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, November 9, 2016 12:00-1:00pm ET/ 9:00-10:00am PT

Funded by the Robert Wood Johnson Foundation
Agenda

Welcome: Glen Mays, PhD, MPH, Director, RWJF Systems for Action National Coordinating Center, U. Kentucky College of Public Health

Financing and Service Delivery Integration for Mental Illness and Substance Abuse

Presenters: William J. Riley, PhD, School for Science of Health Care Delivery William.J.Riley@asu.edu
Michael S. Shafer, PhD, School of Criminology and Criminal Justice Michael.Shafer@asu.edu
George C. Runger, PhD, School of Computing, Informatics, and Decision Systems Engineering George.Runger@asu.edu, Arizona State University

Commentary: Steven Teutsch, MD, MPH, S4A National Advisory Committee member; Former Chief Science Officer, Los Angeles County Department of Public Health

Questions and Discussion
RWJF Systems for Action Program
to build a national Culture of Health
http://www.systemsforaction.org/

Overview
Mission: Widen the lens beyond health care & public health systems

Rigorous research to identify novel mechanisms for aligning delivery and financing systems in medical care, public health, and social & community services in ways that improve health and wellbeing, achieve efficiencies in resource use, and reduce inequities.

www.systemsforaction.org
Wide lens: implicated sectors

- Public health
- Medical care: ACOs, PCMCs, AHCs
- Income support
- Nutrition and food security
- Education and workforce development
- Housing
- Transportation
- Criminal justice
- Child and family services
- Community development and finance
Study **novel mechanisms for aligning systems and services across sectors**

- Innovative alliances and partnerships
- Inter-governmental and public-private ventures
- New financing and payment arrangements
- Incentives for individuals, organizations & communities
- Governance and decision-making structures
- Information exchange and decision support
- New technology: m-health, tele-health
- Community engagement, public values and preferences
- Innovative workforce and staffing models
- Cross-sector planning and priority-setting
S4A Program Structure

Collaborating Research Centers

- University of Chicago
  - CRC
  - partners

- Arizona State University
  - CRC
  - partners

- Indiana University – Purdue University Indianapolis
  - CRC
  - partners

National Coordinating Center

University of Kentucky

Individual Research Projects

- LA Co. Dept. of Health
- IRP
  - Drexel Univ.
- IRP
  - Univ. of Delaware
Collaborating Research Centers

- **University of Chicago**: Randomized trial of a Comprehensive Care, Community and Culture program

- **Arizona State University**: Analysis of medical, mental health, and criminal justice system interactions for persons with behavioral health disorders

- **IUPUI**: Evaluating integration and decision support strategies for a community-based safety net health care and public health system

- **University of Kentucky**: Measuring multi-sector contributions to public health services and population health outcomes.
Individual Research Projects

- **Michigan State University**: Randomized trial of Community Complex Care Response Team
- **Los Angeles Department of Health**: Evaluation of Housing for Health initiative, which provides permanent housing and supportive services for vulnerable populations
- **University of Delaware**: Randomized trial to test the efficacy of using the team approach to leverage different financing systems and services
- **Drexel University**: Evaluation of Building Wealth and Health Network within anti-poverty programming
Presenters

William J. Riley, PhD
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College of Health Solutions
Director, National Safety Net Advancement Center
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Professor, School of Social Work
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George C. Runger, PhD
Chair, Department of Biomedical Informatics
Professor, School of Computing, Informatics, and Decision Systems Engineering
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Arizona State University
Action Research Center for a Culture of Health (ARCCOH): Financing and Service Delivery Integration

William Riley, PhD  Michael Shafer, PhD  George Runger, PhD

Arizona State University
November 9th, 2016
RWJF Vision
To Build Culture of Health

• Care fragmentation and conflicting financing systems are major barrier.
• The failure of integration for severe mental illness and substance abuse was selected for our study.
• Achieving lasting change will require different sectors to come together in innovative ways to solve interconnected problems.
PROJECT GOALS

Achieve better alignment among multi-sectors in Maricopa county to improve care and efficiency for high risk behavioral health populations.

Use advanced data integration, data modeling and visualization techniques to accelerate consensus on the policy-making decision processes.
FOUR AIMS

AIM 1: Create an *INTEGRATION QUOTIENT* for every individual enrolled in the Regional Behavioral Health Authority (RBHA) network as Serious Mental Illness (SMI), General Mental Health Substance Abuse (GMHSA), or children.

