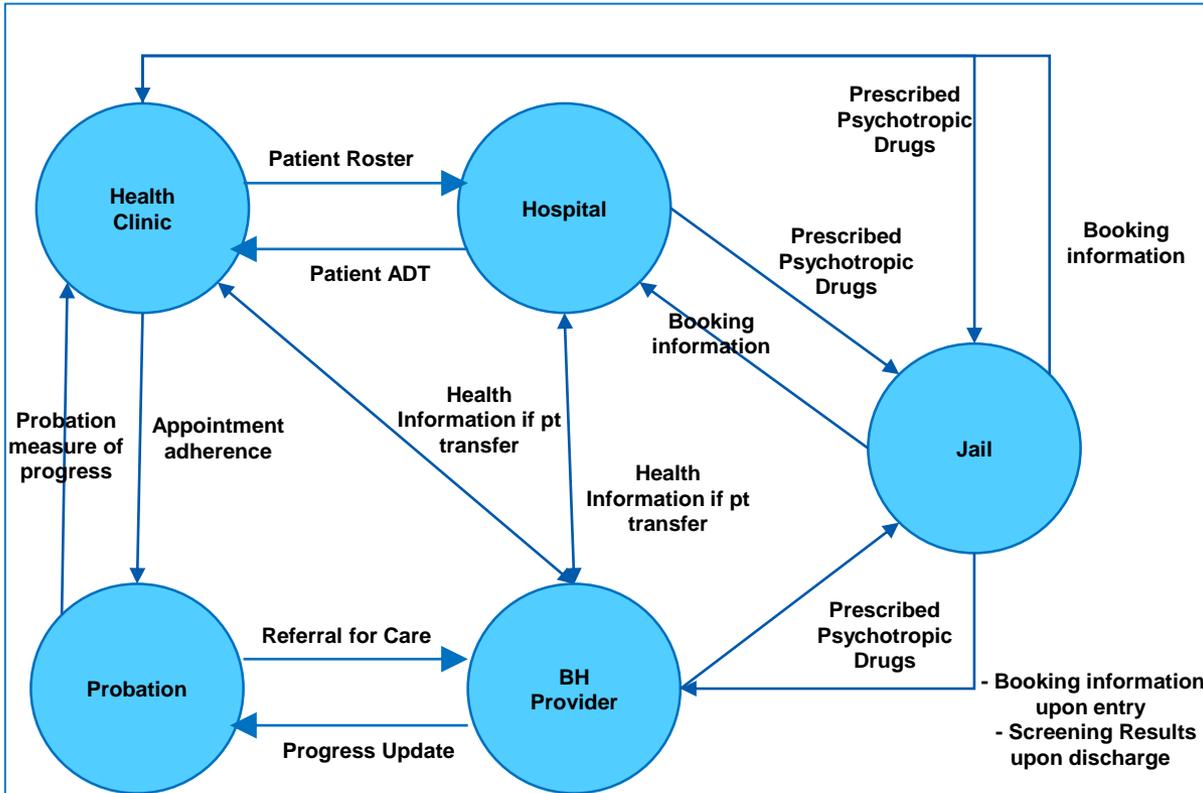
- # of ER Visits for the clinic's patients
- # of Inpatient Stays for the clinic's patients

## Considerations:

- Requires separate agreement per hospital relationship
- The hospital has to have a record of which outside clinic each patient is associated with within their EMR or a scanning program that aligns PII for an automated process.
- While the clinic is able to calculate the # of ER visits and inpatient stays for its patients (and it would be for only these 2 hospitals), this model does not lend itself to aggregate this metric across all of Lake County.
- In order to aggregate metrics across the entire county, a point to point connection would need to be setup with all similar service providers

# DATA SHARING OPTION 3 – POINT TO POINT

Lake County Examples – not inclusive all of entities



When an individual is brought to the jail and booking is complete, that information is sent to a local hospital, health clinic, BH provider – all individually via point to point agreements. In return, the health facilities can send data as appropriate to the jail sharing MEB related information about the individual. Thus, the jail is then able to report out the # of inmates with MEB related issues soon after booking and more quickly assess and provide needed services.

## System Metrics/Reports Possible

- Inmates with MEB *known within 72 hours* – possible because there is only 1 jail in the system.

