Data Sharing to End Homelessness – Challenges and Solutions

Corporation for Supportive Housing + American Public Human Services Association
**Kim Keaton**
Director of Data and Analytics
*Corporation for Supportive Housing (CSH)*

**Matthew Lyons**
Director, Policy & Research
*American Public Human Services Association (APHSA)*

**Jessie Metcalf**
Homelessness Initiatives Lead, U.S. State and Local Government
*Amazon Web Services (AWS)*
Marla Sutherland

Housing First Services Director at Homeward Alliance

City of Fort Collins

Erin Dalton

Deputy Director, Department of Human Services

Allegheny County, Pennsylvania
1. Objectives

2. Trends in Homeless Data and Sharing

3. Community Examples
   1. City of Fort Collins
   2. Allegheny County, PA

4. Panel Discussion

5. Questions and Answers
Learning Objectives

1. Learn about homeless services data and how integration can help achieve better outcomes in ending homelessness

2. Learn key strategies and use cases from communities that have successfully shared data

3. Generate a sense of excitement about using homeless data to improve the cornerstone of stability of people’s lives – housing stability
Survey Reminder

We will distribute a brief survey to attendees after today’s webinar to get your feedback on the information and resources you need to scale up data sharing between homelessness and human services systems.
Trends in Homeless Data and Sharing
2019 APHSA Policy & Practice Priorities

Family First Implementation
Child Abuse Prevention & Treatment Act
CCWIS Data Systems & AFCARS Reporting
Population Health Strategies in Child Welfare
Child Care Development Fund Implementation

Temporary Assistance for Needy Families (TANF) Reauthorization
Farm Bill Implementation
TANF/WIOA Coordination
Work Requirements

Social Determinants of Health
Substance Use Disorder and Behavioral Health
Data Optimization and Interoperability
Culture of Analytics
Evidence-based Policymaking
Six Key Levers

**INVESTING IN OUTCOMES**
- Incentives aimed at increasing evidence-informed practices
- Application of factor modeling to drive investment decisions
- Application of rapid cycle evaluation and other modern approaches to research that accelerates adoption of what works
- Exploration of alternative financing methods

**MODERN PLATFORMS**
- Application of advanced analytics to inform decision-making
- Reuse opportunities in shared platforms and open data sources
- Continued focus on interoperability and IT support for integrated H/HS systems and Data-sharing

**SPACE FOR INNOVATION**
- Increased opportunities to incentivize innovation and generate solutions, especially through lived experiences
- Repurposing resources to spur innovation and create a culture that encourages creativity and a safe space for testing new ideas

**INTEGRATED POLICY LEVERS**
- Focus on social determinants of health / well-being
- Adoption of two generation / Whole-family approaches
- Employment and housing as engines to economic and social mobility
- Modernization of fiscal policy

**APPLYING SCIENCE & DESIGN**
- Deliberate application of neuroscience and executive functioning research to redesign service delivery models
- Use of framing research and evidence-informed narratives
- Use of Human-centered design principles
- Use of behavioral insights to design and test more effective interventions

**PARTNERING FOR IMPACT**
- Creating more seamless boundaries across public and private sector efforts
- Leveraging expertise, reach and nimbleness of social-serving sector and private industry
- Application of collective impact strategies
- Contributions from social enterprise

Each lever must be pulled through a race equity lens
ADVANCING HOUSING SOLUTIONS THAT

Improve lives of vulnerable people

Maximize public resources

Build strong, healthy communities
Homeless Services Data: What is It? What’s in It?

- Homeless Management Information Systems – HMIS
- Each Continuum of Care funded by HUD is comprised of homeless service provider throughout a region
  - County
  - City
  - Multi-county/Balance of State
  - State
- Each CoC must have a HMIS system and designated lead

Demographics
- Client ID
- Race/Gender
- Vet Status
- Prior residence (street, jail, etc)

Program Services and Dates
- Emergency Shelter
- Transitional/Rapid Rehousing
- Permanent Supportive Housing
- Outreach contacts
- Other such as drop in, food pantry

Outcomes
- Exit dates
- Exit reasons
- Exit destinations (jail, homelessness, hospital etc.)

CoC’s partner agencies across the region all enter into HMIS for various projects and programs.
Motivation: HUD Guidance for Coordinated Entry

Assessment
- Health/Behavioral Health Challenges
- Extent to Which People are Unsheltered
- Vulnerability to illness/death/victimization
- Risk of Continued Homelessness
- High Utilization of Crisis Services

Prioritization

Housing

"high utilization of crisis or emergency services to meet basic needs, including but not limited to emergency rooms, jails, and psychiatric facilities; “

HUD Notice CPD-17-01
Data is the secret sauce that can bring these partners together!
### HMIS Data Matching and Exchange Types

**One time matches**
- Good first step if data is very siloed
- Useful for examining system overlap
- Helps determine target population for a small pilot program
- Best to plan for repeated matching beyond one time exploratory match

**Repeated data matching**
- Provides a set up for potential scaling up of intervention
- Acclimates unfamiliar systems to one another
- Practice makes perfect! Opportunity to work through technical, privacy-related, and logistical issues