The *INTEGRATION QUOTIENT* would express the total Medicaid spend on an individual, the relative proportion of that spend on behavioral health versus physical health, and the composition of service procedures.
FOUR AIMS

AIM 2: Develop predictive models of psychiatric and general hospitalization based upon behavioral health and physical health utilization patterns observed prior to and following periods of hospitalization for readmission

- Focused analysis on high cost/high utilizers
- Analysis of pre- and post-hospitalization service patterns
FOUR AIMS

AIM 3: Develop predictive models of criminal justice (CJ) systems based upon behavioral health and physical health utilization patterns observed prior to, during, and following periods of CJ system involvement.

✓ Focused analysis of frequent users
✓ Analysis of pre- and post-booking service patterns
✓ Analysis of concurrent service patterns (probation, behavioral health, & physical health)
FOUR AIMS

**AIM 4:** Transform our analyses into visualizations that facilitate actionable dialogue and decision-making between multi-sector policy-makers that helps establish a culture of health for Medicaid enrolled individuals experiencing behavioral health issues.
The Context

Individuals identified as experiencing a serious mental illness, a general mental health and/or substance use disorder, and children experience mental health issues.

Frequent and recurrent involvement in the criminal justice and first response systems, frequent use of emergency room services and homeless system resources.

State Medicaid Agency (AHCCCS) transitioning from ‘carve-out’ to ‘carve-in’ and greater integration of physical and behavioral health.
# Multi-Sector Stakeholders

<table>
<thead>
<tr>
<th>State/County Health Policy &amp; Funding Entities</th>
<th>Law Enforcement (Police &amp; Sheriff’s Department)</th>
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<tbody>
<tr>
<td>Psychiatric/Mental health Providers</td>
<td>Jail &amp; Jail-Based health Service Provider</td>
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<tr>
<td>Health Plans</td>
<td>Consumer-Operated &amp; Peer-Support Service Providers</td>
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<td>Hospitals</td>
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<td>Psychiatric Crisis Response Providers</td>
<td>Mental Health Advocacy Organizations (NAMI, MHA, MH P&amp;A)</td>
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Assumptions and Actions Regarding our Stakeholders

• Multiple and Competing Agendas and Perspectives

• GOAL: To Create Greater Consensus and Collaboration for Developing a Culture of Health for Persons with Significant Behavioral Health Issues

• Stakeholder Meetings & Stakeholder Survey
Participatory Research

Current State
Analytics & Modeling
- Quasi-Experimental, Social Network Analysis, & Focus Groups

Apply Evidence
- Stakeholder Engaged Micro-Simulation

Future State
- Data-Visualization and Delphi Technique

Unaligned Policy & Financing

Disjointed Medical Services, Public Health, Social & Community Services & Support

Applied Research to Provide Evidence for Aligning the Delivery and Financing System

Aligned Delivery and Financing Based on S4A Research Agenda

Improved Population Health, Well-Being & Equity
Current and Additional Sectors

- Health
  - AZ Hospital Discharge, AZ Medicaid Claims Data

- Criminal Justice System-Maricopa County
  - Adult Probation Enterprise Tracking System
  - Jail Booking Roster
  - Integrated Criminal Justice Information System
Example Summaries

- Maricopa County
- SMI patients with physical or behavioral claims over 1 year period
- 20,693 Patients (up to 78 claims each)
Physical and Behavioral Costs per Patient and Ratios
Costs per Patient on Log Scale

- Physical and behavioral costs relationship
Costs by Categories per Patient

Figure 8: Box-Plots of Behavioral Health Costs and Physical Health Costs by Race/Ethnicity

Figure 9: Box-Plots of Behavioral Health Costs and Physical Health Costs by Marital Status
Example Additional Tasks

- Comparisons for physical & behavioral health conditions
- Analysis of population by deciles of utilization, controls
- Integration with additional non-health data
Timeline

- December 2016 – Convene Stakeholder Advisory Committee
- January 2017 – Development of microsimulation models and data visualization models
- March 2017 – Convene Stakeholder Advisory Board
- April 2017 – Preliminary findings from quasi-experimental design and SNA
- July 2017 – Design and plan simulations, initiate financial modeling, identify participants of modified Delphi study
- August 2017 – Complete first round of modified Delphi study
- September 2017 – Decision Theater visualizations, complete second round of modified Delphi study
- October 2017 – Finalize causal model on integration for SMI and convene Advisory Board
- December 2017 – Develop specific recommendations about behavioral health services that would fill gaps
- January 2018 – Finalize findings
- February 2018 – Convene Advisory Board, Final Report
End of Project Deliverables

• Research design template for a multimethod multisector Systems For Analysis
  – Transform participatory research into an intervention strategy

