Building Collaborations in Healthcare

HASC Annual Meeting
May 1, 2019

Victor Murray
Director of Care Management Initiatives
The healthcare paradox that exists in Camden is also evident on the national level. The US spends more money than any other OECD country on healthcare & still has poor health outcomes.

Countries ranked by amount spent on health expenditures
2009 United States spends the most (out of top 26 countries)
Source: American Healthcare Paradox
Compared to New Jersey residents as a whole, Camden residents experience worse health outcomes despite disproportionate spending on healthcare.
In Camden & across the country a small number of outlier individuals account for a disproportionate amount of healthcare costs & utilization.

- **Healthcare hotspotting** is the strategic use of data to target evidence-based services to complex patients with high utilization.

- These patients are experiencing a mismatch between their needs and the services available.
Our Vision & Mission describe our goal of a transformed healthcare system rooted in Camden and spreading across the country.

VISION

A transformed healthcare system that ensures every individual receives whole-person care rooted in authentic healing relationships.

MISSION

Spark a field and movement that unites communities of caregivers in Camden and across the nation to improve the wellbeing of individuals with complex health and social needs.
Our **Health Information Exchange** (HIE) is a secure way to share medical records. The HIE is also used to identify individuals for interventions & provide real-time patient status alerts to care teams.

**DATA POINTS**

- **MCOs**
  - MPI
  - ADT
  - Lab/Radiology Results
  - Discharge Summaries
  - Medication List
  - Problem List
  - Allergy List
  - Inpatient Notes

- **Labs**
  - OB/GYN Notes
  - Progress Notes
  - Radiology Notes
  - Medicaid Prescription
  - Perinatal Risk Assessments
  - Incarceration
  - Claims

- **NJ Medicaid**

- **Hospitals**

- **Camden Coalition**

- **Other Connected HIEs**

- **Local Jails**

- **FQHCs**

- **PCPs**

- **Community Partners**

- **Faith in Prevention**

- **INTERVENTIONS**

- **DATA**

- **SYSTEMS**
Our data sharing relationships began with the three hospital systems in the City of Camden. Being good stewards of shared data has enabled us to build and maintain a robust data infrastructure.

Existing Data Sharing
- Hospital claims from 5 regional health systems
- Camden County Police Department (arrest, call-for-service, & overdose)
- Camden County Corrections & State Prison data
- Enrollment, truancy, & suspension data
- Property Data
- Perinatal Risk Assessment data
- Medicaid Claims data
The Camden Coalition’s data-driven approach is an essential component to transformation at the individual, institutional and systems levels.

**Individual**

Our data infrastructure allows us to find patients who qualify for our interventions, measure individual health outcomes and patient progress towards their own goals, and identify and assess individual gaps in care.

**Institutional**

Our data infrastructure allows us to track, evaluate and optimize our care interventions, assist other medical and social service providers in monitoring patients’ care, and identify gaps in care that could be solved through collaboration and institutional improvements.

**Systemic**

Our data infrastructure allows us to identify systemic issues that could be fixed through administrative, regulatory or legislative reform, evaluate our programs to build the business case for investment in complex care, and better understand the education needs of the field.
We use a social complexity and medical complexity spectrum to identify patients’ needs and system gaps.