**System integration**
- Data permanently flows from one system to another in back end technical arrangement (API, bridge)
- People/families can be identified on a rolling basis as people “grow into” eligibility depending on eligibility factors
- Provides opportunity to use data for other use cases, care coordination, further systems change

**Real time multi-system data exchange**
- Can be local, county, statewide, or other geographic framework
- High-cost clients are more likely to be served in multiple delivery systems
- More costly, time-consuming, and requires/assumes technological infrastructure
- Requires significant leadership

---

**Lower tech**

**Medium tech**

**High tech**
Community Example

Opening Doors through Data

Marla Sutherland
Homeward Alliance’s Housing First Services Director
970-541-9719
marla@homewardalliance.org
Housing First Initiative (HFI)

Homeward2020

Collaborative, strategic think-tank guiding implementation of Fort Collins’ 10-Year Plan to Make Homelessness Rare, Short-Lived and Non-Recurring by setting priorities, developing alignment and action plans, and suggesting policy

Homeward Alliance

Operates a continuum of programs and initiatives, ranging from critical survival gear, to employment services, to homelessness prevention
HFI: Outcomes

Actionable Data
• Point In Time count
• Murphy Center = the hub of services for people who face homelessness or housing instability—one location in which 20 organizations offer more than 40 services to nearly 3,000 people each year

Collaboration
• Eliminate silos
• Participation in CoC and Coordinated Assessment and Housing Placement System (CAHPS)
• Build upon existing infrastructure

Housing First Services
• Offer intensive case management for housing navigation and housing retention
• Leverage existing services (non-duplication) to fill in systemic gaps
Population Dashboard

http://www.homeward2020.org/population-dashboard/

System Dashboard

FUSE: Data matching tool

Criminal Justice Data

Data Validation

Homeless Data

Data Validation

Common Schema

Matching Process

Dashboard Report
FUSE in Fort Collins, CO

Funding & Capacity Resources

Colorado’s Department of Housing (DOH)
20 Tenant Based Housing Vouchers
FTE for Clinical Case Manager
Colorado State University
1-year Data Analysis and Report

Bridging Systems

Project Managers: Homeward 2020 & Health District of Northern Larimer County
Program Supervision: Homeward Alliance
Business Partner Agreements
Universal Release of Information
Data Use Agreements
Critical Problem Solving

Challenges

• Buy-In from local agencies to participate in HMIS
• CSH’s Data Matching Tool required more technical support and staff capacity
• Minimal Staff Capacity/Expertise for Data Analysis and Reporting

Resolution

Homeward Alliance will be the HMIS lead agency in our region

• Access to federal funding
• Ability to maintain customization of data and reporting outcomes
• Local technical support
Community Example

Using Integrated Data to Support Practice

Erin Dalton, Deputy Director
Allegheny County Department of Human Services
Erin.Dalton@alleghenycounty.us
**Childhood & Education Services**
- Early Intervention
- HeadStart
- Homevisting
- Family Support Centers
- Child Welfare
- Family Court
- Pittsburgh Public Schools + 10 additional School Districts

**Basic Needs**
- Homeless
- Housing Supports
- Public Benefits
- Public Housing
- Employment/Unemployment
- Transportation (for medically fragile)
- Aging services & supports

**Physical & Behavioral Health**
- Mental Health Services (Medicaid & Uninsured)
- Substance Use Services (Medicaid & Uninsured)
- Physical Health Services (Medicaid)
- UPMC Health Plan (Commercial)
- Intellectual Disabilities

**Juvenile & Criminal Justice**
- Juvenile Probation
- Delinquency
- Pittsburgh Bureau of Police
- Criminal Court
- Allegheny County Jail
- 911 Dispatches

**Vital Records**
- Birth Records
- Autopsy Records
Using Data to Support

Coordinated Care  Worker Decision Making  Management Decision Making  Community Use / Open Data  Research
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CYF Parent (Mainframe/KIDS Merge)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DHS Housing Supports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug / Alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Choices Eligibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jail</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Benefit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Life Event Key:
- ● = Birth of Child

Please Note: Information being displayed is based upon data that is available for this client.
Improving Response to Homelessness

30,000 calls

Today, we use an assessment

What if we use the data we already have
Improving Decision Making

- Gut
- Rules
- Actuarial Tools
- Predictive Risk Modeling
Model Predictors

Demographics (Age & Gender)

Homeless

Child Welfare

Jail

Courts

Probation

Juvenile Probation

Assisted Housing

Behavioral Health

322 predictors for each individual receiving a score

+ 642 household-level predictors aggregated across:
  all adults on the household
  all children on the household

*Addition of actuarial assessment (VI-SPDAT) responses was also tested
Developing the Model

**INPUTS**

**Client History (admin data)**
- Homelessness services
- Child welfare
- Behavioral Health (Medicaid funded)
- Assisted Housing
- Court Activity
- Aging Services
- County Jail
- Juvenile Probation
- Independent Living
- Prescription Medication

**PREDICTED OUTCOMES**

We built a PRM tool for a variety of outcomes 6 or 12 months after the call to the hotline