• Model for aligning multisector policy solutions to reduce care fragmentation for vulnerable populations
  – Evidence based findings drive Increased communication and collaboration to expedite stakeholder consensus policy making
Project Updates

go to: http://systemsforaction.org/projects/financing-and-service-delivery-integration-mental-illness-and-substance-abuse

Financing and Service Delivery Integration for Mental Illness and Substance Abuse

Arizona State University’s School for the Science of Health Care Delivery and School of Criminology and Criminal Justice will integrate rich data sources from Arizona’s medical, mental health, and criminal justice systems in order to explore opportunities for better coordinating services for persons with mental illness and/or substance abuse disorders. Using interactive system dynamics modelling and network analysis methods, this study will identify how people and dollars move between and within the state’s medical, mental health, and criminal justice systems. Interactive simulation models informed by stakeholder input will then explore how changes to funding streams and service delivery models can produce improved health and social outcomes.

Related Content

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<tr>
<td>Modeling System Fragmentation and Alignment Opportunities Across Medical, Behavioral, and Criminal Justice Systems for Persons with Mental Illness</td>
<td>09/20/2016</td>
<td>Presentation</td>
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</table>
Commentary

Steven Teutsch, MD, MPH
S4A National Advisory Committee

Former Chief Science Officer, Los Angeles County Department of Public Health

Questions and Discussion
Webinar Archives & Upcoming Events
go to: http://systemsforaction.org/research-progress-webinars

Upcoming Webinars

S4A Collaborating Research Centers

November 16, 2016, 1 pm ET
**The Comprehensive Care, Community, and Culture Program**
David Meltzer, MD, PhD, Director of the Center for Health and the Social Sciences, and
Harold Pollack, PhD, School of Social Service Administration, and Co-Director of The University of Chicago Crime Lab, The University of Chicago

December 7, 2016, 12 pm ET
**Improving Population and Clinical Health with Integrated Services and Decision Support**
Paul K. Halverson, DrPH, Dean, and Joshua R. Vest, PhD, Associate Professor, Health Policy and Management, Indiana University Richard M. Fairbanks School of Public Health in Indianapolis

S4A National Coordinating Center Intramural Research

December 15, 2016, 1 pm ET
**A Network View of Population Health Delivery Systems**
Rachel Hogg Graham, DrPH, MA, Assistant Professor of Health Sciences, Education, and Research, University of Kentucky College of Health Sciences
Thank you for participating in today’s webinar!

For more information about the webinars, contact:
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Dr. William J. Riley is a Professor in the School for the Science of Health Care Delivery at Arizona State University, where he teaches process engineering, health finance, and health care quality and safety design. He previously served as the Associate Dean for the School of Public Health at the University of Minnesota and currently serves as the Director of the National Safety Net Advancement Center. Dr. Riley brings 25 years of senior executive experience in health care organizations, including serving as President and CEO of Pacific Medical Center in Seattle, Washington; CEO of Aspen Medical Group in St. Paul, Minnesota; Senior Vice President at Blue Cross Blue Shield of Minnesota in St. Paul; and Senior Vice President of St. Paul-Ramsey Medical Center/Ramsey Clinic.

Dr. Riley’s research areas include quality improvement and patient safety, with several nationwide and international projects currently underway. He is the author of more than 60 articles related to quality management, patient safety and health care management, and has co-authored two books on performance improvement in health care. A past chair of the Public Health Accreditation Board, Dr. Riley serves on several boards, including the Fairview Physicians Associates (FPA), an affiliate of Fairview Health Systems.

Dr. Michael S. Shafer is a professor in the School of Social Work at Arizona State University's College of Public Service and Community Solutions where he also holds affiliate appointments in the Center for Health Information Research and the School of Criminology and Criminal Justice. Dr. Shafer is the founding director of the Center for Applied Behavioral Health Policy which has, for the past 25 years, conducted cutting edge research on the adoption and implementation of innovative practices in behavioral health care. Dr. Shafer has authored more than 40 peer-reviewed research articles and generated more than $45 million in grants and contracts that target capacity building and innovation in behavioral health services.

Dr. George C. Runger is Chair of the Department of Biomedical Informatics (BMI) and the International School of Biomedical Diagnostics and Professor in the School of Computing, Informatics, and Decision Systems Engineering at Arizona State University. He researches analytical methods for knowledge generation and data-driven improvements in systems. He focuses on machine learning for large, complex data, and real-time analysis, with applications to processes, surveillance, decision support, and population health. Previously, he was a senior engineer and technical leader for system improvements and analytics projects at IBM. He reviews for journals in the area of machine learning and statistics and he is currently the department editor for healthcare informatics for IIE Transactions on Healthcare Systems Engineering.