<table>
<thead>
<tr>
<th>Social Complexity</th>
<th>Medical Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 Y.O. female</td>
<td>40 Y.O. female</td>
</tr>
<tr>
<td>15 Chronic conditions</td>
<td>15 Chronic conditions</td>
</tr>
<tr>
<td>Dual SUD &amp; mental health</td>
<td>Dual SUD &amp; mental health</td>
</tr>
<tr>
<td>4 different addresses</td>
<td>4 different addresses</td>
</tr>
<tr>
<td>77 hospital visits over 5 years</td>
<td>77 hospital visits over 5 years</td>
</tr>
<tr>
<td>-58 ED visits/ 19 INP</td>
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</tr>
<tr>
<td>(36 Kennedy, 22 Lourdes, 9 Virtua, 8 Inspira &amp; 2 Cooper)</td>
<td>(36 Kennedy, 22 Lourdes, 9 Virtua, 8 Inspira &amp; 2 Cooper)</td>
</tr>
<tr>
<td>294 cumulative length of stay</td>
<td>294 cumulative length of stay</td>
</tr>
<tr>
<td>4.4m charges; 386k receipts</td>
<td>4.4m charges; 386k receipts</td>
</tr>
<tr>
<td>51 Y.O. male</td>
<td>51 Y.O. male</td>
</tr>
<tr>
<td>DM2, hypertension</td>
<td>DM2, hypertension</td>
</tr>
<tr>
<td>Left foot infection</td>
<td>Left foot infection</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>Epilepsy</td>
</tr>
<tr>
<td>MDD with psychotic features</td>
<td>MDD with psychotic features</td>
</tr>
<tr>
<td>Unstably housed</td>
<td>Unstably housed</td>
</tr>
<tr>
<td>Limited social support</td>
<td>Limited social support</td>
</tr>
</tbody>
</table>

- 67 Y.O. female
- Hx CHF, HTN, COPD
- Depression, anxiety
- 17 meds daily
- Work history
- D/C To LTAC
- Daughter is primary caregiver

- 23 Y.O. male
- Hx of type 1 diabetes
- Lives with grandmother
- Works as day laborer
- Learning disability

- 40 Y.O. female
- 15 Chronic conditions
- Dual SUD & mental health
- 4 different addresses
- 77 hospital visits over 5 years
- -58 ED visits/ 19 INP
  (36 Kennedy, 22 Lourdes, 9 Virtua, 8 Inspira & 2 Cooper)
- 294 cumulative length of stay
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Camden Coalition works to improve the health & well-being of individuals with complex health & social needs in the Camden region.
We use sixteen domains to engage individuals in bedside care planning. Most of them are non-medical.
As neutral conveners, Camden Coalition works regionally & nationally to transform systems of care through advocacy, field development, training & technical assistance.

SOUTH JERSEY BEHAVIORAL HEALTH INNOVATION COLLABORATIVE
The Camden Coalition’s data-driven approach is an essential component to transformation at the individual, institutional and systems levels.

**Data Analysis**
Understand the Population and the opportunity.

**Asset Mapping**
Understand the strengths in the organization, the possibilities for partnership and the opportunities to build something new.

**Design**
Informed by data and asset mapping – answer the question “What is the problem we are trying to solve?”
Data analysis is an opportunity to understand the problem more deeply.

- Community health needs assessment performed by hospitals in Burlington, Camden and Gloucester counties
- Qualitative Stakeholder Interviews
- Quantitative data from clinical delivery sites

What are the top 5 health issues you see in your community?
Data analysis is an opportunity to understand the problem more deeply.
786 five-hospital utilizers

total hospital visits: 31,777
ED: 29,414
Inpatient: 2,364
Total LOS: 22,651
Total Charges: $262m
Total Receipts: $32m

Top Residential Cities

<table>
<thead>
<tr>
<th>City</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camden</td>
<td>138</td>
<td>17.6%</td>
</tr>
<tr>
<td>Gloucester City</td>
<td>55</td>
<td>7.0%</td>
</tr>
<tr>
<td>Clementon</td>
<td>39</td>
<td>5.0%</td>
</tr>
<tr>
<td>Sicklerville</td>
<td>35</td>
<td>4.5%</td>
</tr>
<tr>
<td>Bellmawr</td>
<td>26</td>
<td>3.3%</td>
</tr>
<tr>
<td>Woodbury</td>
<td>24</td>
<td>3.1%</td>
</tr>
<tr>
<td>Blackwood</td>
<td>23</td>
<td>2.9%</td>
</tr>
<tr>
<td>Cherry Hill</td>
<td>23</td>
<td>2.9%</td>
</tr>
<tr>
<td>Williamstown</td>
<td>23</td>
<td>2.9%</td>
</tr>
<tr>
<td>Glassboro</td>
<td>16</td>
<td>2.0%</td>
</tr>
<tr>
<td>Vineland</td>
<td>16</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

Behavioral Health Breakdown by Age

- dual
- mental
- substance
- # severe behavioral health dx
- # overdose

INTERVENTIONS

DATA

SYSTEMS
We heard a range of opinions with regards to the current state of New Jersey’s behavioral health system.