## Services made easier through collaboration:

- Hospital follow up program for recently released inmates
- Improved services tracking for primary providers
- Known healthcare visits across multiple facilities (but not all)
- Key progress milestones made available to probation for improved tracking

## Considerations:

- Can start with relatively low technology requirements
- Requires unique agreement terms per relationship and individuals to manage the data sharing at each participating organization

# COMPARISON OF ESB, HIE, & DW

## Enterprise Service Bus (ESB)



- Is a **communication system** between mutually interacting software applications in a service-oriented architecture (SOA).
- **It is NOT a database**
- **ESBs are typically used in non-healthcare settings to exchange non-healthcare data**
- Data is routed, between various applications, in packet messages (XML) that are transmitted and received via the ESB
- Used to exchange data between older legacy systems with current systems
- Code must be written to allow an application to be used on an ESB. In addition, the application's database must be accessible to write the code.
- ESBs work best within the "4 walls" of a company/entity and is not advisable to send data on the open internet due to data security & privacy concerns.

## Data Warehouse:



- Is large store of data accumulated from a wide range of organizations and data sources and used to aggregate and process large amounts of data, execute complex queries, and report out information for decision making
- **Data exchange is not directional. Data flows uni-directionally into the data warehouse on a pre-determined regular basis.**
- **Data warehouse is a large database**, with the tools and processes to ingest data from many different sources.
- Data is exchanged by the use of flat files in pre-arranged formats and transmitted via secured methods (e.g., SFTP)
- Data warehouses normalized data across all organizations providing the data, therefore the data will be cleansed and consistent, providing "**single version of truth.**" Quality of data/report output is only as good as the data provided and often failed files will prompt senders to update formatting or errors.
- Once data has been collected and normalized, analytics are often times applied, and reports are generated.

## Health Information Exchange:

HIE

- Provides the capability to electronically move clinical information among disparate healthcare information systems, and maintain the meaning of the information being exchanged.
- **Provides both the communication system and central database**
- **Allow for data exchange / communication to be bi-direction – but only between healthcare partners – and exchanged on a live time basis**
- Allows the exchange of healthcare data via HL7, C-CDA, or FHIR: ADTs, vitals, labs, meds, image texts, physician notes
- Does not allow for the exchange of nor storage of non healthcare / medical record data (e.g., jail bookings, 911 call data, etc.)
- Requires a hefty investment to build – typically sponsored by a very large healthcare institution or state government
- HIE's currently can connect and exchange data with other HIEs but NOT with other types of networks. Interoperability with other non-healthcare networks is the next biggest challenge and area of research.

# DATA SHARING OPTION – CENTRAL DATA REPOSITORY DATA WAREHOUSE

## Description:

- A central data repository or warehouse is large store of data accumulated from a wide range of organizations and data sources. It is used to aggregate and process large amounts of data, execute complex queries, and report out information for decision making
- Data warehouses normalized data across all organizations providing the data, therefore the data will be cleansed and consistent, providing “single version of truth”. Quality of data/report output is only as good as the data provided and often failed files will prompt senders to update formatting or errors.

## Data Sharing:

- **Data is shared in one direction only:** All organizations, who want to contribute/share data, will create data extract files (pre-defined and agreed upon format and content) and send them to a central repository
- Central repository will gather all data, check for data quality (make corrections as necessary), combine and normalize the data and store it in a central data repository or warehouse.
- **Data is NOT limited to healthcare data** – can be any type of data

## Technology Used:

- Organization who maintains the data repository must setup a database, along with ETL (extract, transform, and load) tools/processes to take incoming data to process and load into the repository.
- Organizations providing the data must extract data from their internal systems and package the data into files in formats as agreed upon

## Data Governance:

- Data governance is key to a central data repository. All parties must agree to raw data being provided as well as rules for consolidating the data, executing calculations, and report content and format. This requires significant effort to get all parties to come to agreement.