- Booking in County Jail
- Substance use diagnosis
- Inpatient Mental Health stay
- Emergency Department encounter

**MODELING METHODS**

We compared four modeling methods

- Logistic Regression
- Random Forest
- XGBoost
- LASSO
33% of permanent supportive housing beds are given to individuals with a PRM score of 5 or less.
Permanent Supportive Housing Works Better for Higher Risk Clients

High Risk Groups who received PSH/RRH/Transitional had lower rates of harm

Low Risk Groups who received PSH/RRH/Transitional had (slightly) higher rates of harm

- ER Visit 4+: -6.5%
- Jail: -8.6%
- MH Inpatient: -9.6%

High Risk >= 7
Low Risk < 7
Enablers and Detractors

**Enablers**
- Government
- Integrated Department
- Long-term Leadership
- Investment in Tech, Analytics & Innovation
- Community Support
- Willingness to take risks to benefit clients

**Detractor**
- Current HMIS Marketplace
Frequent Utilizers of Homeless Services

Frequent Utilizer Defined as Those Who Accessed a Shelter in 2016-17, and Had 8+ Total Stay Instances

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Top 4.2% Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>4,479</td>
<td>144</td>
</tr>
<tr>
<td>Person-Beds-Days</td>
<td>245,768</td>
<td>27,343 (10%)</td>
</tr>
<tr>
<td>Average Total Day Beds</td>
<td>55</td>
<td>190</td>
</tr>
</tbody>
</table>

Number of Clients by Number of Emergency Shelter Episodes

<table>
<thead>
<tr>
<th>Number of Emergency Shelter Episodes</th>
<th>COUNT</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2783</td>
<td>62%</td>
<td>62%</td>
</tr>
<tr>
<td>2</td>
<td>801</td>
<td>18%</td>
<td>80%</td>
</tr>
<tr>
<td>3</td>
<td>363</td>
<td>8%</td>
<td>88%</td>
</tr>
<tr>
<td>4</td>
<td>177</td>
<td>4%</td>
<td>92%</td>
</tr>
<tr>
<td>5</td>
<td>107</td>
<td>2%</td>
<td>94%</td>
</tr>
<tr>
<td>6</td>
<td>64</td>
<td>1%</td>
<td>96%</td>
</tr>
<tr>
<td>7</td>
<td>37</td>
<td>1%</td>
<td>97%</td>
</tr>
<tr>
<td>8</td>
<td>23</td>
<td>0%</td>
<td>98%</td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>0%</td>
<td>98%</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>14</td>
<td>6</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>16</td>
<td>3</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>17</td>
<td>9</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>18</td>
<td>7</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>19</td>
<td>6</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
<td>1%</td>
<td>99%</td>
</tr>
<tr>
<td>21</td>
<td>11</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>22</td>
<td>6</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>23</td>
<td>10</td>
<td>1%</td>
<td>99%</td>
</tr>
<tr>
<td>24</td>
<td>13</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>25</td>
<td>6</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>26</td>
<td>2</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>27</td>
<td>3</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Frequent utilizers significantly more likely to be male (91% vs. 59%)
Frequent utilizers slightly more likely to be African Americans (63% vs. 59%)
Frequent Utilizers typically older than non-frequent utilizers and have interesting age distribution (median age 54 vs. 37)
In terms of service utilization, frequent utilizers and non-frequent utilizers are not very different.

In general, people who use ANY emergency shelter have high rates of service utilization in mental health crisis and emergency room visits, but there doesn’t appear to be large differences by frequent utilization.

Frequent utilizers have higher rates of jail bookings than non-frequent utilizers but not of arrests.

<table>
<thead>
<tr>
<th></th>
<th>1 Year Before</th>
<th>1 Year After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;8</td>
<td>8+</td>
</tr>
<tr>
<td>Child welfare parent</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Homeless shelter</td>
<td>5%</td>
<td>39%</td>
</tr>
<tr>
<td>Mental health services</td>
<td>38%</td>
<td>47%</td>
</tr>
<tr>
<td>Mental health crisis</td>
<td>22%</td>
<td>27%</td>
</tr>
<tr>
<td>Substance use treatment</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>Emergency Department</td>
<td>47%</td>
<td>52%</td>
</tr>
<tr>
<td>Public Housing</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Public benefits</td>
<td>72%</td>
<td>86%</td>
</tr>
<tr>
<td>Arrest</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Jail Booking</td>
<td>14%</td>
<td>24%</td>
</tr>
</tbody>
</table>
Panel Discussion
Questions & Answers

And don’t forget to complete the brief survey after the webinar – link in the chat box!
Survey Reminder & Contact Info

We will distribute a brief survey to attendees after today’s webinar to get your feedback on the information and resources you need to scale up data sharing between homelessness and human services systems.

• Kim Keaton: kim.keaton@csa.org
• Matt Lyons: mylons@aphsa.org
• Jessie Metcalf: jessmet@amazon.com
• Marla Sutherland: marla@homewardalliance.org
• Erin Dalton: Erin.Dalton@AlleghenyCounty.US