On one end of the spectrum, the system was described as “abysmal” and “broken and chaotic.” Others stated that while there are a “tremendous amount of services out there,” these services are “disjointed,” “not applied well,” and many consumers “lack access to services” for a host of reasons. Other informants describe the system in a better light, stating “Over the same years that states have lost funding (New Jersey) has always received growth...when you look at the system as a whole, it really is a much different system than it was, even five years ago” and “I think that the continuum of service that the state has in place are pretty darn good. It's just that they're not adequately funded to meet the demands placed on them.”
Community Asset Mapping helps understand the strengths in the region, the possibilities for partnership and the opportunities to build something new.

**Service Locations**

- Hospital with psychiatric screening center
- Hospital without psychiatric screening center
- Community partner location
Community Asset Mapping helps understand the strengths in the region, the possibilities for partnership and the opportunities to build something new.

Density of visits with primary behavioral health dx

Visit =
- To SJBHIC partner hospital in 2014
- Includes all admit types (examples: ED only, ED to Inpatient, straight to Inpatient)

- 1 visit
- 2 - 10 visits
- 11 – 100 visits
- 101 – 203 visits
SJBHIC strategy is rooted in data in coalition-building and working towards shared goals.

Where we came from:

- **Measuring Consistency**
  Alongside improved capacity and competency, the Regional Dashboard will enable the SJBHIC to monitor consistency throughout the system.

- **Improving Competency**
  While increasing access to treatment is important, level setting and providing opportunities for new learnings among those delivering care is also vital towards achieving system-wide, person-centered care.

- **Increasing Capacity**
  An important component of the SJBHIC’s work thus far has been building the capacity of our region to serve the growing behavioral health patient population.

Where we are going:

- **Stakeholder Engagement**
  Build relationships among stakeholders in the behavioral health community focused on increasing connections, building collaborations, and identifying strategic partnerships required to move innovations forward.

- **Regional Model Feasibility Study**
  Explore the feasibility of a regional psychiatric emergency center as an alternative to the ED for patients in need of mental health services.

- **Regional Behavioral Health Case Conferencing Pilot**
  Pilot a regional intervention focused on developing care plans for complex behavioral health patients and sharing care plans via a regional Health Information Exchange (HIE) and multi-health system case conferencing.
SJBHIC strategy is rooted in data in coalition-building and working towards shared goals.

Regional BH Case Conferencing “Golden Ticket”

Goals:
• Engage patient care & Care team via evidence-based individualized clinical approaches
• Streamline treatment processes reducing time consuming steps that do not add value clinical quality

Short-term:
• Reduction in ED visits, admissions & LOS with each admission
• Decreased allocation of resources ERP care/ Nursing Care/1:1/Social Work
• Decreased episodes of violence

Long-term:
• Replicable Multidisciplinary Treatment Planning Model as a best practice
• Re-allocation of resources to ensure to “right care/ right place/ right time”
• Patient & community partner engagement & participation
• Improved behavioral functioning of individual patients
Every year the National Center hosts a conference, **Putting Care at the Center**, in a new city to grow our reach. This year’s conference will be held in **Memphis, Tennessee, November 13-15**.
THANK YOU
Camden Coalition
SJBHIC Quantitative Data

1,629,845 unique identifier combinations (Name, DOB, Gender, MRN, SSN) across 5 hospitals through 2010-2014