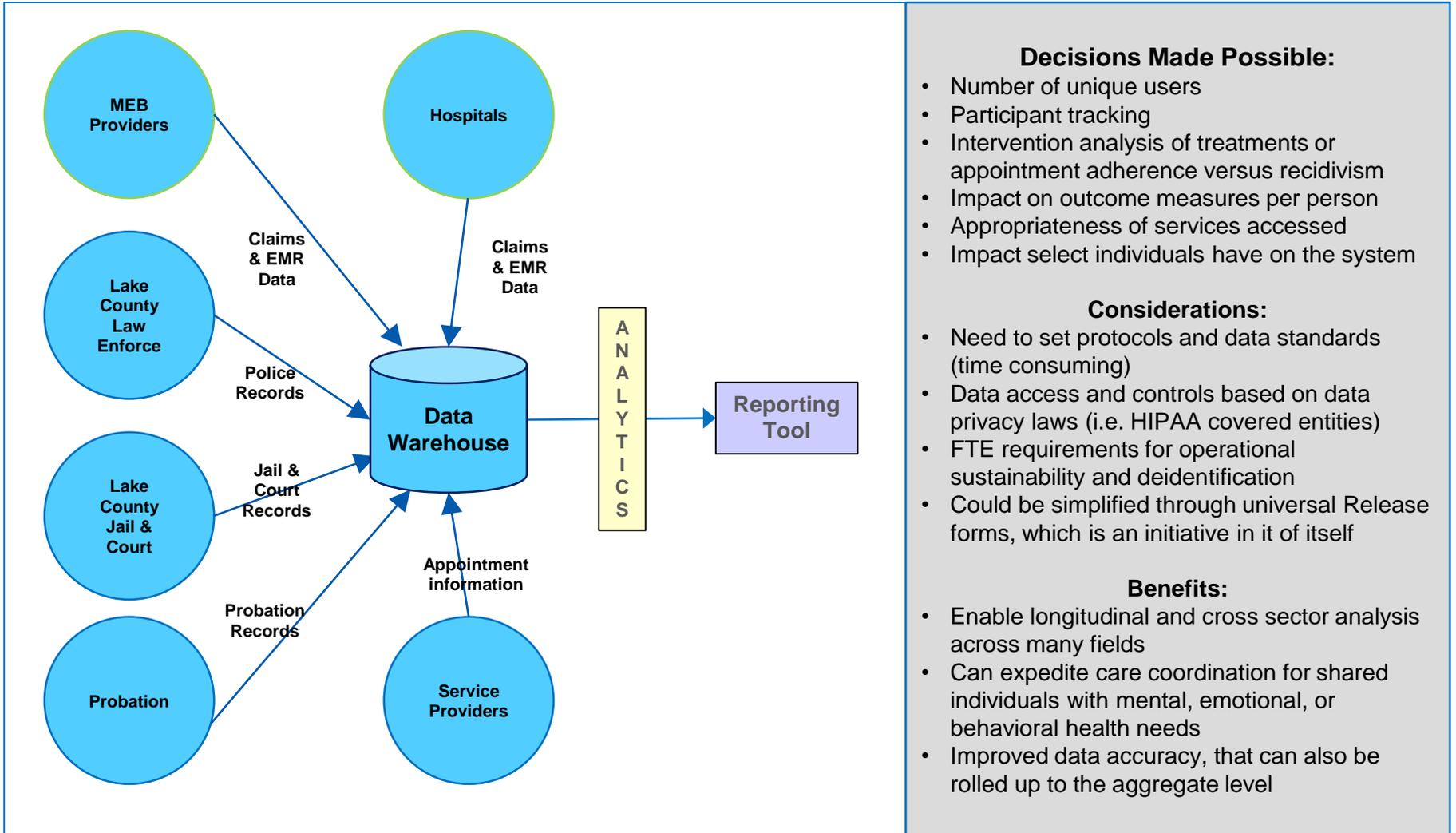
## Resources:

- Cost can be high to implement a central repository. Each data source may also require some technology updates to participate, such as an automated file transfer program

# DATA SHARING OPTION 4 – CENTRAL REPOSITORY

## DATA WAREHOUSE (PARTICIPANT LEVEL)

Lake County Examples – not inclusive all of entities



### Decisions Made Possible:

- Number of unique users
- Participant tracking
- Intervention analysis of treatments or appointment adherence versus recidivism
- Impact on outcome measures per person
- Appropriateness of services accessed
- Impact select individuals have on the system

### Considerations:

- Need to set protocols and data standards (time consuming)
- Data access and controls based on data privacy laws (i.e. HIPAA covered entities)
- FTE requirements for operational sustainability and deidentification
- Could be simplified through universal Release forms, which is an initiative in it of itself

