Strategies to Achieve Alignment, Collaboration, and Synergy across Delivery and Financing Systems

Financing and Service Delivery Integration for Mental Illness and Substance Abuse

Research-in-Progress Webinar
Wednesday, December 5, 2018
12:00-1:00 pm ET/ 9:00 am-10:00 am PT

Funded by the Robert Wood Johnson Foundation
Welcome: Lizeth Fowler, MPA, MS
Deputy Director
RWJF Systems for Action National Coordinating Center
University of Kentucky College of Public Health

Presenters: William Riley, PhD
Michael S. Shafer, PhD
George C. Runger, PhD
Kathleen (Katie) Pine, PhD

Commentary: Captain David Moffitt

Q & A: Moderated by Lizeth Fowler
William Riley, PhD

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College of Health Solutions

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Assistant Professor

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Commentary Speaker

David Moffitt

Captain

Emergency Medical Services Division
Phoenix Fire Department
Financing & Service Delivery Integration for Mental Illness & Substance Abuse

William Riley, Ph.D.
Michael S. Shafer, Ph.D.
George Runger, Ph.D.
Kathleen H. Pine, Ph.D.
Project Team

- William Riley
- George Runger
- Michael Shafer
- Mac McCullough
- Kailey Love
- Gevork Harootunian
- Varnika Angampally

- Kathleen Pine
- Margaret Hinrichs
- Fernando Hernandez
- Tameka Sama
- Community Stakeholder Organizations
Action Area 2:  
**Fostering Cross-Collaboration to Improve Wellbeing**

- Number & Quality of Partnerships
- Investment in Collaboration
- Policies that Support Collaboration

Action Area 4:  
**Strengthening Integration of Health Services & Systems**

- Access to Care
- Balance & Integration
- Consumer Experience & Quality
Phase 1 Research Recap

Michael S. Shafer & Kathleen H. Pine
Fostering Cross-Collaboration Through Multi-Sector Stakeholder Engagement

Strengthening of multi-sector relationships through the sharing and co-mingling of data to create shared understanding of the multi-sector relationships

<table>
<thead>
<tr>
<th>Health</th>
<th>Local Government</th>
<th>Public Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHCCCS</td>
<td>Maricopa County Managers Office</td>
<td>Phoenix Policy Department</td>
</tr>
<tr>
<td>Mercy Care/MMIC</td>
<td>Maricopa County Office of Public Health</td>
<td>Maricopa County Sheriff's Department</td>
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<tr>
<td>Crisis Response Network</td>
<td>Maricopa County Association of Government</td>
<td>Maricopa County Correctional Health Department</td>
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<tr>
<td>Connections AZ</td>
<td></td>
<td>Maricopa County Adult Probation</td>
</tr>
<tr>
<td>Providers (MARC PIR, RI Int.)</td>
<td></td>
<td></td>
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<tr>
<td>Consumer Operated Service</td>
<td></td>
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<tr>
<td>Programs</td>
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</tbody>
</table>
Penetration
Maricopa County only, 4/2014-5/2015

% patients with at least 1 claim

- Physical Health *
- Behavioral Health #
- Pharmaceutical *
- ER Physical
- ER Behavioral #
- IP Physical
- IP Behavioral #

- SMI
- Non-SMI

*p < .05
# p < .001
Value
Maricopa County only, 4/2014-5/2015

 Median Annual Claim Value per Patient

SMI

Non-SMI

* $p < .05

# $p < .0013
Health Claim Value
Maricopa County only, 4/2014-5/2015, median per patient

$- 
$25,000 
$50,000 
$75,000 
$100,000 
$125,000 
$150,000 
$175,000 
$200,000 

SMI Non-SMI

1 2 3 4 5 6 7 8 9 10
Physical Health Claim Value
Maricopa County only, 4/2014-5/2015, median per patient

SMI
Non-SMI
Behavioral Health Claim Value
Maricopa County only, 4/2014-5/2015, average per patient

Mean SMI  Mean Non-SMI
Hispanics, By Cost Band

- SMI
- Non-SMI

Graph showing the percentage of Hispanics in different cost bands compared to SMI and Non-SMI categories.
Caucasians/Whites, By Cost Band