Deterministic Match:
1) SSN, 2) Name (Fuzzy) & DOB & Gender 3) MRN

786 individuals with visits at all five health systems

May increase as we continue to clean data and conduct probabilistic match

There are many more four-health system utilizers
Case Study 1

~40 y/o female
Medicare A/B
Dual Substance-Abuse & Mental Health
  alcohol, anxiety, depression (severe), drug
15 chronic conditions
4 different addresses
77 hospital visits over 5 years
  58 ED, 19 INP
  36 Kennedy; 22 Lourdes; 9 Virtua; 8 Inspira; 2 Cooper
294 cumulative length of stay
$4.4m charges; 386k receipts
<table>
<thead>
<tr>
<th>Case Study 1</th>
<th>Clinical Classifications Across 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>unspecified benign neoplasm</td>
<td>liver diseases</td>
</tr>
<tr>
<td>diseases of white blood cells</td>
<td>gastrointestinal disorders</td>
</tr>
<tr>
<td>deficiencies bacterial infection</td>
<td>pulmonary heart disease</td>
</tr>
<tr>
<td>kidney and ureters acute cerebrovascular disease</td>
<td>congestive heart failure</td>
</tr>
<tr>
<td>crystal arthropathies</td>
<td>mood disorders</td>
</tr>
<tr>
<td>nervous system disorders</td>
<td>other diseases of gastrovascular disorders</td>
</tr>
<tr>
<td>heart valve</td>
<td>nutritional deficiencies</td>
</tr>
<tr>
<td>esophageal disorders</td>
<td>rheumatoid arthritis</td>
</tr>
<tr>
<td>conduction disorders</td>
<td>gout and other</td>
</tr>
<tr>
<td>regional enteritis and ulcerative colitis</td>
<td>chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>skin and subcutaneous tissue infections</td>
<td>acute and unspecified renal failure</td>
</tr>
<tr>
<td>respiratory failure; insufficiency; arrest (adult)</td>
<td>complications of surgical procedures or medical care</td>
</tr>
<tr>
<td>diabetes mellitus with complications</td>
<td>gastritis and duodenitis</td>
</tr>
<tr>
<td>regional enteritis and ulcerative colitis</td>
<td>blindness and vision defects</td>
</tr>
<tr>
<td>diabetes mellitus without complication</td>
<td>genitourinary symptoms</td>
</tr>
<tr>
<td>biliary tract disease</td>
<td>other diseases of circulatory system</td>
</tr>
<tr>
<td>disorders of lipid metabolism</td>
<td>other circulatory disease</td>
</tr>
<tr>
<td>substance-related disorders</td>
<td>ill-defined heart disease</td>
</tr>
<tr>
<td>endocrine disorders</td>
<td>nausea and vomiting</td>
</tr>
<tr>
<td>hypertension with complications and secondary hypertension</td>
<td>urinary tract infections</td>
</tr>
<tr>
<td>substance-related disorders</td>
<td>diabetes mellitus without complication</td>
</tr>
<tr>
<td>conduction disorders</td>
<td>headache; including migraine</td>
</tr>
<tr>
<td>anxiety disorders</td>
<td>intestinal obstruction without hernia</td>
</tr>
<tr>
<td>gastrointestinal hemorrhage</td>
<td>coronary atherosclerosis and other heart disorders</td>
</tr>
<tr>
<td>disorders acute myocardial infarction</td>
<td>systemic lupus erythematosus and connective tissue</td>
</tr>
<tr>
<td>gastrointestinal hemorrhage</td>
<td>e codes: adverse effects of medical drugs</td>
</tr>
<tr>
<td>screening and history of mental health and substance abuse</td>
<td>septicemia</td>
</tr>
<tr>
<td>anemia</td>
<td>peripheral and visceral atherosclerosis</td>
</tr>
<tr>
<td>disorders of teeth and jaw</td>
<td>acute posthemorrhagic</td>
</tr>
<tr>
<td>substance-related disorders</td>
<td>other ear and sense organ disorders</td>
</tr>
<tr>
<td>anemia</td>
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<td>substance-related disorders</td>
</tr>
</tbody>
</table>
Case Study 1 – Hospital Utilization