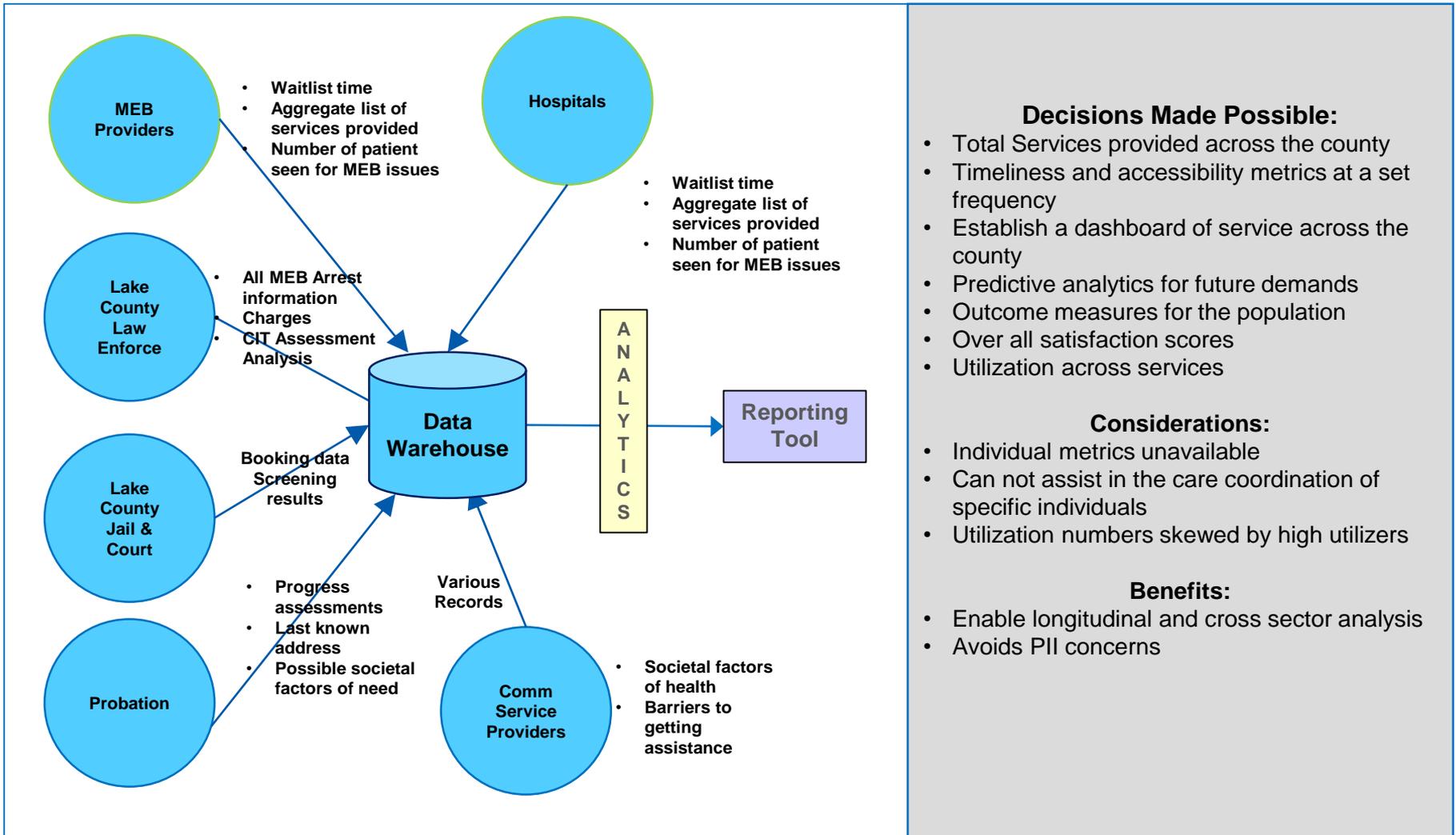
### Benefits:

- Enable longitudinal and cross sector analysis across many fields
- Can expedite care coordination for shared individuals with mental, emotional, or behavioral health needs
- Improved data accuracy, that can also be rolled up to the aggregate level

# DATA SHARING OPTION 4 – CENTRAL DATA REPOSITORY

## DATA WAREHOUSE (AGGREGATED DATA)

Lake County Examples – not inclusive all of entities



### Decisions Made Possible:

- Total Services provided across the county
- Timeliness and accessibility metrics at a set frequency
- Establish a dashboard of service across the county
- Predictive analytics for future demands
- Outcome measures for the population
- Over all satisfaction scores
- Utilization across services

### Considerations:

- Individual metrics unavailable
- Can not assist in the care coordination of specific individuals
- Utilization numbers skewed by high utilizers

### Benefits:

- Enable longitudinal and cross sector analysis
- Avoids PII concerns

# DATA SHARING OPTION – CENTRAL DATA REPOSITORY

## COMPARISON OF PARTICIPANT LEVEL DATA VS AGGREGATED DATA

### Participant level

- Improved data accuracy, that can also be rolled up to the aggregate level
- Enable longitudinal and cross sector analysis across many fields
- Can expedite care coordination for shared 'clients'
- Can track individual outcome and address intervention opportunities
- Data could be sent at the participant level and deidentified
- Data access and controls based on data privacy laws (i.e. HIPAA covered entities)
- Release of information required
- Focused on collecting data at the individual level from all entities, which necessitates passing PII (personally identifiable information) data
- Requires sufficient information / data to match individuals data across different sectors and multiple data source entities
- Larger volumes of data
- Longer time investment to build
- Requires business rules / logic and processing to ensure the correct matching of individuals' data