- 0%
- 25%
- 50%
- 75%
- SMI
- Non-SMI
## Odds Ratio Claims by ICD Cluster

### SMI to non-SMI

<table>
<thead>
<tr>
<th>ICD Code</th>
<th>OR</th>
<th>Confidence Interval</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental/Psychosis</td>
<td>105.719</td>
<td>85.171 131.224</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Neurotic</td>
<td>3.484</td>
<td>2.973 4.081</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Substance</td>
<td>2.033</td>
<td>1.661 2.489</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Injury/Poisoning</td>
<td>1.330</td>
<td>1.143 1.548</td>
<td>.0002</td>
</tr>
<tr>
<td>Endocrine</td>
<td>1.303</td>
<td>1.121 1.515</td>
<td>.0006</td>
</tr>
<tr>
<td>Digestive</td>
<td>1.296</td>
<td>1.104 1.521</td>
<td>.0015</td>
</tr>
<tr>
<td>Nervous</td>
<td>1.237</td>
<td>1.067 1.435</td>
<td>.0047</td>
</tr>
<tr>
<td>Circulatory</td>
<td>1.232</td>
<td>1.044 1.454</td>
<td>.0134</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>1.079</td>
<td>.936 1.244</td>
<td>.2949</td>
</tr>
<tr>
<td>Genitourinary</td>
<td>.789</td>
<td>.668 .932</td>
<td>.0052</td>
</tr>
<tr>
<td>Neoplasms</td>
<td>.506</td>
<td>.374 .685</td>
<td>&lt;.0001</td>
</tr>
</tbody>
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Qualitative Evaluation

• Methods
  • Semi-structured interviews
    • N=11
    • 30-90 minutes in length
    • Inclusion criteria: participants who had attended 2 or more data design meetings and had participated since the beginning of the project

• Participant observation
  • 3 team members (Mike, Katie, Margaret)
  • Kick-off, data design, and wrap-up meetings
  • Note-taking during and after meetings
  • Supplemented with notes taken by other team members
Alignment Drivers - Phase 1

1. Data sharing

2. Convening

3. Relationship building

4. Creating a shared information tool (interactive data visualizations)

5. Perspective taking
Alignment Outcomes—Phase 1

1. Improved multisector systems awareness

2. Strengthened relationship between specific sectors

3. Increased acknowledgement of importance of data sharing and transparency

4. Augmented decision making
Phase 2 Project Plan

George Runger & William Riley
Project Goal

Develop and test multisector alignment mechanisms that enable Emergency Medical Service (EMS) responders to better serve persons experiencing behavioral health and substance abuse crises.
Aims

1. Decrease fragmentation and improve the continuity of care for behavioral health and substance abuse patients that utilize EMS services of Phoenix Fire Department

2. Develop and implement a treat and refer protocol that triages patients to appropriate services and levels of care
**Design Strategies**

- Provide to EMS mobile access of current availability and service information for relevant social service providers
  - Develop a referral and warm hand-off mobile application platform (accessible through any Web-enabled device)
  - Include CRN and mobile crisis teams & geo-coded information
- Identify individuals for a later follow-up (after EMS encounter) by PFD (or CRN) for to align longer-term services
  - Immersive information platform for EMS personnel longitudinally during services
- Process map and reengineer the multisector response to behavioral health crises
  - Leverage PDSA, mobile application, and include protocol changes, staff training curricula and training sessions
Study Design

- Implement initially in Battalion 8 of the PFD (higher utilization)
  - Identified users/leaders
  - Develop process detail walk-throughs with super users & implement
- Data on EMS use of the mobile application, patient utilization, and follow up
- Multimethod study with an intervention & comparison group
  - Experimental study supplemented with pre-post surveys, participant observation, and data driven analyses

Examples
- Increased treat and referral
- Reduced EMS transport to ED
- Increased CRN transport to non-ED
- Reduced number of callers
- Reduced call frequency
- Reduced EMS dispatches
- Increased use of social services
- Increased client satisfaction
- Increased EMS satisfaction
Goal Attainment

- Reduced high frequency users and calls
- Reduced EMS transport
- Reduced high frequency users and call
- Improved care coordination
- More efficient process performance
Multisector Partners

- Phoenix 911 Dispatch
- Arizona State University
- Crisis Response Network
- 211 Services
- Maricopa County Health Department
- Phoenix Fire Department
- Non-hospital Treatment Centers
- EDs
- Phoenix City Council

Non-hospital Treatment Centers
Glossary

- **Alignment Problem**: an issue caused by the fragmented, uncoordinated, or conflicting approaches between the multiple sectors involved in testing our population of interest.