Each tick represents a hospital encounter (wider = patient admitted)
Case Study 1 – Hospital Utilization


Kennedy Health
Lourdes
Virtua
Cooper University Hospital
Inspirata Health Network
Pilot Project: Alcohol Withdrawal Protocol

Goals:

- Establish work team to assess protocols & recommend changes in key areas:
  - Drafting of protocols & review/approval processes
  - Documentation, compliance monitoring, evaluation & measures
  - Training & communication to hospital staff

- Identify screening tools/protocols & reviewed for variation of practices.

- Share discussions on tools & protocols to promote best practices

Potential Impact:

- Decreased **Average length of stay (ALOS)**
- Decreased **Use of restraints**
- Decreased **Code Grey**
- Decreased **Patient/staff injury**
Pilot Project: Integration of Psychiatric APNs into Emergency Departments

Goal:

• Develop model for integrating Psych. APNs into ED treatment teams

Planned Impact:

• Decreased **ED ALOS for BH patients**
• Enhanced **overall ED throughput**
• Decreased **number of restraints of BH patients in ED**
South Jersey Behavioral Health Innovations Collaborative

• Community health needs assessment performed by hospitals in Burlington, Camden and Gloucester counties
  • Camden Coalition of Health Care Providers convenes the CEOs for a roundtable discussion
    • CEOs decide to pursue joint initiatives to improve the behavioral health system

What are the top 5 health issues you see in your community?

Figure 1: Ranking of key health issues
Data Analysis

Patients with a MH or SUD Diagnosis by Number of Health Systems Visited

- About 40 years old, female
- Insured by Medicare parts A and B
- Dual substance use disorder and mental health issues: alcohol, anxiety, severe depression and drug use
- Has 15 chronic conditions
- Lived at 4 different addresses from 2010-2014
- 77 hospital visits spanning all 5 hospitals in 5 years: 58 emergency department, 19 inpatient
- Accumulated 294 days in the hospital, $4.4 million in charges during those 5 years
- Hospitals reimbursed $386,000 for her care

*Jane is a real person, whose name has been changed and data anonymized to prevent identification.
## Data Analysis

### Patients with a MH or SUD Diagnosis Who Visited the Five Health Systems

<table>
<thead>
<tr>
<th>Metric</th>
<th>Minimum</th>
<th>Average</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>2</td>
<td>36 years</td>
<td>94</td>
</tr>
<tr>
<td>Hospital Visits</td>
<td>5</td>
<td>43 visits</td>
<td>434</td>
</tr>
<tr>
<td>ED Visits</td>
<td>2</td>
<td>40 visits</td>
<td>431</td>
</tr>
<tr>
<td>Inpatient Stays</td>
<td>0</td>
<td>3 stays</td>
<td>61</td>
</tr>
<tr>
<td>Days Between Visits</td>
<td>0</td>
<td>68 days</td>
<td>404</td>
</tr>
<tr>
<td>Stay Length</td>
<td>0</td>
<td>4 days</td>
<td>64</td>
</tr>
<tr>
<td>Days Spent in the Hospital</td>
<td>0</td>
<td>33 days</td>
<td>402</td>
</tr>
<tr>
<td>Charges</td>
<td>$6,928</td>
<td>$378,732</td>
<td>$4,432,220</td>
</tr>
<tr>
<td>Hospitals’ Payments</td>
<td>$0</td>
<td>$45,849</td>
<td>$641,620</td>
</tr>
<tr>
<td>Municipalities inhabited</td>
<td>1</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Chronic Conditions</td>
<td>1</td>
<td>7 conditions</td>
<td>23</td>
</tr>
</tbody>
</table>
Housing First Scorecard – Q3 2017 Update
Regional Behavioral Health Dashboard