### Aggregated data

- Focused on collecting summarized data / reports from entities, avoids the need to provide PII
- Avoids PII concerns
- Smaller volume of data
- Quicker time to stand up
- Can provide insight into operations across organizations (i.e. average wait times for beds, appointments, etc.) within the county
- Can assess overall trends for the services accessed
- Aggregated data / reports would make it more difficult to match up data within a sector or with other entities. At best, provide a side by side comparison of data
- Individual metrics unavailable to measure outcome or progress
- More limited analysis capabilities of the data when compared to patient level information
- Can not assist in the care coordination of specific individuals

*Future Long Term Vision:  
HIE and Hybrid Models*

# DATA SHARING – CENTRAL REPOSITORY

## HIE

### Description:

- HIE provides the capability to electronically move clinical information among disparate healthcare information systems, and maintain the meaning of the information being exchanged. Collect, store, and use data that the organization captures as it interacts with individuals
- The goal of HIE is to facilitate access to and retrieval of clinical data to provide safe, more timely, efficient, effective, equitable, patient-centered care. HIE is also used by public health authorities to assist in the analysis of the health of populations.

### Data Sharing:

- **Only Exchange is for Healthcare Data and is Bi-Directional:** Healthcare organizations provide patient electronic medical record (EMR) information to the HIE in pre-defined and agreed upon data sets/packets. This data is stored within the HIE database after patient identification matching is completed. As a healthcare organization comes across the need to view a patient's EMR record, a request is sent to the HIE with specific patient identifiers and the appropriate information is pulled from the HIE to the local provider's EMR system for use in providing care.
- Because of data privacy laws, consent to share data in the HE must be approved by the patient as well as acknowledgement of "need to access/use" is recorded for each provider accessing medical records

### Technology Used:

- An HIE vendor/database is employed as the central repository, along with tools to transmit data back and forth between the local EMR system and the HIE.
- A key technology that must be employed is Master Patient Indexing (MPI) to ensure that medical records are matched for the correct patient.

### Data Governance:

- All participants of the HIE must come together to agree on standards of the data set/packet (HL7, C-CDA, or FHIR) that is to be sent, along with the content of that data set/packet (i.e., demographic, MEB data, vitals, meds, labs, ADT, physician notes, etc.)

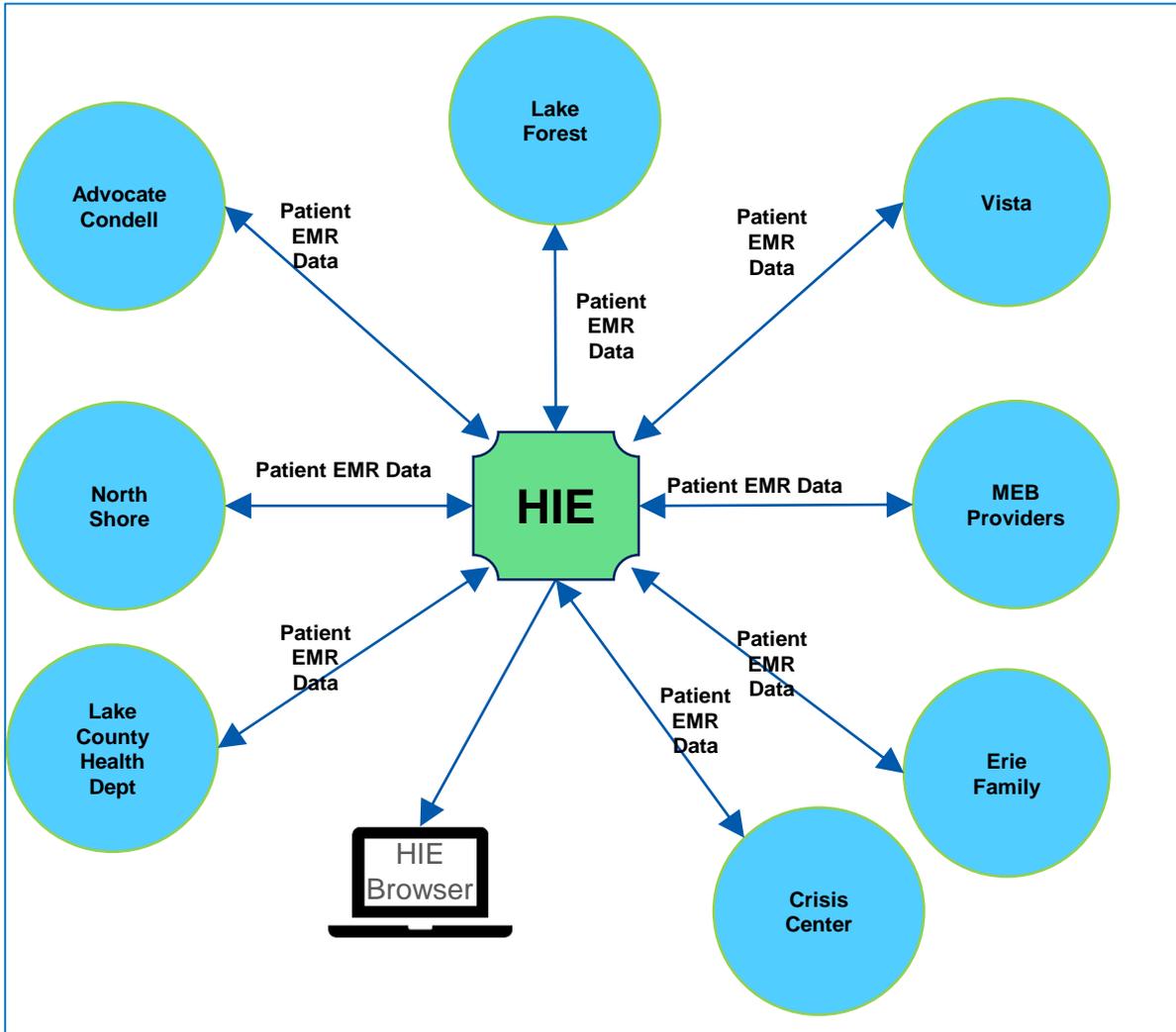
### Resources:

- Cost is high to implement an HIE – team must be assembled to implement the HIE as well as each organization, wanting to exchange data with the HIE, must have a team to build processes to package and unpackage the data from and to the local EMR

# DATA SHARING OPTION 5 – CENTRAL REPOSITORY

## HIE

Lake County Examples – not inclusive all of entities



### Decisions Made Possible:

- Healthcare outcome metrics
- Patients accessing multiple systems
- High utilizers of healthcare
- Appointment adherence

### Services made easier through collaboration

- Updating patients information
- Complementary community services to benefit health
- Care coordination and transitions
- Past services rendered
- Care planning

### Considerations:

- Typically owned by a health home
- HIEs can be partnered with Crisis Centers as the care coordination quarterback and hub for complimentary data

# DATA SHARING OPTION 6 – HYBRID MODEL

## Description:

- The hybrid model consists of connecting and data sharing between different existing groupings or networks of entities. Often times, it will leverage the existing infrastructure and network that is currently in place. Hybrid models will often includes 1 or more 'hub' or central repositories of data.

## Data Sharing:

- Data sharing will continue as usual within the existing hubs/network. One or more entities will take on the responsibility of exchanging between the different networks; or collecting the data from different networks into a central repository.

## Technology Used:

- Multi-varied depending on the technologies employed by the existing entities.
- May have to employ technologies to exchange / combine data from unique and different hubs/ networks of data