- **Alignment Drivers**: the purposeful, multisector activities that help spark the implementation of the mechanism, resulting in goal attainment.

- **Alignment Mechanism**: a multisector consensus regarding a solution and implementation of the solution. The solution consists of a change in policy or practice taken by a sector, or multiple sectors, that better align their shared systems goals and/or approaches.

- **Goal Attainment**: the systems level outcomes achieved as a result of the alignment mechanisms.
Conceptual Model

Alignment Problems:
- High Frequency/Low Acuity Users
- Lack of Timely Information for EMS Responders
- On-Scene Multisector Fragmentation
- Post-Scene Care Coordination
- Lack of Designed Care Process

Alignment Drivers:
- Engaging Multisector Stakeholders
- Data Driven Solutions
- Participatory Data Analysis & Modeling

Alignment Mechanisms:
- Low Acuity Service for High Utilizers
- Mobile Application
- Warm Hand-Offs
- Increase Utilization of 211 Services
- Designed Processes

Goal Attainment:
- Reduced High Frequency Users & Calls
- Reduced EMS Transport
- Reduced High Frequency Users & Calls
- Improved Care Coordination
- More Efficient Process Performance
Phoenix

5

Phoenix is the fifth largest city in the nation, with an estimated 1,615,017 residents

50

Arizona ranks 50 out of 51 states in overall mental health with a higher prevalence of mental illness and lower rates of access to care for both adults and youth
Current State

• Excessive use by high frequency/low acuity patients
• Misaligned payment mechanisms
• Fire members high PTO utilization
• Insufficient on-scene patient information
• Robust city/county behavioral health crisis system not effectively aligned with EMS responders
8 battalions
57 fire houses
65 engine companies
14 ladder companies
32 rescue companies
## Total EMS Calls
### Phoenix 2017

<table>
<thead>
<tr>
<th>Total EMS Calls</th>
<th>Number of Calls</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>2,155,000</td>
<td>91%</td>
</tr>
<tr>
<td>Fire</td>
<td>215,178</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>2,370,178</td>
<td>100%</td>
</tr>
</tbody>
</table>
## Fire Department EMS Calls

<table>
<thead>
<tr>
<th>Type of Call</th>
<th>Number of 911 Calls</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Calls</td>
<td>21,730</td>
<td>10.1%</td>
</tr>
<tr>
<td>Other Calls</td>
<td>7,315</td>
<td>3.4%</td>
</tr>
<tr>
<td>EMS Calls</td>
<td>186,133</td>
<td>86.5%</td>
</tr>
<tr>
<td>Total</td>
<td>215,178</td>
<td>100%</td>
</tr>
</tbody>
</table>
Crisis Call Center Services
- mobile team dispatches
- crisis transportation services
- emergency room-based assessments

24-hour Peer-run Warm Line

Serious Mental Illness (SMI) determinations

Department of Child Services (DCS) Rapid Response and Crisis Stabilization

Maricopa County 211 Call Center and Information & Referral

Maricopa County Homeless Management Information System (HMIS)
Thank you!

If any questions, please contact Dr. William Riley at William.J.Riley@asu.edu
Captain David Moffitt has been a firefighter with the Phoenix Fire Department for 20 years. Currently, he is a Captain assigned to the Emergency Medical Services Division and is exploring the Department's expansion of low acuity and behavioral health service delivery to the residents of Phoenix.
Upcoming Webinars

Archives
http://systemsforaction.org/research-progress-webinars

Upcoming

December 19, 2018, 12 p.m., ET
Systems for Action Intramural Research Project
Sector Specialization in the Provision of Public Health Services
John Poe, PhD, Systems for Action National Program Office, University of Kentucky College of Public Health

January 09, 2019, 12 p.m., ET
Systems for Action Collaborating Research Center Project
Improving Population and Clinical Health with Integrated Services and Decision Support
Joshua R. Vest, PhD, MPH, Health Policy and Management, Indiana University Richard M. Fairbanks School of Public Health

January 23, 2019, 12 p.m., ET
Systems for Action Individual Research Project
Implementing a Culture of Health among Delaware’s Probation Population
Daniel J. O’Connell, PhD, Department of Criminal Justice, University of Delaware
Questions?

www.systemsforaction.org
Acknowledgements

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