## Data Governance:

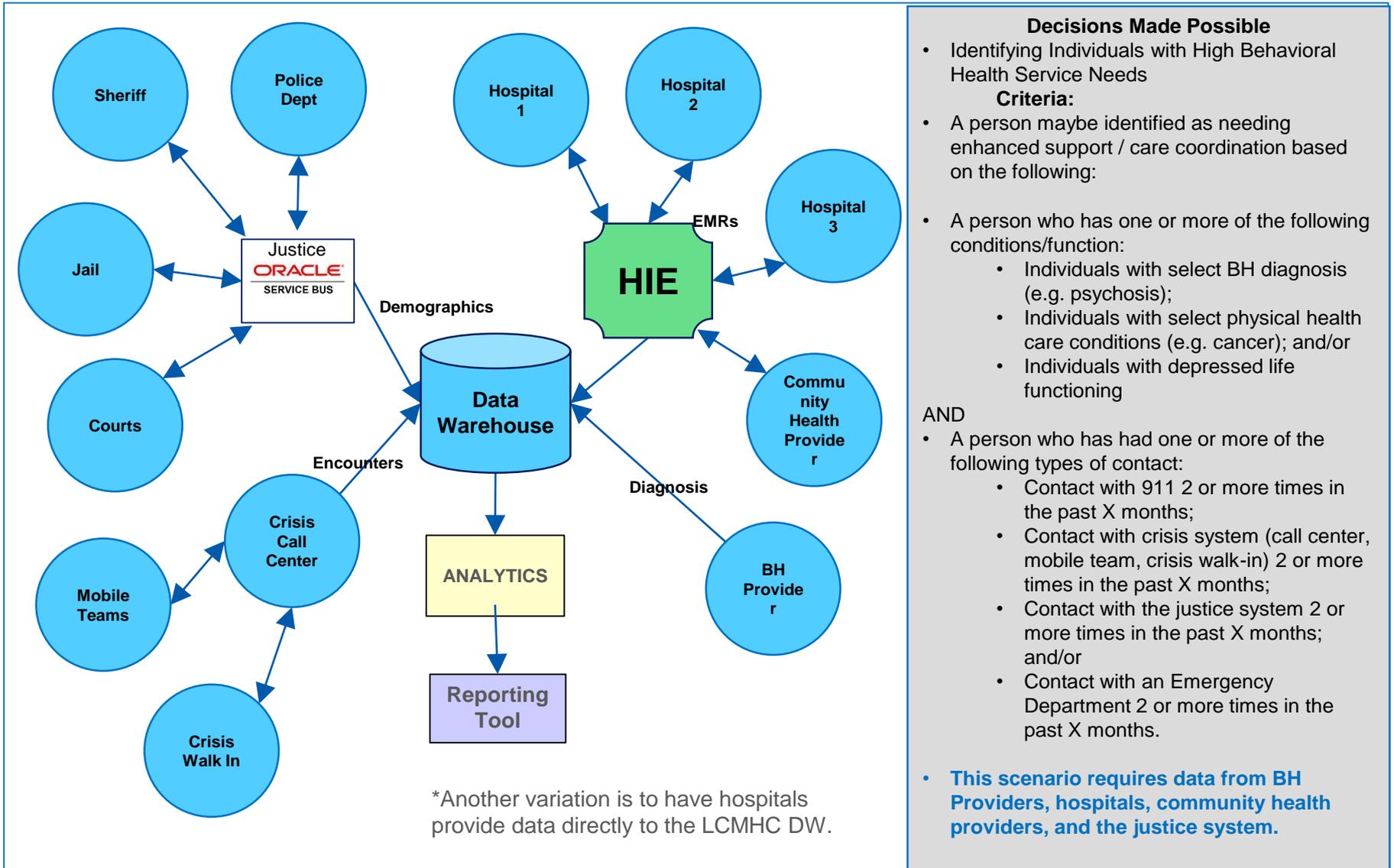
- The organization that undertakes exchange / combining of data from the various hubs/networks, will need to learn and understand the data governance and structures in place. Additional release forms may be warranted.

## Resources:

- Resources required depend on the medium of data exchange and the maturity of the technology used. Both of these can be compounded by the volume of data shared as well as customizations required per data agreement within the model.

# DATA SHARING OPTION 6 – HYBRID MODEL

Lake County Examples – not inclusive all of entities



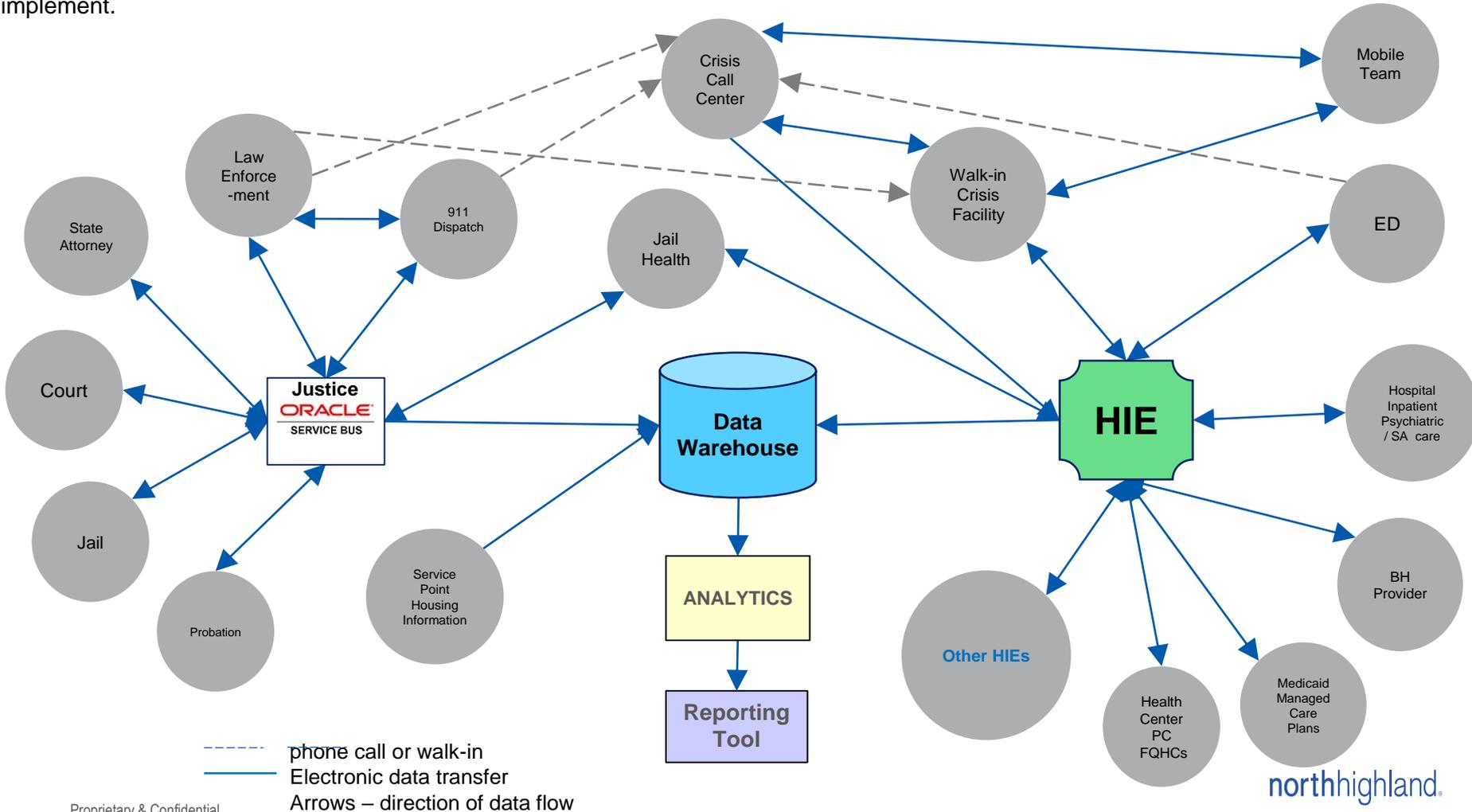
## Decisions Made Possible

- Identifying Individuals with High Behavioral Health Service Needs
- Criteria:**
- A person maybe identified as needing enhanced support / care coordination based on the following:
  - A person who has one or more of the following conditions/function:
    - Individuals with select BH diagnosis (e.g. psychosis);
    - Individuals with select physical health care conditions (e.g. cancer); and/or
    - Individuals with depressed life functioning
- AND
- A person who has had one or more of the following types of contact:
    - Contact with 911 2 or more times in the past X months;
    - Contact with crisis system (call center, mobile team, crisis walk-in) 2 or more times in the past X months;
    - Contact with the justice system 2 or more times in the past X months; and/or
    - Contact with an Emergency Department 2 or more times in the past X months.

- This scenario requires data from BH Providers, hospitals, community health providers, and the justice system.**

# FUTURE VISION – HYBRID MODEL

All models evolve over time to address the needs of the population it serves. Often those models take complex hybrid forms and evolve over years and decades. The picture below is a **hypothetical** hybrid model involving the types of organizations within Lake County. The eventual model that will work for Lake County will be the product of many decisions that will need to take into consideration a large number of factors such as needs, feasibility, costs, benefits, size of populations etc. For example, establishing HIEs, data warehouses, and the connect between the two can be costly but central repositories can deliver some of the most robust data measurements. It is for this reason and others that HIEs are established for multiple reasons and large populations. It is important to consider what is realistic and feasible when evaluating models to implement.



# DISCUSSION – BEGINNING TO ENVISION WHAT IS POSSIBLE FOR LAKE COUNTY DATA SHARING

- **Knowing we are in a discovery phase and not making decisions today....**
  - **Based on what you know today and considering the optional models presented, what stands out as possibilities for a data sharing model within Lake County?**
    - **What are the assets that would make this possible?**
    - **What challenges would need to be overcome?**
  - **What are your thoughts of a phased approach to developing a future long term vision for a data sharing model for Lake County?**

# NEXT STEPS

- **Homework**

- Review materials provided with your team
- *Come prepared to discuss* the following types of topics at the next Coalition on **September 11, 2017** meeting in order to **continue** to our alignment on a data sharing model
  - ***What measurements would you like to see on a Lake County MH Coalition dashboard?***
  - ***What are the priority questions should we seek answers to through the use of data?***
  - ***What data sharing model(s) do you think could work for Lake County***
    - ***What would be the assets and opportunities to work through with the models you identified?***
  - ***What else should the coalition be thinking about as it continues to align on a data sharing model?***
- If you have any questions or comments, please contact [blair.kerr@northhighland.com](mailto:blair.kerr@northhighland.com) for further assistance.